

Number	Name	Poster Session	Title	Abstract	Project Supervisor(s)	Department
Performance	Rebecca Fitton	Performance	Now, Everybody: An Exploration of Embodied Research through Improvisation	In dance performance, improvisation is sometimes seen as a choreographic tool, not as a form of composition itself. The research conducted to create Now, Everybody focuses on challenging that concept and bringing improvised work into a performance setting. Through the process of creating Now, Everybody, the task of improvising is used as a way to present spontaneous movement and music into the space. Alongside the curator of the work, six undergraduate students work together to create various visual, auditory and written cues as compositional elements and parameters. The piece structures itself around these elements but also has the ability to evolve into a commentary on the work itself as movement is devised in response to other moments as they occur. The research is greatly influenced by the work of Steve Paxton and John Cage but extends their groundbreaking concepts by applying their formulated tasks into today's choreographic scene. An ever evolving work, Now, Everybody relies heavily on chance procedures but also questions the difference between reactionary movement and responsive movement. Additionally, the piece views the audience as part of the work and questions their relationship to the dance makers within the presented space. Now, Everybody combines these ubiquitous elements and hones them into the true query of the work - what is collaboration and how do the assumed and unassumed creators within the space contribute.	Prof. Loren Davidson	School of Dance
3	Laura Miller	Morning	From What I Can Gather	This project investigates the process of transforming the physical to digital and to a physical form once again. Experiencing a three-dimensional form versus a two-dimensional image alters the way we as viewers see, perceive, and index the world around us. Through the use of photogrammetric techniques, Professor Kevin Curry is able to move objects and people through virtual space and reconstitute them at new locations, scales, and quantities in order to create a dialogue focused on concepts of ownership and authorship. There is a running relationship between the digital and the analog as physical objects are digitized in software and then constructed using both technological and hand-building techniques to be shared outside of their original context. This project utilizes technology like laser cutting and 3D printing to memorialize mundane imagery like rocks and the faces of strangers to expand our perceptions of people and place.	Prof. Kevin Curry	Art
4	Jenn Egelfeld	Morning	Architectural and Artistic Applications of Tensile Structures	The primary goal in conducting this research is to collect information about the architectural and historical use of tensegrity and tensile membrane structures in order to use this data in artistic applications. Initially, the research consisted of the history of tensegrity membrane structures, focusing on the work of R. Buckminster Fuller, Kenneth Snelson, and Frei Otto, as well as the structural properties and materials from which previous structures have been built upon. Currently, the focus of the research lies within the construction of models to properly develop an understanding of the behavior of tensegrity structures that cannot be obtained through computer generation. My responsibilities involve reading and summarizing online texts, as well as preparing two- and three-dimensional tensegrity-based sculptures inspired by Snelson's work using Adobe Illustrator and SketchUp, respectively. With these online experiments, I will build onto them in physical form to further understand the real-life behavior of these structures. Ultimately, through these studies of tensegrity, the creation of further artistic and architectural projects will be feasible.	Mr. Kenn von Roenn	Studio Art Architecture

5	Marisa Lepore	Morning	Digital Documentation of Cultural Heritage: Pre-Columbian Art	<p>This research involves photographing numerous Pre-Columbian artworks located in MoFA, and then using a photogrammetry software called Agisoft to develop 3D images of these objects. Additionally, digital drawings will be created of the iconography of these artworks and of those developed by Dr. Carrasco as part of an NEH funded project on Olmec art. During Spring 2016, catalogue entries for a selection of objects will be researched and written to be included in an online exhibition and for preparation for a future grant. The objective of the project is to enhance the visual experience that viewers cannot receive from a traditional 2D photograph.</p>	Dr. Michael D. Carrasco	Art History
6	Tatum Shannon	Morning	3D Printing of Etruscan and Early Roman Artifacts	<p>The study of archeological artifacts can oftentimes be difficult, with customs laws preventing researchers from removing the artifacts out of the country, and the delicate nature of many pottery pieces requiring expensive tools for handling and restoration that are oftentimes not available on site. This research aims to make the study of ancient artifacts easier by experimenting with the 3D printing of archeological artifacts, specifically the artifacts excavated at Dr. de Grummond's archaeological site, Cetamura del Chianti, in Italy. First, artifacts were recreated in 3D imaging software using profile drawings to reimagine their 3D shape. Now, the artifacts in Italy are being scanned by a MakerBot Digitizer 3D Scanner. These scanned images are then being printed on a MakerBot Mini 3D printer. This research is helping to mitigate the problems associated with recreating artifacts through 3D printing by experimenting with techniques to make the models more true to the original piece. This research is becoming increasingly important as the 3D printing of ancient artifacts helps researchers study their volume, shape, and potential use without damaging the actual artifact. 3D Printing also allows artifacts to be recreated in their entirety without the cracks and missing pieces many excavated artifacts have. These printed models can be used both in the classroom and as a part of museums or educational exhibitions so that visitors, especially children or the visually-impaired, can learn by touching and holding the recreated artifacts.</p>	Dr. Nancy de Grummond	Classics
7	Samuel Bedgood	Morning	Why do Anemones Move? Trade-offs Between Symbiotic Algae and their Host Anemones	<p>Anemones have been shown to display phototactic behaviors. Anemones with photosynthetic symbionts tend to move toward light. It has been hypothesized that moving towards light benefits the symbiotic algae inside the anemone, which indirectly benefits the host anemone. Anemones that have had their symbionts removed move randomly when exposed to a light gradient. <i>Aiptasia pallida</i> are known to have variable densities of symbionts depending on their environment. This variability may be a product of a variable life history strategy or frequent environmental disturbances. My research aims to understand the trade-offs between direct and indirect benefits, food and symbiotic algae respectively. I predict that anemones in a high-food environment will be less likely to display phototaxis or movement toward a light source. If this were true, anemones may forego spending energy on searching for adequate light and rely on zooplankton for energy. However, this trade-off is not equivalent. A constant food source provides high concentrations of nitrogen to the algae, increasing growth. Algae may be highly valuable for periods in which food is scarce, continuing to produce energy for a starving anemone. These complex interactions combined with a variable environment may be why anemones have conserved the ability to move among habitats.</p>	Dr. Janie Wulff	Biology

8	Andrue Peters	Morning	Thermoelastic Stress Analysis and Lab Scale Automation	<p>Carbon fiber has been empirically demonstrated to be approximately ten times stronger than steel and eight times stronger than aluminum; it is also five times lighter than steel and one and one-half times lighter than aluminum. Because of these characteristics, carbon fiber is being used in various industries, including civil engineering. Repairing a supporting pier column is uneconomical and difficult, but composites such as carbon fiber provide a more economical and efficient repair solution; the issue, however, is that it is impossible to predict the type of damage and the magnitude of damage that will occur to a composite material. Although it is impossible to predict the damage on composites, there is promise in a real time monitoring system using ZnS:M, manganese doped zinc sulfide, to monitor the composite through a phenomenon known as triboluminescence "" a chemistry phenomenon where light is emitted from specific materials due to mechanical stress. This method, although promising, is still in the early stages of development and analysis, so various methods are being used to qualify the recorded data. One method that we have used is Thermoelastic Stress Analysis (TSA), and it is one of the only few methods capable of furnishing a full-field measurement of mechanical stress. My main part of the research has been to develop a lab scale automated system partially using a Flir IR camera to provide additional insight and qualification into triboluminescence based health monitoring systems.</p>	Mr. Kunal Joshi and Dr. Tarik Dickens	Industrial Engineering
9	Erin Apple	Morning	Analysis of a Novel Targeted Phosphospecific Serine Antibody on Transcription Factor Ying Yang 1	<p>Phosphorylation is the addition of a negatively-charged phosphate group to a protein after it has been translated from messenger RNA. This modification affects the three-dimensional structure of a protein, and thereby regulates its function. Ying Yang 1 (YY1) is a protein involved in various biological processes like cell growth, differentiation, and apoptosis. However, the mechanisms that regulate YY1 in the cell remain mostly elusive. Current research has previously identified serine 247 of YY1 as an in vivo phosphorylation site through mass spectrometry and analyses. Although research has uncovered information about phosphorylation, the cellular signaling pathways leading to the phenomenon as well as its biological context, and physiological effects on the function of YY1 are still unknown. To investigate this, current research has generated an important new tool: an antibody that would specifically recognize the phosphorylation of YY1 at serine residue 247. This is a novel antibody; careful and thorough characterization of its specificity is critical. The current research focuses on establishing the specificity of the novel antibody through Western Blotting technique. For this, the anti-YY1pS247 antibody was initially tested on total protein extracts from various cell lines and was shown to specifically recognize YY1. Furthermore, the antibody was tested on phosphorylated and non-phosphorylated YY1, and it was found to only bind to phosphorylated YY1. The antibody efficiently recognized an exogenously-expressed form of YY1; on the other hand, when cellular YY1 was knocked-down, the signal generated from the anti-YY1pS247 diminished. Moreover, the antibody did not bind to a YY1 mutant in which the S247 residue was changed to an alanine residue, which cannot be phosphorylated. Together, these results show that this new antibody can be reliably used to study the phosphorylation of YY1 at serine 247, and investigate its biological significance for human cell growth and proliferation.</p>	Dr. Raed Rizkallah	Medicine

10	D'Jenaiya Bowser	Morning	Conspicuous Consumption	<p>Consumerism has been as much a part of human history as bartering and trade. Historically, only the richest people could afford to partake in luxury consumption. Only the wealthiest people could afford to purchase for leisure, while the rest of the population could barely afford to survive. For this reason, luxury consumption, or consumption of excess, was always a sign of wealth. With the coming of the industrial revolution came a new ideal, wealth for the masses. More people had more money in addition to having more time to spend it. From here, the next progression was to partake in what, formerly, was considered only a sign of wealth. Thorstein Veblen was the first to coin the term " Conspicuous Consumption" in order to describe this phenomenon. In his famous 1899 book " The Theory of the Leisure Class" , he gives this idea life, and from there it has become a commonality in culture. Many scholars have both elaborated on and critiqued Veblen's ideas over the past century. Despite its faults, the theory of conspicuous consumption remains critical in explaining consumer behavior. This chapter aims to explain conspicuous consumption from a historical standpoint, as well as its modern applications.</p>	Prof. Srikant Manchiraju	Retail Merchandising and Product Development
13	Kanika Codner and Rebekah Whittington	Morning	Exploring Factors Leading to Pharmaceutical and Biotech Mergers and Acquisitions	<p>The purpose of this project is to collect data on biotech and pharmaceutical mergers and acquisitions in order to distinguish certain characteristics that make a company more likely to be acquired and, in turn, predict which companies will be acquired in the future. Research on pharmaceutical and biotech companies' mergers and acquisitions is important because the results can help both investors and companies make informed decisions about the health industry. Researching private companies is difficult because it is the discretion of the company whether to disclose company information. However, private pharmaceutical and biotech companies disclose more information because of their need for patents and FDA approval. Pharmaceutical companies also require a large amount of capital for both research and FDA approval. This unique situation calls for large venture capital investments and the need of small companies to be acquired. For this project, data was collected on companies that were acquired in the years of 2003, 2004, 2005, 2006, 2010, 2011, 2012, and 2013. Some of the items collected included information on year of company founding, amount of venture capital funding and the amount the company was acquired for. The data was then analyzed to see possible correlations between certain figures, of which it showed correlations between several items, but the strongest results were between the amount of venture capital funding and the total amount the company was acquired for. Further research should be done on companies that were not acquired.</p>	Dr. James Ang	Finance
14	Kimberly Connor	Morning	Vibrant expression through clothing: cracking the color, patterns and style code of the Rajasthani women of India	<p>This presentation will explore the fashions and fabrics of the women of Rajasthan and how clothing can be used as a means of expression. India is renowned for its splendid textiles and incredible use of colors and patterns. From the " Golden City" of Jaisalmer to the ancient city of Ajmer a variety of unique and intricate traditional garments and their construction methods have been passed down from generation to generation. Each part of the garment serves a purpose and ties the identity of the individual to a region or caste. Through firsthand observations and historical research we will reconnoiter the purpose and function of dress, the identity and relationship the wearer has to the item and how color and pattern is used as an expression of self and culture.</p>	Dr. Jessica Ridgway	Retail Merchandising and Product Development

15	Fritz Cuaboy	Morning	The roles of the LINC complex in chromosome movement and nuclear dynamics in budding yeast	<p>The LINC complex tethers the nucleoskeleton and cytoskeleton through the nuclear envelope and plays an important role in the chromosomal arrangement that occurs in prophase I of meiosis. It is composed of many proteins, some of which belong to two domains called the SUN domain and KASH domain. The SUN domain is thought to localize with the inner nuclear membrane while the KASH domain is thought to interact with the outer nuclear membrane; both interact with each other in the space between the two membranes. The LINC complex is conserved from yeast to human beings. In budding yeast, the LINC complex is composed of three key proteins required for telomere bouquet formation: Csm4, Ndj1, and Mps3. Despite yeast not having an identical KASH domain, however, Csm4 performs the same roles as one, although little is known about how Csm4 is regulated, how the LINC complex is regulated, and the interaction between Csm4 and Mps3. Our objective for this project is to understand the mechanisms by which Csm4 is involved in the LINC complex and how it is regulated during meiosis. Specifically, I will perform a genetic screen with Csm4 to identify proteins that are cofactors for the LINC complex. Problems with the LINC complex have been reported in cases of muscular dystrophy in humans, specifically Emery-Dreifuss muscular dystrophy. In order to further understand what causes this condition, much testing and research await. Due to the LINC model's conservative properties from eukaryotes to humans, budding yeast will be subject of testing.</p>	Mr. Jinbo Fan and Dr. Hong-Guo Yu	Biology
16	William Harrison	Morning	Reading Photographs: Twentieth Century Scientific Research Narratives	<p>This project examines the narratives that emerge when using scientific photographs as a measure of historical methodology of science in America. The General Electric and Science Service Scholars photograph databases showcase both unpublished and published photos. Looking at the photographs, trying to understand why some photos were chosen for publishing over others, is an important aspect of grasping a full understanding of science history in America. This can help to identify underrepresented minorities, leading stories, and the true image of science in America. The General Electric collection showcases a plethora of scientific disciplines in the latter half of the 20th century, while the Science Service Scholars presents a view of 20th century scientific research and portraiture. Both of these shed light onto the discipline and progress of scientific photography and innovation in a distinct and candid manner.</p>	Dr. Ronald Doel	History
17	George McGuire	Morning	The Effects of Interventions on Math Anxiety and Test Performance	<p>This research examined 4 interventions to see their effect on students with high math anxiety. Participants for this study were college students who completed a survey about their test and math anxiety, 2 working memory tasks, and a challenging math test. Each participant received only 1 of the 4 interventions or none at all (control). The results are expected to show that the effects of these interventions is stronger for those with high math anxiety. With this information, we will be able to focus further research on the most effective intervention to help those that suffer from math anxiety.</p>	Dr. Colleen Ganley	Psychology

18	Jasmine Clayton	Morning	Rape Myths in the Media	<p>Rape myths"" pervasive and inaccurate beliefs about rape and rape victims"" can be found at both the individual level and at the institutional (i.e. political, legal, and media) level, which then affects how people perceive and react to rape, rape victims, and rape offenders. This study examines the extent to which rape myths appear in the media coverage of sexual assault and rape. Specifically, we are assessing the prevalence of rape myths in newspaper articles on sexual assault rape to determine which myths appear most frequently, as well as the trends in rape myth prevalence over time. To assess rape myth prevalence, we are performing a content analysis on a stratified random sample of articles published from 1950 to 2010 in The New York Times. We expect that there will be a high prevalence of rape myths across the sample, but that it will decline, however, due to a variety of national social and legal changes. For example, we hypothesize that rape myths will start to decline with the rise of the women's rights movement. The purpose of this study is to explore how rape myths are communicated to the public and reinforced to society.</p>	Dr. Ted Chiricos and Ms. Jennifer Brown	Criminology
20	Haley Curtis and Samantha Kunin	Morning	Examining the Influence of Childhood Victimization on Mental Issues (e.g. Post-Traumatic Stress Disorder and Depression) for Incarcerated Women	<p>Authors suggest that adult survivors of child sexual abuse have a four times greater lifetime risk of developing major depression compared with people who do not have an abuse history. Briere and Elliot note that more than eighty percent of child sexual abuse are reported to have some 'post-traumatic' symptoms. As a result of these known trends, incarcerated women were interviewed in the present study to determine how childhood victimization affected their mental health through the presence of depression or post-traumatic stress disorder. This study focuses on incarcerated women in order to find if there are trends between childhood victimization and their subsequent criminal behavior. Women having committed a felony are not subjects that can be surveyed in the general population. Thirty-nine women in a minimum security prison were administered an interview by trained graduate and post-graduate students. The questionnaire was optional and the women were given the opportunity to stop answering questions at any point. Qualitative data analysis is still ongoing as more women in a medium-maximum security prison are also going to be tested. However, it is predicted that there will be a high correlation between survivors of childhood victimization and the presence of mental health issues. The results of this study can be utilized to provide incarcerated women with the implementation of programs within these prisons to properly treat and address these psychological issues.</p>	Ms. Stephanie Kennedy	Sociology
21	Hannah Eby	Morning	The Empire of American Science: Photographic Narratives and Visual Evidence	<p>The scientific community during the Cold War was captured by photographers and journalists throughout the country, but not all photos or stories were published at the time. The photos left unpublished erase the appearances of women and people of color in scientific environments. This lack of publication caused a significant discrepancy with how the public was taught to perceive the scientific world compared to how it really functioned during the Cold War. In studying how wide this gap may be, we have analyzed scientific stories, both published and unpublished, through archival data from museums throughout the United States. Photos and stories were examined in great detail and coded for year, photo structure, story, and other outstanding features. The results predicted are that the coded photographs will show that the presence of women and people of color were overshadowed, either through lack of publication or the way that the photograph was taken. Future research should focus on noting precisely which stories were or were not published and therefore gather more concise data.</p>	Dr. Ronald Doel	History

22	Christopher Elkington and Olivia McConnell	Morning	Diversion and Deception in warfare	<p>Military deception operations made up a large portion of the individual conflicts of World War II. During this war period Great Britain put into place operations groups to oversee the specific planning and carrying out of these deception plans. The work of Dr. Whitney T. Bendeck centers on the military deception plans employed by Great Britain during World War II, focusing of the British 'A-Force' and how it set precedence for the future of military deception. An analysis is being conducted of historical records pertaining directly to the employment of Great Britain's deception operations by searching for mentions of the specific deception-planning department <i>Ops B</i> run under Supreme Headquarters Allied Expeditionary Force (SHAEF). Currently this research is in its' preliminary stages and is focused on gathering information about these deception groups and their roles in World War II. This research is being conducted in order to create a comprehensive study on military deception during World War II and the specific organizations that conducted these operations. While reports have been written about individual deception plans there is not a complete compilation of these plans and detailed analysis of the organizations that set these plans in motion, making the retrieval of pertinent documents challenging. Due to the fact that the topic of study is deception it is even more difficult determining the reliability of documents and military encounters created to deceive the enemy. A full conclusion has not been made yet as the gathering information and analyzing stage is still in progress; however, Dr. Bendeck will use these future findings in her comprehensive academic book about military deception.</p>	Dr. Whitney Bendeck	International Affairs
23	Alejandro Estrada and Isabella Ostos	Morning	Central American Media Coverage on Immigration	<p>Immigration from Central America to the United States has been a heated topic that several news media outlets in the recent years have tried to accurately portray. Immigrant's rights activists blame immigration on corruption and injustices that force migrants to leave their home countries. U.S. politicians, however, have a different view about immigration. They often see migrants as security, economic and cultural threats. Now, more than ever, the issue of immigration has become a polemic topic that has divided the United States. This study takes a contrasting approach to examine how different newspapers from Honduras, Mexico, Guatemala and El Salvador have conveyed different opinions and views on immigration, specifically those cases dealing with immigrants going into Mexico and the United States. The present study relies on a content analysis of two constructed weeks worth of newspaper articles from Mexico and Central America. The content analysis organizes the articles into several categories that will be classified and separated depending on their opinion towards immigration. Most of the articles that are classified revolve around the harsh conditions that immigrants from Central American countries deal with, as they leave their home countries in search for a better life. In conclusion, the study shows the different perspectives that each country has in regards to their citizens immigrating into the United States. Compared to the U.S. standpoint on the immigration debate, Central American countries usually take a more positive and humane stand.</p>	Dr. Summer Harlow	Communications

24	Elora Friar	Morning	Investigating the Relationship Among Parenting Practices, Social Competence, and Risky Behaviors in Gifted College Students	The purpose of this research is to explore the connections between parenting, social interactions, and risky behaviors among gifted college students. To find this population, we are conducting a survey as our quantitative study. This survey asks gifted students to take a 15-20 minute online survey largely regarding the relationships among parenting practices, social interactions, alcohol use, and sexual behaviors pertaining to the individual's college experience. As a relatively understudied population, there is much to be understood about gifted college students and their experiences with parenting, social interactions, and participation in risky behaviors. Developing an understanding of any existing links between these three categories could act as a tool in promoting healthy and successful college experiences in the gifted population. This poster will describe the research project to date and future direction for the project. The poster will also present the UROP student's role in the research project and what has been learned through this process.	Dr. Kendal Holtrop	Family and Child Sciences
25	Benjamin Gibson	Morning	Measuring the Critical Current of Superconducting Wires at Varying Cryogenic Temperatures	Superconductivity is the future of electronics. From lossless power grids to more fast and efficient computing, harnessing the full capabilities of superconductors is vital to technology and the state of the environment. Creating large scale electrical efficiency is largely considered one of the best ways to slow the advance of Global Warming, and superconductors provide this benefit. Critical Current (I_c , defined as $1.5 \text{ } \mu\text{C cm}$) is the amount of current that can run through a conductor without resistance or loss. Since every superconductor known is only superconductive at cryogenic temperatures, the temperature of every sample was cooled to below 77 K using liquid nitrogen. Then, by varying the pressure of the nitrogen using a cryostat, we see that as the temperature decreases, the critical current increases. This property is vital to developing technologies that take full advantage of the vast capabilities of superconductors.	Dr. Sastry Pamidi	Department of Electrical and Computer Engineering, Center for Advanced Power Systems
26	Ravital Goldgof and Lily Shelton	Morning	Folkloric Structures in a Byzantine Epic	We are examining techniques of oral composition as they are employed in individual Greek and Slavic manuscripts of the Byzantine romantic epic Digenis Akritis and related folk songs. Each manuscript of Digenis Akritis is radically different from the others, displaying contrasting styles of composition that ricochet between romantic literary and oral epic forms. Since its first transcription in the twelfth century, compilers of Digenis have made varying use of the oral traditional techniques of the formula and the theme. We are studying the theme in this romantic epic. According to Albert B. Lord, a theme is defined as a " group of ideas regularly used in telling a tale in the formulaic style of traditional song" ; " a repeated passage with a fair degree of verbal or formula repetition from one occurrence to the next." The Byzantinist Roderick Beaton has explored the theme in Digenis, but limited his study to Greek texts alone: we are extending our view to the Slavic texts. We follow Lord's definition more strictly than does Beaton, and are moreover analyzing each theme into its constituent parts. Once we have catalogued and analyzed themes and formulas in all texts of Digenis, we intend to use them to deepen our understanding of women's roles and identities in the traditional cultures of the Middle East and Southeastern Europe, work begun by Angeliki LaŃou in her study " Sex, Consent, and Coercion in Byzantium."	Prof. Robert Romanchuk	Modern Languages

27	Savannah Goode	Morning	Macrofaunal Community Structure Across Depth in the DeSoto Canyon	<p>As part of a larger project studying the seafloor ecosystem impact from the Deepwater Horizon blowout in the Gulf of Mexico, we look at spatial trends in diversity and community structure of macrofauna in the DeSoto Canyon. Macrofauna are a size class of organisms $\geq 300 \mu\text{m}$ that include invertebrates such as worms, bivalves, and various crustaceans. Nineteen stations were sampled from 2012-2014 along 2 depth transects in the DeSoto Canyon. Sediment samples were collected with a multicorer, rinsed, stained with Rose Bengal, and sorted for organisms in the laboratory. We plan to evaluate macrofauna diversity and community structure at 4 stations ranging in depth, and for each community, we plan to inquire about (1) what taxa present in each community, (2) the degree of diversity and evenness, (3) community structure, and (4) what taxa are driving differences observed between communities. Pie charts will show the proportional composition of macrofauna in each community. Rarefaction, which calculates species richness for a given number of individual samples, will depict species richness and evenness. Multivariate analyses of the macrofauna abundances such as non-metric multidimensional scaling (nmMDS) and similarity percentages (SIMPER) will depict community structure and identify which organisms are driving observed different communities respectively. Together these analyses will allow us to compare community structure over four depths and recognize the organisms that may be causing these differences.</p>	Dr. Amy Baco-Taylor and Mr. Arvind Shantharam	Oceanography
28	Kaylyn Harper and Keyiera Joseph	Morning	Effects of cardiac rehabilitation on psychological and psychological wellbeing in individuals with heart failure: a systematic review	<p>Cardiac rehabilitation is believed to improve the conditions of a damaged heart, whether it is physiological or psychological. Standard cardiac rehabilitation facilities provide exercise and cardiac health education that would lead to a healthier lifestyle for a patient. Scientists have been completing studies to show just how effective cardiac rehabilitation can be in response to the increasing number of individuals with heart failure. In order for a patient to participate in rehab they would have to be in phase 1 or phase 2 of the 4 phases that could be harmful to the patient. Phase 1, is after a patient experienced a heart attack or stroke and indulges in non strenuous activities while they are still being hospitalized. Phase 2, is done in an outpatient setting where the patient can engage in regular exercises along with other services, such as nutritional counseling, stress management, and monitored activities. Patients that are in phases 3 and 4 are considered to be at risk because their disease is detrimental and cause them to be limited to a range of exercises. In this study we analyzed the available literature to examine the relationship between heart failure symptoms and the physiological and psychological outcomes of cardiac rehabilitation. We expect traditional cardiac rehabilitation facilities to improve the quality of life of patients.</p>	Dr. Lucinda Graven	Nursing

29	Carson Tougas	Morning	Hypertrophic Cardiomyopathy Mutation Cardiac Troponin C A8V Alters Nuclear Structure in a Knock-In Mouse Model	<p>Familial hypertrophic cardiomyopathy (FHC), a heritable disease characterized by thickened ventricular walls and weakened contractile function of cardiac muscle is the most common cause of sudden cardiac death in people under 30. Numerous genetic mutations including the cardiac troponin C (cTnC) A8V mutation have been linked to FHC. Recent work revealed that cardiac troponin, a sarcomeric protein known for its function in the cytoplasm, is also present in the nucleus. The function of troponin in the nucleus remains unclear. To examine possible changes to the nuclei of cardiomyopathy mutants our study compares nuclear dimensions from WT and cTnC A8V knock-in mice through fluorescent confocal microscopy. From 19 nuclei in 11 WT cardiomyocytes we found a volume of $1773 \pm 189 \text{ \mu m}^3$ compared to $1002 \pm 99 \text{ \mu m}^3$ from 9 nuclei in 5 A8V cardiomyocytes. Cross-sectional area data gave areas of $277 \pm 21 \text{ \mu m}^2$ from 54 nuclei in 31 WT cardiomyocytes and $199 \pm 15 \text{ \mu m}^2$ from 41 nuclei in 24 A8V cardiomyocytes. In addition to being significantly smaller, the 41 A8V nuclei are more circular with a length to width ratio of 1.90 ± 0.09 versus a ratio of 2.56 ± 0.13 taken from the 54 WT nuclei. The reduced nuclear volume and increased cytoplasmic volume seen in FHC give vastly different nucleocytoplasmic ratios from those found in healthy cardiomyocytes. Further research will be aimed at determining why these differences exist and elucidating any functional changes in the mutant nuclei.</p>	Dr. P. Bryant Chase	Biology
30	Lisabette Lopez and James Novello	Morning	The Social and Economic Effects of a Major League Soccer Stadium	<p>There has been some research on the social and economic effects of building Major League Soccer stadiums. The question posed for this particular research is if whether these stadiums are built with the communities best interests and concerns in mind, and whether the costs of taking on such an expensive project can be afforded by the affected cities. Census data provided a quantitative outlook on statistics such as the median house price and household income for those cities where current Major League Soccer stadiums are placed. Furthermore, multiple journals detailed the qualitative affects of having a stadium built such as it's affect on the health of the environment and social issues. Analysis of the information retrieved from both the census data and journals helped provide an answer for the main question. More often then not, stadiums have been and are continuing to be built in cities that benefit the franchise rather than the locale. Consequently, the results of this analysis should be useful in predicting how future stadium plans will affect their neighboring communities.</p>	Ms. Kristen Murray	Urban and Regional Planning

31	Mckayla Lein	Morning	Understanding the Physics of Cd3As2 with Heat Capacity	<p>The aim of this project is to measure the specific heat in several novel materials as a function of both temperature and magnetic field. Specific heat is probably the most fundamental thermodynamic property of a material. It is defined as the amount of energy required to raise the temperature of one mole of a substance by one degree Kelvin. For a normal metal the contributions to specific heat come from the electrons and phonons, making the equation for heat capacity as a function of temperature $C_p = \gamma T + \beta T^3$. From the electronic contribution (γ), which is linear with respect to temperature, we can determine the density of states of the system. The density of states is important for understanding the conducting properties of a metal. The phonon contribution (β) increases with temperature as T^3 and is a result of the different vibrational modes of the lattice. The above equation only holds true for normal metals, assuming a 3D crystal with energy equal to the normal kinetic energy equation $KE = \frac{1}{2}mv^2$. The materials we will be studying cannot be described using this assumption, and instead we will be allowed to alter their dimensionality and energy spectrum. In one newly proposed state of matter (3D topological insulator) heat capacity is predicted to go as $C_p = \gamma T^3 + \beta T^3$. This means the electronic contribution now increases as T^3. The goal of our work is to help determine if Cd3As2 has a T^3 electronic contribution and therefore might be a novel material.</p>	Dr. Scott Riggs	Condense Matter Science
32	Christopher Jayapasanna	Morning	Lionfish Appearance on the West Florida Shelf in 2010	<p>The lionfish is one of the first invasive fish in the West Atlantic. It poses a key threat to the survival of many native species, as it has no native predators and it possesses a high rate of reproduction. Additionally, the fish is very hardy, able to survive periods of reduced salinity up to four days at 2‰ salinity and variable temperatures. Because of its unique biology, limiting this fish's dispersal has been a goal of researchers. Because it is able to reproduce so rapidly up to 2 million eggs a year the population has continued to grow despite preventative measures, not only in number, but also in area. The eggs are adapted to float at the top of the water and travel with the currents, which allows them to disperse over a long distance. In December 2009, there were no lionfish present in the Gulf, and only a handful in the Florida Keys. By July of 2010, there were multiple sightings near the Tampa Bay on the West Florida Shelf. The mechanisms behind such a rapid shift were never explained. Using temperature and salinity data throughout the Gulf from the Coastal Ocean Monitoring and Prediction System as well as current maps calculated by NOAA, the rapid travel of the lionfish can be explained: they were able to enter the WFS due to a shift in the loop current. This research shows how the unique system of the Gulf can affect the movement of materials and species throughout the Atlantic.</p>	Dr. Ekaterina	Center for Oceanic and Atmospheric Prediction Studies

34	Matthew Hebron	Morning	Objectivity and Themes in Press Coverage of the Devyani Khobragade Incident	<p>As India is a key strategic partner of the United States, it is important to understand how Indian media covers US-India diplomatic incidents. Doing so can best prepare US policymakers to appropriately respond to international incidents and to design foreign policy specific to the Indian context. The December 2013 arrest of Indian diplomat Devyani Khobragade made international headlines for the nature and manner of the incident. This incident provided an opportunity to investigate the level of subjectivity in the English-language Indian press, and lends insight into how the media may have influenced a deterioration in US-diplomatic relations. Keywords about the incident were used in the Academic Universe and Access World News databases to identify all articles from December 13, 2013 to January 17, 2014 published in several Indian and American papers. Condensing Vos' (2011) defining characteristics of objective journalism, articles were coded on a 1-4 rating scale according to by their level of objectivity in terms of: 1) emphasis on verifiable facts; 2) framing; and 3) article or editorial. In addition, meaningful themes from each article were identified and categorized. At time of submission, multiple key themes have emerged. Notable recurring themes include " Indian Nationalism," " Humiliation of Devyani Khobragade" and " The Status of Diplomatic Relations." Analyses are ongoing and are expected to be completed by the time of presentation.</p>	Dr. Stephen McDowell	Communications
35	Walter Kelleher and Dilshod Khamidov	Morning	Magnetic Plastic? Surely you're joking!	<p>The principal objective of this project is to create a magnetic and conductive ferro-plastic. The plastic can then be used in combination with 3D printing techniques to allow for a highly customizable production process. The compounds used in the manufacturing process will be iron oxide, graphene enhanced PLA pellets and Dichloromethane. If the project is successful, it can open doors to commercial as well as industrial use of a conductive, magnetic ferro-plastic in a wide variety of applications.</p>	Dr. Steve Acquah	Chemistry
36	Alyssa Schubert	Morning	Study on Geosynthetic Clay Linings	<p>Landfill liner and cover systems are designed to protect air quality and groundwater from contamination due to the production of gases and leachate in the landfill, caused by decomposition of waste in the presence of moisture. The best way to prevent gas and leachate production is to prevent moisture from entering the landfill. One of the most popular forms of landfill cover and liner systems is the geosynthetic clay liner (GCL), which consists of small pieces of super-absorbent clay, bentonite, sandwiched between two pieces of woven and nonwoven geotextiles connected by needle-punched stitching or adhesives. This study aims to examine the property differences between new GCL that has been stored in a laboratory environment, pre hydrated new GCL, and samples of old GCL that has been buried in a landfill for ten years. The primary objective is to look at how effective and durable the GCL is after ten years of exposure as compared to the manufacturer's specifications. Factors to consider include the physical, mechanical, and hydraulic properties of the GCL. Testing these properties allows us to examine characteristics like root penetration and the overall strength of the GCL material. Some of the laboratory testing being conducted currently in accordance to the American Society of the International Association for Testing and Materials (ASTM) Standards are the swell index and 1D swell tests, Atterberg limit tests (plastic and liquid limits), tensile or strength test, and hydraulic conductivity test. The study is still ongoing and advanced testing, such as the direct shear test and cation exchange test, are to be conducted in the future.</p>	Dr. Tarek Abichou and Mr. Bently Higgs	Civil Environmental engineering

37	Maheen Islam	Morning	The Relationship Between Hypertension and Cognition in Older Adults	<p>Hypertension affects over 70 million American adults, with only half of these adults managing to keep it under control. Risk factors for hypertension include an unhealthy diet, lack of physical activity, and advanced age. As individuals age, their risk of hypertension dramatically increases. Hypertension impacts many of the body's organs, including the brain. Furthermore, both age and hypertension are linked to declines in cognitive abilities. Therefore, deciphering the mechanisms through which hypertension may cause cognitive decline in older adults is of great importance. The objective of this study was to investigate whether a link exists between hypertension and cognitive impairment in older adults. To examine this, 79 participants were recruited from retirement communities located in Tallahassee, FL. We assessed participants for resting blood pressure and global cognition as measured via the Montreal Cognitive Assessment (MoCA). The sample contained 48 non-hypertensive and 31 hypertensive participants. Results showed a positive relationship between systolic blood pressure and total MoCA score. No relationship was found between diastolic blood pressure and total MoCA score. These findings contradict previous findings of an association between hypertension and cognitive decline. Some studies suggest that this may be due to the fact that a higher resistance in blood flow may cause the need for a higher blood pressure to regulate cranial blood pressure. Ultimately, these findings provide great insight upon the association of hypertension and cognition among older adults.</p>	Dr. Ashley Artese and Dr. Angela Sutin	Geriatrics
38	Marsha Isma	Morning	How Higher Education is Different for Black Women	<p>On a national scale, the number of underrepresented populations matriculating into colleges and universities through graduate degree programs seems to be on an upward slope in recent years. However in these scenarios where underrepresented groups do seek to attain these higher degrees, there are still quite a few challenges that they must face. In many higher degree programs aspects such as mentoring, supportive environments, and research opportunities serve as some of the strongest indicators of success, particularly in doctoral programs and graduation from these programs. Black women in particular seem to be having a hard time cultivating and maintaining these important relationships and attaining these opportunities. This research investigated these scholars' insights and unique perceptions of the importance and effectiveness of a research boot camp-like experience which was presented to them in the form of a professional development program. One of the findings from a focus group interview with seven junior scholar participants discovered that these students believed that the Research Boot Camp experience that they participated in was able to successfully communicate to them important knowledge that pertained to writing and publishing. Additionally, the Boot Camp offered participants further provisions for effectively developing a professional and personal network, which most Black female faculty identify as crucial for success. All in all, the Research Boot Camp experience seemed to the participants to be more informative and helpful than traditional socialization activities. The findings of this study seem to suggest that same gender and intraracial mentor-protégé relationships tend to be more valuable and enriching, especially to underrepresented populations.</p>	Dr. Tamara Bertrand Jones	Education

40	Mary Meade	Morning	Governance and Infrastructure Solutions to Creating Environmentally Sustainable, Healthy, and Livable Cities	<p>Previously, large systems such as power grids, large roadway networks and food distribution systems from faraway states and countries, were infrastructure solutions to cities. Emerging research focuses on a new movement that emphasizes local systems such as urban farms, bike share systems, car share systems, and local solar generation. The research at Florida State University attempts to identify the best combination of large and local solutions in order to achieve high functionality, urban sustainability, and more desirable places to live by examining infrastructure in cities in the US and India. Identification of the most efficient combinations will be done by exploring infrastructure solutions across different sectors such as energy, transportation, water wastewater and urban farming, connecting biophysical and social systems in advancement of urban sustainability, health and livability. Research is being conducted across different industries and universities through three themes. Florida State University is analyzing energy efficiency programs in the city of Tallahassee. By identifying the solutions needed in social institutions and infrastructure, researchers can design solutions to enhance environment, health, and livability in the city. Energy audits, the success of various energy efficiency programs, and individual behavior are several factors undergoing examination. After identifying the best local and large solutions for Tallahassee, the results will be compared with those drawn by our partner universities and industries.</p>	Dr. Richard Feiock	College of Public Administration
41	Carly Gillingham and Ambar Martin	Morning	Closing the School of the Americas through Social Media	<p>Social media has had a profound effect on every aspect of our society. From how we shop to who we elect for office. The realm of political and social activism has been equally affected by the proliferation of social media and while there is research on how social media has been used to facilitate spontaneous action there is not a lot of information on how protesters use social media to coordinate action and which social mediums are preferred. This study seeks to breach that gap. Furthermore, by studying a movement that is older than Zuckerberg himself, this project also seeks to learn how traditional movements have utilized this newfound tool. This study looked at the social media posts made by School of the Americas Watch activists during the November vigil at Fort Benning, Georgia for the years of 2014 and 2015. The research covered all major social media platforms (Facebook, Twitter, Reddit, etc.) and coded questions on how and why different individuals and groups were using particular social media platforms. While the study has not reached any definite conclusions, the implications seem to be that this group of protesters have been reasonably successful at including social media into their traditional offline protests. It also appears as if this group of activists select social media platforms depending on which one(s) best fit their needs.</p>	Dr. Summer Harlow	Communications
42	Alexandra Barth	Morning	Hydrothermal Synthesis of Lanthanide Series Plumbites	<p>Comparative studies of structural variations in trivalent f- element lead oxoanions can provide insight into emerging periodic trends. Hexanuclear and pentanuclear lanthanide plumbite nanoclusters with the general formulas, $[\text{Ln}_6\text{Pb}_{18}\text{O}_2(\text{OH})_{38}][\text{ClO}_4]_{12}\cdot 8\text{H}_2\text{O}$ ($\text{Ln} = \text{Y}, \text{Sm}^{\text{III}}, \text{Er}$) or $[\text{Ln}_5\text{Pb}_{17}(\text{OH})_{36}][\text{ClO}_4]_{13}\cdot n\text{H}_2\text{O}$ ($\text{Ln} = \text{Tm}, \text{Yb}, \text{Lu}$), have been prepared from the reactions of lanthanide oxides with PbO in 1M perchloric acid under hydrothermal conditions. In the former compounds, the octahedral Ln₆ clusters are found fully encapsulated within lead oxyhydroxide cages and terminating with stereochemically-active lone pair electrons on the Pb(II) centers. The smaller lanthanide ions yield hexanuclear clusters with one of the original vertices replaced by Pb(II) and lead networks that form a nest-like configuration around the Ln₅Pb core. Structural variations and soft ferrimagnetism are described for the series.</p>	Dr. Thomas E Albrecht-Schmitt	Chemistry

43	Lauren Chambers and Laura Hedrick	Morning	Gaze Behavior Differences Between Expert and Novice Golf Players	Professional athletic performance has been the subject of many studies, including athletes' gaze behavior and its subsequent affect on their success. Experienced athletes seem to possess enhanced perceptual-cognitive skills that novices lack. In this particular study, both professional and novice golf players will be examined. Specifically, we aim to look at the quiet eye period before, during, and after contact with the ball has been achieved. The quiet eye period describes the eye fixation and duration of eye contact with a particular target. Eye tracking devices will be implemented to both accurately measure these time increments and visualize what exactly the subject is looking at. The trajectory of the ball will be tracked and measured by an elevated camera system. On a simulated golf green, the proximity of the golf ball to the designated hole will determine the success of the athlete. The measured quiet eye period, combined with the accuracy of the putt, will enable us to determine if there is a correlation between these two aspects of the study.	Mr. Camilo Saenz-Moncaleano	Sport Psychology
44	Izese Izore	Morning	A look into why students stay in the Pre-med track.	This project focuses on why students stay in the pre-medical track despite the perceived difficulties associated with this track. We're trying to find a reason why they stay, and use this reasoning to improve the Pre-Med curriculum, and curb the high attrition rates. A carefully constructed series of questions that included inquiries concerning the track, the student's study habits, and generally how a student felt about their major was used to interview participants in effort to learn more about what it means to be a "Pre-med" student. These interviews typically lasted 30 minutes, were recorded, and later transcribed, so that they could be categorized, and then coded. The goal for this experiment is to find out what it truly means to be a "pre-medical" student, and a way to better help these students combat the challenges that this track brings.	Ms. Michelle Peruche	Education
45	Brittany Cunnien	Morning	Changes in Predictors of STEM Career Aspirations of Elementary School Children	Research shows that there continues to be gender differences in Science, Technology, Engineering, and Mathematics (STEM) career choices, especially in certain STEM fields such as engineering. It is important to understand the predictors of student's career plans in the early years of their schooling because these plans lay the foundation for their later educational and career decisions. The present study happened over the course of two years and examined the distribution of elementary school student's career plans across gender, the accuracy of their perceptions of which careers use math, and how well gender, math performance, and math attitudes predict interest in pursuing a STEM career. Additionally, in the second year of the study we examined the stability of students' career plans over one year of elementary school by whether they switched to or from a STEM career or non-STEM career. The conclusions drawn from this project may have implications for parents and educators. By better understanding the predictors of students' career plans early on, the research will point to ways parents and teachers can help motivate children toward higher education and careers in STEM fields in their future.	Dr. Colleen Ganley	Psychology
46	Caleb Cannella	Morning	The Influences and Styles Behind the Works of David Cox	The primary purpose of my research on the artist, David Cox, is to assist Mr. Segundo Fernandez in his search for the influences behind this artist's works. The project focuses on two main areas of potential influence: religious perspectives of nature during the time of David Cox's life and the impact of the theatre on depictions of landscapes. Because of time restraints, I was advised to focus my efforts on the religious aspects of influence. In my project, I address the views of the natural world in the church. I also look into landscape paintings in England and the Netherlands to observe correlations between the regions. Using various resources, I pinpoint how current religious views and paintings from surrounding regions are related and how these subjects affected the works of David Cox.	Mr. Segundo Fernandez	Art History

47	Emily Dailey	Morning	The Potential Correlation Between College Student's Use of Online Resources and Their Proficiency in Recognizing and Help-Seeking of Mental Health Disorders	<p>Mental health disorders are highly prevalent among college students and appear to be on the rise but often are untreated according to many data sources. College students are more likely to seek professional help when they understand that they suffer from a diagnosable and treatable mental disorder. College students with mental health concerns who seek help online may have access to a vast array of information, but must be able to evaluate the quality of the information they find. The consequences can be grave if mental health information is inaccurate or misleading and leads to poor decisions about how to manage a mental health problem and when to seek professional help. The purpose of this study is to explore students' use of online resources to access mental health information and their ability to recognize patterns of mental illness and apply these to help-seeking behaviors. Online surveys will be distributed to college students in the United States through an online research platform called Mechanical Turk. Participants will be asked to complete questionnaires related to 1) their Internet-based mental health information seeking behavior, 2) their knowledge of common mental disorders in young adults using case vignettes (e.g., depression, anxiety, and schizophrenia), and 3) their own mental health. The data will be analyzed using descriptive, t-tests, and chi-square statistical methods. The findings will be used to inform educational initiatives on the use of online resources and recognition of mental disorders to promote early intervention or appropriate help-seeking that could potentially be life saving.</p>	Dr. Eileen Cormier and Dr. Hye Jin Park	Nursing
48	Nia Harmon	Morning	Determination of pH and Reaction Kinetics for Fluorescent Rhodamine Spirolactam	<p>The fluorescent properties of organic compounds have fueled the development of chemical sensors and tracers, useful in medical science and industry. Rhodamine spirolactams are a class of organic compounds that have tunable fluorescent properties, accomplished by the conversion between an open and closed form. The closed form of the spirolactam is non-fluorescent; however, a proton acting as the analyte triggers the production of the fluorescent open form. I propose the synthesis of two spirolactam molecules, one with a carbonyl group and one without. The objective is to determine the impact of the carbonyl group on the spirolactam's kinetics and thermodynamics. Naturally occurring proton-sensitive tracers often operate in fairly acidic environments and act rapidly. This research will lead to a better understanding of the pH range required for the open form to occur, and its rate of reaction. I hypothesize that the carbonyl group on the spirolactam will slow down the ring-opening kinetics because the oxygen atom is very electronegative making it difficult to protonate. However, without the carbonyl group, the molecule is predicted to have increased kinetics because the tertiary nitrogen would be available to protonate, which is a much easier task.</p>	Dr. Lei Zhu	Chemistry

49	Robin Landy	Morning	The Study of Aging	<p>Along with cognitive impairment, people who suffer from Dementia will commonly observe changes in their personalities in comparison to how they were before. The difference between premorbid personality and the personality of patients after the diagnosis of the disease will give an idea on the progression of the disease. Personality change is seen as a reflection of progressive brain damage. Personality change was measured using traits from the five-factor model of personality. The five-factor model includes Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. A meta-analysis was done between data on personality change of patients between their premorbid personality and personality with the onset of the disease from data before 2010 and after 2010. The mean change for each of the traits was calculated before and after the onset of Dementia. The average change was calculated for each of the five-factors for the model of personality for premorbid personality and the current personality of the patients. On average, there was an increase in Neuroticism, and a decrease in the other four factors, Extraversion, Openness, Agreeableness, and Conscientiousness was observed for both the data before 2010 and after. The data obtained is consistent between the five factors of personality for before 2010 and after 2010 data as Neuroticism is the only factor that saw a constant increase from premorbid to current personalities. This shows that the change of personalities, from premorbid to current personality for people suffering from Dementia, is consistent over time.</p>	Dr. Terracciano	Medicine
50	Reef Landrum	Morning	A Survey of Crystal Growth Techniques and Their Application to CeCu ₂ Si ₂	<p>In recent years, condensed matter science has come into the spotlight of the public several different times due to notable advances and discoveries including graphene and carbon nanotubes. Our continuing research into what gives materials the properties that they have helps lead to new discoveries, ideas, and innovations in areas such as electronics and computing. This research project involves the synthesis of a crystalline substance through the use of a furnace and its subsequent analysis using techniques such as x-ray diffraction and the use of a PPMS (Physical Property Measuring System) and a MPMS (Magnetic Property Measuring System). After its properties are measured, the data are interpreted and conclusions are drawn. Any new information is then shared to others and re-purposed for their own use.</p>	Dr. Ryan Baumbach	National High Magnetic Field Laboratory
51	Shaimaa Khanam	Morning	A Photographic Narrative of U.S. Science History	<p>For this project, my supervisor is working to write a book about how scientists (and scientific activities) were being portrayed in photographs from the end of the nineteenth century into the beginning of the 21st century. The "'visual narrative' of U.S. science was an important way that Americans learned about the practice of science: did photographs primarily display heroic individuals climbing mountains or entering remote forests, or isolated laboratory workers? How often did women researchers get pictured besides their male colleagues? What about minorities? How did this visual narrative change during World War II and the Cold War, as agencies such as the Office of War Information and the U.S. Information Agency sought to use photographs of scientists to convey positive images of America to foreign audiences? All these images say different things about what was thought to be important or unimportant, and will help us analyze what the people of these various decades focused on socially. They have already collected historical photographs from several dozen archives" and can begin to compare published photographs with the larger universe of photographs actually taken in particular places and times (revealing what kinds of narratives were socially acceptable at various times in the past, and occasionally challenging what we thought we knew from written archival records). We have started to survey photographs published in major U.S. newspapers and periodicals from the late nineteenth century forward, including Time and Life magazines.</p>	Prof. Ron Doel	History

53	Brittany Hernandez	Morning	The Effect of Hydrophobic Conditions on Palmerolide A	<p>Macrolides are a class of natural products that consist of a large macrocyclic lactone ring to which one or more deoxy sugars are attached. Macrolides are known for having antibiotic activity that can be used for pharmaceutical drugs. Palmerolide A, a 20-membered macrocyclic polypeptide, originates from the tunicate <i>Synocum adareanum</i> in the Antarctic Peninsula. Palmerolide A contains V-ATPase inhibitors, which are found within membranes of many organelles. V-ATPase plays a variety of crucial roles for the function of organelles. For example, Studies have shown that palmerolides such as palmerolide A have given insight into the substructures necessary to retain V-ATPase inhibition and cytotoxic activity. In order to determine the effect of the structure and function of Palmerolide A when exposed to hydrophobic conditions, molecule computer simulations will be used to observe the response. The purpose of observing Palmerolide A in hydrophobic conditions is to understand the response and see if it will affect Palmerolide A if synthesized in laboratory setting. Over time, it will be possible to determine the response of the structure of Palmerolide A through computer simulation. Studies have shown that macrolides such as Polmerolide A have displayed properties where the side chain (molecules attached to the side of the molecule) folds to create a hydrophobic molecule. From the simulation experiments, we hope to gain an understanding of the structure of Palmerolide A when placed in a hydrophobic environment and how the V-ATPase and side chain will respond. This will lead to the understanding of its interactions with V-ATPase and its side chain. This research is significant because recent studies have shown that Palmerolide A displays potent and selective cytotoxicity toward melanoma. As a result of this research, it may be able to aid our understanding of melanomas and possible treatments.</p>	Dr. Wei Yang	Chemistry and Biochemistry
54	Hayley Hebrock	Morning	The Comparison of Dual-Energy X-Ray Absorptiometry (DXA) and Bioelectrical Impedance Analysis (BIA) in Measuring Body Composition	<p>Assessments of body composition have become increasingly important in older adults. Osteosarcopenic obesity (OSO), for example, is a recently recognized condition, seen predominately in older women, which involves a combination of bone loss (osteoporosis), loss of lean mass and strength (sarcopenia), and increased body fat. Although conditions such as osteoporosis have been acknowledged, the combined conditions, such as in OSO, are not sufficiently examined. The aim of this study was to compare methods of analyzing body composition, in an effort to better identify conditions in older women involving bone loss, loss of lean mass, and obesity. Researchers analyzed body composition in Caucasian women over the age of 65 years old. Dual-Energy X-Ray Absorptiometry (DXA) measurements of appendicular (arms and legs) lean mass, fat mass, and percent body fat were compared to measurements taken using Bioelectrical Impedance Analysis (BIA). Data was analyzed using SPSS statistical software. Predicted results indicate that while DXA is the most accurate in measuring body composition, the BIA is reliable and alternative method for assessing appendicular lean mass and body fat.</p>	Dr. Jasminka Ilich-Ernst and Ms. Julia Inglis	Nutrition, Food and Exercise Sciences

55	Mae Espinosa and Eric Luberto	Morning	Words Per Minute: Narrative Language Assessment of English Language Learners	<p>English language-learners (ELLs) are a rapidly growing population facing many challenges in education, due to difficulty with comprehension and expression (Kieffer, 2008; Hammer, Hoff, Uchikoshi, Gillanders, Castro, & Sandilos, 2014). Thus, research in how ELLs communicate is imperative in order to aid in their learning. This project seeks to understand how ELLs process information in the language they are learning and how they can share that same information; its purpose is to describe words per minute (WPM) and number of different words (NDW) performance of young Spanish-English bilingual ELLs of low socioeconomic background. Language sample analysis (LSA) provides a less biased assessment than standardized testing for children from linguistically diverse backgrounds (Miller & Iglesias, 2010). Kindergarten and first-grade children performed a narrative retell of a short cartoon with little to no verbal cues from examiners. Audio samples were transcribed and analyzed using the Systematic Analysis of Language Transcripts (SALT) software in order to obtain WPM for each transcript. These data will be used to describe the typical language productivity and lexical diversity used by Spanish-English ELLs on a narrative retell task and to observe the relationship between these LSA measures during a narrative retell and children's performance on standardized language assessments.</p>	Dr. Carla Wood and Ms. Claire Wofford	Communication Science and Disorders
56	Isabel De Leon	Morning	Parenthood and Emotional Labor: How do parents manage their emotions?	<p>Generally, society believes adults who have children are the ones who lead a more meaningful life as opposed to adults who are childless. Yet, research on the subject of parental subjective well-being finds that having children does not necessarily make parents happier than nonparents. Because previous research focuses on a general finding of well-being, the daily well-being of parents is neglected, which in turn ignores emotional management a parent performs. Therefore, parents were interviewed in the present study to conclude how parents feel during interactions with their children and how they may curb or deal with any negative emotions during those interactions. The respondents answered open-ended questions about their experiences as a parent at each stage of their child's life, which provides insight to how parents feel and manage their emotions. Additionally, we reviewed and synthesized existing literature on parental well-being to explore a broader perspective of parenthood. Analysis is currently ongoing as parents are still being interviewed and existing research is still being studied. It is expected that the proposed unhappiness and stress parents experience is managed and masked by various alternatives. Our goal in this study is to determine how parents manage the stress of parenting and to provide insight into the emotional management parents perform on a daily basis.</p>	Mr. Brian Knop	Sociology

57	Nicole MacMillan	Morning	An Analysis of Sincerely Held Religious Belief	<p>Translating religious belief to legal action has been a long unsolved conundrum for the judicial system. However, there are a few chief homogenous characteristics that have created patterns in religious freedom cases. There are cases that have blatantly labeled a religion as " untrue" and therefore unprotected, beliefs have been questioned in their validity as a religion, and the sincerity of such beliefs have also been questioned. Subsequently, this research also makes the proposition that such characteristics incentivize or employ the marginalization of minority groups</p> <p>The case of People v. Ashley hinged not on the sincerity of the belief, but on the validity of the belief. At the time of the case, the New York Code of Criminal Procedure defined fortune telling as " pretending," but in Ashley's defense, she claimed that she was a medium and a member of the Brooklyn Spiritualist Society and denied the notion that she was a " Person[] pretending to tell fortunes." However, she still lost her case. Later, the case of Africa v. Commonwealth of Pennsylvania in 1981 fell to the same fate. This case occurred after the advent of the sincerity test and still, Africa lost his case. He was, at the time, serving time in jail and requested a special diet that satisfied his beliefs in MOVE, an African American belief system in Pennsylvania. Even though Africa proved that he sincerely believed in MOVE, the religion was deemed invalid and therefore, not protected. Perhaps Africa and Ashley's minority status excluded them from religious freedom.</p>	Mr. Charles McCrary	Religion
58	Jordan McKean	Morning	CG9797, a transcriptional pausing factor, in the Notch signaling pathway	<p>The Notch signaling pathway is an evolutionary conserved pathway that operates in many cell types during development. When examining Notch-mediated follicle cell differentiation, researchers found an important transcriptional activator named CG9797 that interacts with the Notch signaling pathway in Drosophila melanogaster and leads to loss of cellular function if mutated. This study is interested in how CG9797 interacts with Notch and what CG9797 mutants look like phenotypically. To study these genetic interactions, the UAS-GAL4, FLP-out with UAS-GAL4, and FRT-FLP systems were used in the Drosophila egg chamber and wing discs to examine the effects of genetically knocking down CG9797. These genetic techniques allow for visualization of specific cells using green fluorescent protein (GFP) to monitor the expression of transcriptional elements, mainly CG9797, being studied. Many genetically mutated flies were reared in this study in order to examine the phenotypic outcome of CG9797 mutants. Using these techniques, a correlation between knocking down CG9797 and Notch signaling disruption during development was found. CG9797 mutants cause cellular disruptions in the egg chamber and wing disc during development, which is supported by the up regulation and down regulation of the protein Cut, respectively. Phenotypically, CG9797 mutants show a disturbed phenotype of their wings compared to wild-type flies.</p>	Dr. Wu-Min Deng and Dr. Gengqiang Xie	Biology

59	Bailey Brogdon	Morning	The College Autism Network Project	<p>The " College Autism Network" research project focuses on understanding the social and educational obstacles that persons with Autism Spectrum Disorders (ASD) face while pursuing higher education. Over recent years, there has been a noticeable growth in the number of individuals diagnosed with ASD, and with this increase, there has also been a rise in the number of individuals intending to pursue a form of higher education. Our project has sought to identify individuals whom are on the spectrum, and either have pursued higher education, or are currently experiencing it, allowing us to record their struggles and successes throughout the process. We gathered data by conducting interviews with nine students with ASD; we also used literature review to broaden our scope of data. Being that we are currently in the preliminary stages of coding, there is much more data to be collected and room for the project to expand. However, once we have collected our data we hope that our results will help our university, as well as other post secondary educational institutions like it, benefit students with ASD and aid them in their pursuit of higher education.</p>	Dr. Brad Cox	Education
59	Steven Dawson	Morning	The College Autism Network Project	<p>The " College Autism Network" research project focuses on understanding the social and educational obstacles that persons with Autism Spectrum Disorders (ASD) face while pursuing higher education. Over recent years, there has been a noticeable growth in the number of individuals diagnosed with ASD, and with this increase, there has also been a rise in the number of individuals intending to pursue a form of higher education. Our project has sought to identify individuals whom are on the spectrum, and either have pursued higher education, or are currently experiencing it, allowing us to record their struggles and successes throughout the process. We gathered data by conducting interviews with nine students with ASD; we also used literature review to broaden our scope of data. Being that we are currently in the preliminary stages of coding, there is much more data to be collected and room for the project to expand. However, once we have collected our data we hope that our results will help our university, as well as other post secondary educational institutions like it, benefit students with ASD and aid them in their pursuit of higher education.</p>	Dr. Brad Cox	Educational Leadership and Policy Studies
60	Elizabeth Nimitz	Morning	The Relationship between eMental health literacy and perceptions of child mental health disorders among parents of preschoolers	<p>Parents, especially those of young children, frequently rely on the Internet as a source of health information yet lack the ability to discriminate between high and low quality online sources. Parents of young children with mental health concerns are especially vulnerable if they lack knowledge of child mental health problems and trust Internet information that is inaccurate, incomplete or of poor quality and avoid or delay seeking treatment for their child because of this. This study will assess the eMental health literacy of parents of preschool children and explore the relationship between their eMental health literacy skills and their knowledge of common child mental health problems. Data will be collected over a 3-month period through an online survey using Mechanical Turk (Mturk). Parents of preschool children will be asked to complete questionnaires related to: 1) their Internet-based mental health information seeking behavior, 2) their knowledge of common child mental disorders using case vignettes (e.g., autism spectrum disorder, attention deficit hyperactivity disorder, separation anxiety disorder), and 3) their own child's strengths and difficulties. The data will be analyzed using descriptive, t-tests, and chi-square statistical methods. The findings will be used to inform educational initiatives on the use of online resources and recognition of child mental disorders to promote early intervention or appropriate help seeking.</p>	Dr. Eileen Cormier	Nursing

61	Kate McMahon	Morning	Inefficiency in Politics: How Electoral Cycles Affect Legislation	<p>This research is focused on assessing whether or not the quality and quantity of bills that legislators produce is affected by election cycles. Because running a campaign consumes more time and causes more stress in a legislator's life, it follows that their work will suffer during election years. Based on casual observations of previously collected data, the hypothesis is that both the quality and quantity of individual legislators' bills will decline during such years due to a lack of focus and time. Furthermore, this effect will be more pronounced for legislators who are personally "worth" less, as those with less personal funds available for campaigning will have to spend more time raising money than those who are independently wealthy. Florida House Bills proposed from 2000 to 2015 will be analyzed according to year and length of the body of the bill, and will be identified by number and sponsor. Sponsors will be analyzed based on biographical data, including gender, party affiliation, income, and net worth. This information will be tabulated to see if there is a correlation between election years and a lessening of bill quality and quantity. If there is a strong connection between election cycles and legislation, it has the potential to call into question the efficacy of frequent elections. It will also offer insight into the effect that the use of personal funds in election campaigns has on legislators' work, potentially uncovering an unfair advantage in those who have an abundance of wealth gained from work entirely unrelated to their government job.</p>	Mr. Kevin Fahey	Political Science
62	Matthew McSoley	Morning	Inadequate Attention to Community Mental Healthcare in Florida	<p>Over the course of the past few decades, the state of Florida has experienced rapid population growth, as much as 70% in certain areas. But despite this population explosion and an increase in the budget, state funding for community mental health has not followed suit. Working with the Florida Council for Community Mental Health, my efforts centered around examining the state of community mental health funding in Florida and determining what appropriate measures should be taken so that all citizens have access to mental health and substance abuse care in times of crisis.</p>	Mr. Matthew Michaels	Psychology
63	Drew Menzel and Curtis Turner	Morning	Migration Patterns of Company Headquarters	<p>Recent studies have shown that companies are constantly moving their headquarters across different areas of the United States. The goal of this study is to find patterns and trends related to the migration patterns of company's headquarters. We first generated a list of 100 companies who recently moved their headquarters across state lines. After analyzing the zip codes and states to which the new headquarters moved, we gathered information regarding public statements from the companies themselves to find reasons why they were relocating. We also noted the top five states gaining and losing headquarters. We then took a closer look at state demographics in order to find relationships between these statistical data and the states' final locations. The demographics analyzed included state corporate tax rates, population changes by state, education level, worker productivity, cost of real-estate, and property tax by state. Based on our results, we found that some of the top reasons companies decide to move their headquarters are cost saving initiatives, to improve proximity to their customer base, and mergers acquisitions. The main ways to cut costs were state incentives and the decrease of rental expenses.</p>	Prof. Jeff Paterson	Business

64	Samantha Miker	Morning	Sustainable Fashion Consumption: An Expanded Theory of Planned Behavior	<p>This study examines consumers' perceptions of sustainable consumption in regards to fashion. For the purpose of this study, sustainable consumption is defined as the purchasing of goods and services that will meet one's basic needs and increase quality of life while using minimal resources so that the needs of future generations are not jeopardized due to the destruction of the environment (Dolan, 2002). Fashion production has been proven to have a significant negative impact on the environment, and this study is an effort to understand what makes the consumer purchase sustainable fashion products. Icek Ajzen's theory of planned behavior provides the basis of this investigation into how an individual's beliefs, attitudes, subjective norms, and perceived behavioral control toward purchasing sustainable fashion products affect their patterns of sustainable consumption. This study expands the theory to include perceived self-identity, perceived ethical obligation, and availability of sustainable fashion products to gain a more comprehensive understanding of consumers' behavioral intention towards the purchase of these products. The findings of this study may be used to increase demand for sustainable fashion as well as the demand for sustainable consumption across the market in general and in effect, diminishing the environmental impact of fashion products.</p>	Dr. Srikant Manchiraju	College of Human Sciences
65	Allison Lang and Shayshari Potter	Morning	Assessing Bias in the International Court of Justice	<p>The International Court of Justice is the primary judicial organ of the United Nations. Therefore, it's responsible for deciding cases that are brought between countries and by international organizations. As with most courts, there is an assumption that the ICJ acts in a fair and impartial manner and decides cases based on international law. Our project plans to test this assumption to determine whether the Court is truly impartial, or whether it decides cases on some other factor or factors. Building on previous work (e.g. Alter and Helfer, 2010; Posner and de Figuerdo 2005; Voeten 2007) our goal is to collect information on ICJ cases and ICJ judges, which will allow us to create an ideological scale and place the judges on that continuum. We then examine each of the 160 cases from 1946-2014 to determine how a particular judge voted on case and whether or not that vote deviates from the ideological ranking. The key first step in this process was summarizing and coding each of the cases. We have developed a case brief format that allows us to capture the background of the case, the questions put to the Court, the judge's names and their votes on a case, as well as other general case information. Based on that information, we determine a " winner" for each case, which we record in our dataset. Comparing the votes of the judges to their ideal points will allow us to test the hypothesis that the ICJ acts in an impartial manner.</p>	Mr. Scott Meachum	Political Science
66	Jessica Jarrell	Morning	A Systematic Appraisal of the Literature on the Effectiveness of Fall Prevention Interventions in Acute Care Settings	<p>Interventions to prevent falls in acute care settings are critical in keeping patients safe and reducing unnecessary hospital costs. Although, the evidence on fall prevention interventions for acute care settings is limited and fails to provide support for any specific fall prevention intervention protocol that can be used to inform clinical practice guidelines in these settings. The purpose of this systemic literature review is to determine what fall prevention programs are most effective in U.S. acute care settings and identify factors that are associated with their effectiveness. A systematic review of the evidence related to the effectiveness of fall prevention interventions taking place in acute care settings was undertaken. Sources were obtained from CINAHL, Cochrane Library, and PubMed. Eighteen original research articles were reviewed; twelve evaluated multicomponent interventions and six focused on single fall prevention interventions. The evidence derived from this review suggests that multicomponent interventions are more effective than single intervention protocols in preventing falls in acute care settings; In particular, multicomponent interventions that are individualized or more rigorous for high fall risk patients.</p>	Dr. Eileen Cormier	Nursing

67	Cassandra Leahy	Morning	A Comparison of Hourly Lightning Distributions	<p>Lightning is a common threat that occurs hundreds of thousands of times each day over the world. In fact, Florida leads the nation in the number of lightning flashes and the number of deaths that result from them. Lightning is the greatest threat for people who work or do activities outdoors. Thus, predicting when lightning is most likely to strike is crucial to give people enough time to seek shelter and protect lives. The goal of this research is to determine the hour of the day when one can most and least expect lightning to occur in the Tallahassee, Florida, area. With this new information, the public can better plan outdoor work and activities around peak lightning hours, decreasing the chance of being caught outside in a storm. I am determining the temporal distribution of lightning in the area by using data collected by The Earth Networks Total Lightning Network from 2011 to 2014. I then create a grid system of 10²–10 km size that is superimposed on a map of the study area. The flashes within each grid box are counted each hour, and the time distribution for lightning is determined for each month of the year. The peak and minimum hours of lightning then can be ascertained for each grid point, providing a spatial distribution of the hourly distributions.</p>	Dr. Henry Fuelberg	Meteorology
68	Kelly Lewis	Morning	Circumstellar Habitable Zones of Solar Mass Stars	<p>The formation of life on Earth is in large part due to the intrinsic luminosity of the Sun and the radiant flux Earth receives. Earth lies within the circumstellar habitable zone (CHZ) of the solar system, a region of inner and outer radius around a star that will most likely support intelligent life. This project used computational models to estimate what range of solar masses would allow for the formation of life on Earth as we know it. The minimum and maximum radiant flux humans could possibly withstand was calculated, and then this value was used to determine a range of luminosities within the models of stars of different masses that are feasible to support life. There are only certain mass stars for which their stellar properties and resulting CHZ lasts long enough, a time period of about one billion years, within the required range to foster the creation of life.</p>	Dr. Tomasz Plewa	Scientific Computing
69	Emily Duboy	Morning	X-Ray Crystallography of XxCas9	<p>X-Ray crystallography is the study of crystals. This method is generally used for determining structure of various molecules, including proteins. XxCas9 is a restriction enzyme associated with the CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) System which is a vital component to the immune systems of various bacterium. In very basic terms, the system's activity relies on a protein and RNA complex, where this complex can essentially recognize a previously encountered virus and the RNA guides the protein to "cut" the invasive DNA to prevent further invasion. X-ray crystallography of XxCas9 is a way to determine protein structure by crystallization. By determining the structure of this protein, the functionality of it can be better understood. In order to perform X-ray crystallography, the protein must first be purified. The methodology employed for purification is by nickel column. Once the protein is pure, it can then be crystallized in the presence of various buffers on a crystal tray, and the crystal structure is analyzed by laser diffraction. By understanding the structure of the protein, many applications of this knowledge can ensue. CRISPR is very cutting-edge research in genetic engineering and biotechnology.</p>	Dr. Hong Li and Mr. Travis Hand	Molecular Biophysics

70	Sydney Parker	Morning	Dancing From the Mind: Intellectually Processing Dance	<p>In my project I will examine how dancers, usually reported as physically minded individuals, process dance from an intellectually minded perspective. My research question began as a blog post where I formed an opinion about the characteristics of an intelligent dancer, and consulted other dancers within my community. After receiving their responses to the question, " What is an intelligent dancer?" , and comparing them to my own, I began to gather data from more students in the Florida State University School of Dance. I distributed a questionnaire with three questions regarding intelligence, responsibility, and community in dance. Through analyzing the responses provided by these questionnaires I noticed that the students polled tended to discuss the physical intellect required of dance, as opposed to the mental intellect. The next stage of research occurred at Diverse Expression: Who We Are, an event hosted at 621 Gallery, a contemporary art space in Tallahassee. At the event, I displayed my original blog post along with the data gathered from my questionnaire and gave attendees Post It's and the prompt to respond by word association.. The next phase of research bridges the gap between written responses and in person communication through interviews (conducted live or via Skype). With the next step of my research also comes a refined set of questions to help access how dancers guide their non-physical self practice. Ultimately, I aim for my research to begin a dialogue between dancers in the local community and broader dance field that allows further investigation into how we process our physically rooted art form, both kinesthetically and intellectually.</p>	Prof. Loren Davidson	Dance
71	Wendy Parkulo	Morning	Why Does American Society Really Like Reality Television?	<p>This research explores the history of the rise in popularity of reality television programming. It also explores the interaction between social media and reality television consumption and how our society is affected. The goal is to understand how this genre of television became so popular and why it continues to be a major facet of entertainment in our society and what that reflects about our contemporary society's perception of success. This is done primarily through the synthesis of previous research and secondary sources along with personal interviews to gain a new understanding of this genre. This research indicates a strong relationship between reality television and social media as well as the popularity of reality television being linked to the characters' pseudo-similarity to the viewers by being " ordinary people" . This is important to understand because if one has the ability to understand the consumption of a particular media then one can more easily understand the society that consumes it.</p>	Dr. Leigh Edwards	English
72	Madelyn Pendarvis	Morning	A 'Farmer of Feeling' Among Abolitionists	<p>Author of the more widely known essay "What is an American?", J. Hector St. John de Crevecoeur composed this as part of a larger 1782 book "Letters from an American Farmer", in which the narrator Farmer James is put into a much larger perspective. Crevecoeur places considerable emphasis on the emotions and feelings of this narrator, hence his nickname a 'farmer of feeling', which becomes evident in his reaction upon seeing a slave left to die in a cage (Letter IX). This verbal description paints a vivid image for the reader, and leaves one wondering what type of inspiration Crevecoeur may have had for this scene, whether verbal or pictorial. In attempting to locate such an image or description, Crevecoeur's writing will also be placed in context with the abolitionist movement in the United States and compared to more contemporary abolitionist writings, which may hold echoes of Crevecoeur's 'farmer of feeling' in them. Whether such a verbal or pictorial depiction of a caged slave exists, Crevecoeur was certainly before his time in his use of underlying abolitionist tendencies in his writing.</p>	Dr. Dennis Moore	English

73	Christlene Perceval	Morning	Innovation Outside the Box	Innovation is the process of taking imagination and turning it into applications that can be used. From understanding the different aspects of innovation, the student can generate a practical solution to the problems that has yet to be discovered. These skills can be harnessed and implemented in other disciplines, therefore, allowing growth in areas of STEM, entrepreneurship, and the arts and humanities.	Prof. Professor Mary Stewart	Fine Arts
74	David Perez	Morning	Bio-Sand Filtration of Contaminated Water for Pollutants and Pathogens	Achieving a 50% reduction in the world population that does not have access to clean water sources (water from dug wells, bore wells, public taps, collected rainwater or protected tubes) is one of the Eight Millennium Development Goals set by the United Nations in the year 20001. Unsafe drinking water is recognized as a leading factor in diarrheal diseases, responsible for about 2,000,000 annual deaths a year worldwide. Past literature suggests treating contaminated water at its Point of Use (POU) rather than at its source is an effective and efficient means to improving the quality of drinking water. Bio-sand filtration is a modification of slow sand filtration, a water filtration system used for centuries that needs a constant flow of water to stay productive. Bio-sand filters (BSF) is a POU system that removes 99% of pathogens from influent water, has an effective flow rate of 3 L hr, and is documented to have high compliance of use post-implementation. BSFs were engineered for at home use and do not require a constant water flow to stay productive. The added use of electro less deposition of a known disinfectant and nitrate reducer onto the sand for removal of contaminants and nitrates will be coupled with BSF research to test the logistics of the modification.	Dr. Clayton Clark and Ms. Sharron Anderson	Environmental Engineering
75	Hannah Powell	Morning	Understanding the Evolution of Plant Proteinase Inhibitors as a Plastic Trait	Plasticity is the ability of an organism to alter its phenotypic expression in response to biotic and abiotic changes in the environment. Proteinase inhibitors occur as a plastic trait in plants by protecting them against insect herbivory. The evolution of proteinase inhibitors are expected to evolve as a result of genotypic variations and correlations. 354 plants of Solanum carolinense (half damaged with beetles and caterpillars) were assayed for cysteine and trypsin proteinase inhibition following protocols. ANOVA test supported four major findings. One, there was only an induced response of trypsin PIs to insect herbivory. Two, Cysteine and trypsin proteinases inhibitors showed a negative correlation in their undamaged expression. Three, both proteinase inhibitors had significant genetic variation in production. Lastly, there was negative genetic correlations between the constitutive expression and the plasticity of cysteine trypsin PIs. Understanding the evolution of the genetic linkage of two types of proteinase inhibitors can allow future plant scientist to address the most beneficial genotype for agricultural implementation. Future studies could explore the specific environmental conditions or insects that may have resulted the varying proteinase inhibitor concentrations.	Dr. Nora Underwood and Dr. David McNutt	Biology

76	Mercedes Puig	Morning	Development of Intonation	<p>This project addresses the development of intonation in learners of a second language. The main goal of this project, conducted by Carolina Gonzalez (Associate Professor of Spanish and Linguistics) in collaboration with Dr. Anel Brandl (Dept. of Modern Languages and Linguistics), Amy Bustin (Graduate Student), and Mercedes Puig (UROP Student) is to contribute to our understanding of how intonation develops in second language learners. Specifically, this project examines how adult Spanish learners perceive and produce the intonation of statements and questions at different Spanish proficiency levels (beginning, intermediate, intermediate-advanced, and advanced). The proposed study provides a cross-comparison of intonation across four Spanish proficiency levels, and also lays the groundwork for following the development of acquisition through several semesters of language study. The experimental design combines both intonation perception tasks and intonation production tasks. To investigate the development of intonation from a perceptual point of view, participants in this study will perform an intonation identification task via the computer program SuperLab 4.0. To investigate the development of intonation from the point of view of production, participants in this study will perform two tasks in Spanish: a sentence reading task, and an elicitation task. For the sentence reading task, participants will be asked to read a list of 40 Spanish questions and statements. For the elicitation task, participants will view a PowerPoint presentation with 40 slides depicting different situations. We are currently gathering data to be analyzed throughout this semester hence there are not observable results yet.</p>	Prof. Carolina Gonzalez	Modern Languages and Linguistics
77	Samantha Rohrbaugh	Morning	Institutional Initiatives for Students on the Autism Spectrum	<p>Currently, there is a lack of readily available information for students on the Autism Spectrum and their parents about academic and social support offered at institutions of higher education. This study will create a database for students and parents to find universities across the United States, as well as support structures available to students with Autism Spectrum Disorder. The database will provide information including a brief description of the program, staff members, cost, and any eligibility requirement for the programs at each institution. This information will be gathered from a website provided by the university or via email directly from the director of the disability office at the university. It is predicted that this study will support previous literature regarding types of institutions students with autism typically attend, what areas across the United States offer the most supports, and what the population of students on the spectrum looks like at different institutions. As more students with Autism Spectrum Disorder enroll in places of higher education, so to will the need for academic and social supports. This database should prove to be helpful for these students and their parents.</p>	Dr. Brad Cox and Ms Lauren Apgar	Education

78	Valeria Rigobon	Morning	The Gender-Variant Effects of Affirmative Action Policies on Black and Latino Enrollment in State Flagship Institutions	In the higher educational system, affirmative action is defined as policies that generally favor individuals who suffer from some sort of discrimination. Many institutions formerly used race-conscious affirmative action plans to help increase and maintain the diversity of their student populations. However, in the last 3 years of the 1990s and the beginning of the 2000s, affirmative action bans gained some popularity within the U.S.; Arizona, California, Florida, Michigan, Nebraska, Oklahoma, and Washington all placed bans on race-conscious affirmative action policies at their public universities (Potter). At present, the Fisher vs. University of Texas case may determine whether affirmative action will become a reality for all public institutions in the U.S. Even though researchers have spent much time observing students of different races and socioeconomic classes, very little attention has been dedicated to studying gender variations in racial and ethnic diversity. This study aims to examine the possible gender differences in black and Latino student enrollment at state flagship institutions as consequences of affirmative action. Using representative data from the National Educational Longitudinal Study (NELS) and the Educational Longitudinal Study (ELS), we expect to see the strongest effects and enrollment changes on black and Latino men in states that have placed bans on affirmative action. However, the effects may vary among states with "percentage plans" and other official policies implemented to replace affirmative action policies.	Dr. Lara Perez-Felkner	Education
79	Blake Rawitt	Morning	Analysis of variability in the North Atlantic	The objective of this study is to analyze the variability of the North Atlantic Ocean in a 1-10 year range. Through the use of the MIT General Circulation model, bathymetry data, and high performance computing clusters we have been able to gain a better understanding of the uncertainties in climate predictions due to these variability. *will update*	Dr. Nico Wienders	Earth, Ocean, and Atmospheric Science
80	Arian Rastgou	Morning	Synthesis of Cyclooctyne Precursors	The purpose of the experiment is to synthesis a molecule, through the use of click chemistry, which can attach itself to a cells without interrupting biological functions or result in the death of the cell. The molecule that the lab is attempting to synthesis will be able to color certain regions of the cell which would allow scientist to study a cell life with ease and have a better understanding of the applications of other drugs administered through simpler means.	Dr. Nikolay Tsvetkov	Chemistry
81	Devin Sapp	Morning	Understanding Socioeconomic Status' Relationship to Education	Past research has shown that student's socioeconomic class have serious implications for a student's overall academic success. These complications for academic success are related to a variety of issues commonly related to low-SES. These variables include a lack of resources that help with reading and mathematics development, lack of mentorship from faculty staff and parents, outside stressors usually experienced by low-SES people, and lack of guidance by individuals with collegiate experience. Over a period of several months, literature on this topic was reviewed and statistical analysis were run comparing class and other variables from a sample of over 16,000 participants who were followed and interviewed from their 10th grade year of high school to 6 years after. From this, we can see how class interacts with education and aspirations and how to implement pedagogies that are tailor made for low-SES student's that help mediate some problem they face.	Dr. Lara Perez-Felkner	Higher Education
82	Sergio Sanchez	Morning	Computational Methods in Analysis of Chemical Processes	Concepts related to energy, and it's storage, are among the most significant facing humanity. Specifically, lithium, which holds a fundamental role in current technologies, is crucial to energy storage. It is therefore, necessary to understand properties and behavior of lithium ions. This project utilizes computational modeling and simulations to further examine the mechanisms of lithium in a setting of particular interest, ions between graphene sheets. LAMMPS MD code is used to run a lithium graphene system. The specific mechanisms of ion traversal (through graphene sheets) are then analyzed.	Dr. Jose Mendoza Cortes	Chemical Engineering

83	Marta Salazar	Morning	Family Cancer Communication	In family cancer communication, studies have been conducted among patients, family members, and their healthcare providers to address the comfort level in communicating about cancer. A review of the literature on family cancer communication revealed a gap regarding information from a college audience. Approximately 1,685,210 new cancer cases are expected to be diagnosed in 2016 in the United States. Cancer extends among various races, socioeconomic classes, and families. Despite the prevalence of cancer among many populations, there still exists a negative stigma about the illness. The current study seeks to pilot a questionnaire to explore family cancer communication and knowledge of breast, lung and prostate cancer among college students. By piloting the questionnaire, a tool can be developed to specifically address family cancer communication patterns among college students. The development of this tool can lead to novel interventions for communicating and assisting families, which have members that are diagnosed or survivors of cancer. In addition to improving cancer communication among families, the development of the tool can assist with innovative interventions for improving the quality of life for all of those involved.	Dr. Sabrina Dickey	Nursing
84	Michelle Sanabria	Morning	The Effect of Finger Gnosis on Addition Strategy Selection and Efficiency in Adulthood	Counting on ones fingers as a child allows for conceptualization of abstract mathematical concepts, tying digit sounds to the concrete, worldly representation of one's fingers. A person's ability to mentally represent their fingers is referred to as finger gnosis; previous research in the realm of cognitive psychology has explored the relationship between finger gnosis and mathematical performance and understanding in children. This research indicates that finger gnosis could be necessary for numerical calculation development. This study is meant to replicate findings of previous finger gnosis research as a predictor of mathematical ability. The focus of this study differs slightly in its age group. We examine finger gnosis as it relates to addition strategy selection and efficiency in adults. Addition strategy refers to the methods in which simple arithmetic calculations will be solved ranging from memory-based solutions to concrete representation solutions (e.g.: finger counting, complete mental addition, mentally counting, etc.). It is hypothesized that stronger measures of finger gnosis will correlate to a higher usage of memory-based strategies and a decreased reliance on the concrete representations. It is expected that a positive correlation will be drawn between finger gnosis and symbolic number representations as previous research has indicated that finger representation in children allows for a link as numerical symbols. We will assess mathematical ability through addition and subtraction tests, SAT and ACT mathematic scores, and address calculation fluency.	Dr. Michael Kaschak and Ms. Amanda Kowalsky	Psychology
85	Mourama Saint-Fleur	Morning	The new face of Relationships	The following project is intended to gain a wider and more comprehensive understanding of the affect that interracial relationships have on emotional well being. Current demographic data shows an upward trend in the United States of couples that self-identify as being in mixed raced relationships. Through surveys distributed at various southeastern college campuses over a lengthy period of time, we hope to gain a better understanding of these relationships. Surveys were distributed electronically, and participation voluntary. After completing the survey, participants were then invited to be interviewed in person. The results of this study are inconclusive at present. The project will most likely be a two year study of couples to get a representative sample of the couples being studied.	Dr. Kathryn Tillman	Sociology

86	James Rujimora	Morning	The Role of Self-Compassion and Meaning in Life in Fear of Death	Compassion is at the root of fulfilling humanity's innate desire to relieve suffering; in many ways, it is necessary for success and survival (Heifetz & Linsky, 2002). The importance of finding meaning in our lives underscores the separation we have from the rest of the animal kingdom. Per Greenberg (2011) and Terror Management Theory (TMT), we have a need to protect our self-esteem and assert our superiority over our groups, which is taken away when we add the uncertainty and ubiquity of death. Not much is known about the aforementioned variables, however a study conducted by Lockard, Hayes, Neff, and Locke (2014) did look at the mental health benefits of self-compassion among students who visited college counseling center clients. From their study, self-compassion was determined to be an overall important area to examine in clinical populations (Lockard et. al. 2014). Therefore, the purpose of this study is to identify associations between self-compassion in college students, their fear of death, and how they find meaning in life. Specifically, I hypothesize that individuals with low levels of self-compassion have a lesser sense of meaning in their lives, and above and beyond this, have an increased fear of death. This study aims to sample both university undergraduates and local community members to determine nuances regarding self-compassion, feelings toward death, and meaning in life.	Dr. Thomas Joiner & Christopher Hagan	Psychology
88	James Brown	Morning	Myosin Variations and Cardiomyopathy	Cardiomyopathy is a deadly heart disease, and its most common form affects 1 in 500 people. Studies show that cardiomyopathy is more likely in people who have certain genomic variations in cardiac muscle proteins. These variations are called single nucleotide polymorphisms (SNPs). The National Center for Biotechnology Information's Single Nucleotide Polymorphism database was searched for beta cardiac myosin SNPs that cause cardiomyopathy. Of these SNPs, those that translated to the rod portion of beta cardiac myosin were mapped. Protein maps were examined in hopes of revealing a key area on beta cardiac myosin that plays a role in disease development. Perhaps treatments could be designed with this information to target the site of cardiomyopathy development.	Prof. Zhongjun Hu	Molecular Biophysics
89	Samantha Skrob	Morning	How Stress Influences Maternal Effects in Poeciliid Fish	From past experiments, it has been determined that the Least Killifish, <i>Heterandria formosa</i> , a small Poeciliid, is a good study subject for how stress influences organisms. Because of its small life span and gestation period, it was used to study transgenerational, or maternal effects, which are traits that are passed through generations from mother to offspring. These fish are especially good for researching these generational effects because they experience superfetation, which allows them to hold multiple offspring at different stages of development at the same time. For this experiment, crowding was used as the cause of stress and how the changes in stress effected the offspring produced by the stressed fish was measured. Fish were obtained from two natural populations with different densities: a population from Wacissa River that usually experiences higher densities and a population from Trout pond that experiences lower densities. Because of its many effects, stress is a difficult response in organisms to study. To combat this, many responses to stress were used in this study, including the weight of the offspring. It was expected that the offspring of the fish that were placed in a different than natural population density would decrease in weight greater than the fish who were raised in an environment similar to their natural one. If the maternal effect was prevalent however, successive generations should have shown a close to natural weight distribution because of the mother's conditioning.	Dr. Joseph Travis	Biology

90	Logan Smith	Morning	Determining if Early Separation from Basic Military Training is Associated With an Increased Risk of Depression	<p>Each year, a substantial proportion of trainees who entered United States Air Force (USAF) Basic Military Training (BMT) are unable to complete training (Talcott, Haddock, Klesges, Lando, & Fiedler, 1999). This problem persists across all five branches of the United States Military, highlighting that many individuals are re-entering society after a failed attempt at joining the military. Re-entry to civilian life poses significant challenges, including finding employment, establishing a new career path, and paying for education. However, the majority of these individuals are not considered veterans by their peers or government, and are thus granted no extra attention or services. Up until this point, no further research has been done to follow-up with these individuals after BMT to determine the status of their mental health, and if their discharge has effected them in any way. This study has a threefold objective: (1) conduct an exploratory study of the presence, severity, and rates of depression among individuals discharged from BMT; (2) conduct an exploratory study of the presence, severity, and rates of anxiety among individuals discharged from BMT; and (3) determine if there exists any relationships between the reason for discharge for those individuals prematurely discharged from BMT and the likelihood of reporting and or developing anxiety and depression. Using established measures for determining the prevalence and severity of depression and anxiety (the PHQ-9 and GAD-7, respectively), 117 individuals who were discharged from United States Air Force self-reported data for this study. Additionally, these 117 former trainees reported on their demographics, mental health background, and information about their time served in the USAF. All of this information was used to determine if there exists any relationships between the reason for discharge and the likelihood of reporting one of the target mental health issues. The data gathered indicated that the majority of individuals who participated in this study had, on average, moderate depression. Additionally, the data indicates that the participants have, on average, moderate anxiety. Overall, the data indicates that these individuals may suffer from anxiety and depression at a rate and severity that is cause for concern.</p>	Dr. Thomas Joiner	Psychology
91	Catherine Stauffer	Morning	Analysis and Reconstruction of Hurricane Allen (1980)	<p>An objective analysis of Hurricane Allen was created to obtain the structure of damaging wind fields of the storm. Aircraft observations were imported from The Hurricane Research Division of the National Oceanic and Atmospheric Administration (NOAA) and were supplemented by data from buoys and METAR stations to create the most accurate representation of the storm. These 48,000 wind observations were sorted and analyzed to create a storm track and evaluate the storm structure, size, and integrated kinetic energy of the damaging wind fields of Hurricane Allen. The HWind analysis is then compared to national reanalysis models to evaluate the accuracy of those models. Hurricane Allen developed in the middle of the Atlantic off the coast of Africa, being categorized as a tropical depression on August 1, 1980. It quickly gained intensity and became a major hurricane by August 4th as it entered the Caribbean. The momentum remained unaltered due to the eye traveling in between Jamaica, Cuba, and the Yucatan peninsula. It made landfall on the Texas-Mexico border, but not before it underwent multiple eyewall replacement cycles causing Allen to hit category 5 status on three separate occasions.</p>	Dr. Mark Powell	RMS Tallahassee

92	Audrey Wheeler	Morning	Women before Facebook	<p>Women before Facebook is an exploration of eighteenth and nineteenth century Italian women and their influence upon society through the network of the salon. During this period, most women of the world were still subjected to the role of the docile and dependent housewife; however, through the world of the salon Italian women were able to execute some degree of influence upon the political and socioeconomic factors in the public sphere. Working as an assistant to Professor Irene Zanini-Cordi from the Department of Modern Languages and Linguistics, I became a novice expert on various salonnières and salons within Italy, with time parameters from just before the French Revolution up to the Risorgimento (unification of Italy). From this stance, social networking theory was applied in order to provide a feasible comprehension of the vast and varying connections that existed within this realm of society. Social networking theory, with its innumerable explanations of the relationships between nodes and links, in the end will allow Zanini-Cordi and I to create a visual map of the complex ties that formed outlets for Italian women to influence the society in which they lived.</p>	Prof. Irene Zanini-Cordi	Modern Languages and Linguistics
93	Max Smith and Austin Wyant	Morning	Speech-related autonomic function and cognitive-linguistic task demands	<p>Rationale: Autonomic nervous system (ANS) functioning is influenced by the cognitive-linguistic load of various speech production tasks, and speech production characteristics are influenced by autonomic arousal. Additionally ANS functioning is affected by healthy aging and disease processes such as Parkinson's disease. Objectives: This study is being conducted to understand how ANS functioning, particularly when it involves speech production, differs based on 1) speech production task demands and 2) age (young vs. old) and disease (healthy aging adults vs. adults with Parkinson's disease) Methods: ANS functioning will be quantified and compared between different subject groups by utilizing various speech production tasks. The tasks will measure electrodermal activity, in terms of skin conductance level (SCL) and skin conductance response (SCR), and cardiovascular activity, in terms of pulse period and blood pulse amplitude. Results: Data collection and analysis are ongoing. Results are expected to inform our understanding of how age and disease affect ANS functioning for speech production, relative to the cognitive-linguistic demands of the speech task.</p>	Dr. Megan MacPherson	Communication Science and Disorders
94	Juan Martinez	Morning	Dependence of Final Carbon Cores on Convection and Semiconvection in Supernovae Progenitors	<p>Using a one-dimensional code, the lives of a hundred stars of fifteen solar masses were simulated varying only the rate at which convection and semiconvection occur, maintaining all other variables constant. The study focused on the dependence of core mass (He, C O) on efficiency of convection and semiconvection, at the time of the supernova. Both processes affect mixing in the stellar interior and, thus, the rate at which central regions are enriched with fuel brought from the outer sections of the core or envelope. Using those hundred models that cover a range of parameters controlling convection and semi-convection in a form of a 10x10 grid, isocontours of He and C O core masses were plotted on that plane, in order to find a function that describes the dependence. This information about the core structure is important in the context of core-collapse explosion models in which the amount of hydrogen and helium ejected during the explosion can be constrained observationally based on the supernova light curve. The mass of C O core determines how much high-atomic-mass elements (metals) will be produced enriching the interstellar medium.</p>	Prof. Tomasz Plewa	Scientific Computing

95	Andrea Solis	Morning	Childhood Abuse and Substance Abuse in Lifetime Among Latina-Americans Nationwide	<p>Childhood abuse is a major behavioral health concern and imposes lasting damages on mental and physical health, including substance abuse in-lifetime (SA-IL). Yet, gender-specific research examining this early trauma and substance abuse in Latina-Americans is scarce. This study investigated the prediction of childhood abuse for SA-IL among adult Latina- Americans nationwide and the potential moderation of acculturation factors. The incremental prediction of Latino cultural strength factors on the outcome was also explored. Method: Using the National Latino and Asian American Study (NLAAS), we performed three-Step-logistic regressions to predict SA-IL for 1,427 Latina-Americans following pre-planned steps. Model-1 evaluated the association of childhood physical and sexual abuse (CPA) and (CSA) with SA-LA; Model-2 assessed the potential moderation of known predictors as controls; and Model-3 added cultural resource factors. Results: Rates of CPA and CSA were 28.0 % and 18.4%, and rates of substance abuse in-lifetime was 4.8%. In the final model, positively associated with SA-IL was CPA alongside higher English proficiency, discrimination, social support, and religious coping. Religious attendance at a certain level was inversely related to SA-IL. However, CSA was not related to SA-IL. Conclusions: Childhood physical abuse is an early risk factor for long-term substance abuse, viewed as a negative coping strategy beginning in teenage years among Latin-Americans. The abuse history may increase positive coping behaviors (e.g., pursuing social support and religious coping) within the collective cultural community. Religious attendance could be protective against substance abuse but the role could only be verified through longitudinal studies for Latin-Americans.</p>	Dr. Amy Ai	Social Work
96	Sheridan Hager	Morning	Evaluating the Effectiveness of Low-Interest Microloans in Developing Nations	<p>In recent decades, microlending has become a popular mean via which attempts are made to alleviate extreme poverty in developing areas where low-income individuals lack access to traditional banking systems. However, many of these microlending programs have excessively high interest rates, and can cripple the intended effects of the loan for the borrower. In this paper, we assess the effectiveness of low-interest microloans, as compared to higher interest microloans, by studying microfinance in Bangladesh and Guatemala. The effectiveness of these loans will be determined through analyzing indicators of success -- such as repayment rates, gender equality improvements, and increased personal incomes -- as well as discovering trends in success in both high-interest and low-interest loans. Through comparing these factors in both countries, we not only evaluate the success of low-interest microloans, but also provide suggestions as how to improve microlending on an international scale.</p>	Mr. Charounson Saintilus	Entrepreneurship

97	Allison Rodabaugh	Morning	Dietary Intake of Nursing Home Residents Compared to The Offered Menu	<p>Recently, our laboratory identified a condition characterized by the coexistence of decreased bone mass (osteopenia osteoporosis), decreased muscle mass and strength (sarcopenia dynapenia), and increased adiposity and termed it osteosarcopenic obesity (OSO) syndrome. The widespread appearance of obesity in today's society is associated with lower bone density and muscle mass; which could be related to the depleted intake of vitamins D, calcium and protein. The purpose of this project is to identify the dietary intake of postmenopausal women (65 years old or more) in different nursing houses in Tallahassee region and compare it to the offered menus in their respective residence homes. These women were asked to document their nutrition intake for two weekdays and one weekend date. Aside from the dietary record, participants went through the bone scan using the Dual Energy X-ray Absorptiometry (DXA) and the blood draw for the measurement of different inflammatory, bone and muscle biomarkers. It is hypothesized that women over the age of 65 years old, who suffer from the effects of OSO syndrome, will have lower Calcium and Vitamin D intake. To accurately measure if the participants are at risk for OSO syndrome, Food Processor SQL 10.11.0 (ESHA Research, Salem, OR) was used to relate their nutrient intake over the course of three days to the recommended daily value and the offered menu option at their residence.</p>	Dr. Pegah Jafarinasabian, Julia Inglis, and Ashley Carter	College of Human Sciences
98	Katherine Lutz	Morning	The American Expatriate Literary Tradition	<p>With the mentorship of Professor Shonda Stevens, I have spent this academic year researching the American Expatriate Literary Tradition. I have done this by accumulating research on various displaced American novelists, or expatriates, and their respective works. While many people would attribute this title to writers like Henry James, author of The Ambassadors, we decided to set our goal at finding more obscure writers to further the understanding of American expatriate culture. Additionally, we have explored rewritings of more famous works like The Ambassadors and how the concept of rewriting contributes to the culture. Lastly, we have explored the common themes of motherhood and maternity in these pieces as a motif to explore and attach to the expatriate culture. The project started with the research of specific authors', their works, literary criticism of their work, and more relevant information and has become more specific over time by honing in the most important details to investigate.</p>	Prof. Shonda Stevens	English

99	Joe Pelt	Morning	SNX4-dependent and independent paths for turnover of proteasome lid subunits by autophagy	<p>Proteasomes are large, multisubunit protease complexes responsible for the degradation of damaged or unneeded proteins. Perturbation of proteasome activity impacts numerous cancers and neurodegenerative diseases, and increasing evidence suggest that misassembled or damaged proteasomes can accrue in response to certain mutations or environmental stresses. Despite this, very little is known about how the quality of proteasomes is maintained in vivo. We recently established autophagy of proteasomes in response to nitrogen starvation as a model for clearance of unneeded proteasomes in <i>S. cerevisiae</i>. To better understand the cellular pathways regulating proteasome turnover, we performed a screen using a targeted array of deletion mutants to identify genes required for proteasome autophagy. We identified a requirement for SNX4, a sorting nexin involved in endosome-to-Golgi retrograde transport and in delivery of a select subset of resident enzymes to the vacuole, for proteasome autophagy. SNX4 deletion did not result in a general defect in autophagy, as the model autophagy substrate Rosella was unaffected. The proteasome consists of three major subcomplexes, the lid, the base, and the core particle. Surprisingly, we found that deletion of SNX4 only partially blocked autophagy of the lid subunit Rpn11, whereas autophagy of base and CP subunits was completely compromised. Analysis of autophagy of a nearly complete panel of lid subunits suggests that the lid may be processed differently from the rest of the proteasome. Together, these data indicate that Snx4-dependent and independent autophagic pathways exist for turnover of proteasome subunits, and raise the possibility that extra-proteasomal complexes containing Rpn11 (and other subunits) are differentially recognized by the autophagy machinery.</p>	Dr. Antonia Nemeč and Dr. Robert Tomko	Biomedical Sciences
100	Nicholas Tremblay	Morning	<i>D. melanogaster</i> as a model for tumor studies	<p>According to the Centers for Disease control and prevention, cancer is the second leading cause of death in Americans; In 2015 alone there were 1,658,370 documented new cases of cancer in the U.S. These devastating statistics reaffirm our efforts to understand more about cancer as an endeavor certainly worth attention from the scientific community. The fruit fly, <i>Drosophila melanogaster</i>, provides an excellent model system for studying cancer. This is because powerful, genetic tools exist to manipulate genes of interest with precise spatiotemporal control and the isolation, and observation of cells within many tissue types is easy. One important gene, lethal giant larvae (<i>lgl</i>), is of particular interest. This neoplastic tumor suppressor functions in the cell to maintain proper polarity of epithelial tissue. Disrupting this regulation by way of mutations or interfering RNA, alters cell polarity, resulting in tumor formation. The role of <i>lgl</i>, as well as other tumor suppressors is under investigation as its mammalian homologues also contribute to human cancer. My project aims to use the tumorigenic properties of the <i>lgl</i> mutant knockdown in <i>Drosophila</i> to study the interaction of many important developmental signaling pathways during tumor formation.</p>	Dr. Wu-Min Deng	Biology
101	Megan Wheeler	Morning	Filters on Missing Transverse Energy in CMS Events	<p>Many searches for new physics use large amounts of missing transverse energy (MET) as a signature for events that may indicate undetected particles. Large MET can be caused by interesting collisions, but is more often caused by detector noise or beam halo. It is important that the MET is estimated accurately so that it reflects the event collision without reflecting any malfunctions in the detector. Using data collected from the Compact Muon Solenoid (CMS) Experiment, events with unusual amounts of MET are studied to characterize various detector issues. A set of filters are created to remove events with spurious MET. The performance of these filters can be measured by calculating the efficiency of the signal and the efficiency of the background.</p>	Dr. Andrew Askew	Physics

102	Ryan Adams	Morning	Transcriptional analysis of the EGR transcription factor family in mouse nucleus accumbens by cocaine	<p>The early growth response (EGR) factors have been linked to drug induced adaptations within the brain. The aim of this project is to investigate the changes in relative gene expression of the EGR transcription factor family in mouse nucleus accumbens (NAc), a key brain rewarding structure, and its potential regulation by DNA methylation during chronic cocaine exposure. In order to determine the gene expression levels of EGR, the experiment will use adult male C57 Bk6 mice as the model organism. With NAc tissue samples collected one day after seven daily cocaine intraperitoneal injection, a classic chronic cocaine administration paradigm, the qPCR (quantitative real-time polymerase chain reaction) laboratory technique will be utilized to examine the changes in relative gene expression. It will be followed with EGR gene promoter methylation analysis to explore potential DNA methylation of gene expression in response to cocaine. A sodium bisulfite based DNA methylation assay will be performed to quantify gene promoter CpG site methylation change. We hope the study will provide a new insight of epigenetic regulation of EGR gene expression in cocaine action.</p>	Dr. Jian Feng and Dr. Amber Brown	Biology
103	Kelsey Alter	Morning	Looks aren't everything: Differentiating sponge species that externally are similar but have different ecological roles	<p>Sponges are one of the only organisms that can filter bacteria out of the water column, but they also play a vital role in reef structure and the sheltering of small marine fauna. Sponge species are variable in both their behaviors and habitats. Some species are competitors while others engage in mutualisms. Habitats can range from deep ocean to brackish bays, with many species displaying large geographic ranges. I hypothesize that the physical characteristics of two sponges can be very similar yet still play different ecological roles, therefore they must be properly identified in order to differentiate the ecological role of the species. Identifying sponges thoroughly and accurately is done by creating a slide of a sponge's skeleton, recording and measuring the types of spicules seen, and then comparing this data to primary literature in order to identify the sponge to the species level. To support my hypothesis, I will be comparing the ecological roles of <i>Lissodendoryx sigmata</i> and <i>Tedania ignis</i> as they have many of the same external qualities but play different roles in their ecosystems. By juxtaposing the differences in niches to the similarities in appearance, I have emphasized the importance of explicit and careful identification of sponges to the species level.</p>	Ms. Katie Kaiser	Biology
104	Lorea Arambarri	Morning	Adaptive mechanisms provide protection from light-induced damage in cone photoreceptors	<p>Photoreceptors are specialized neurons located in the retina, the photosensitive lining of the back of the eye. Two types of photoreceptors exist in vertebrates; rods which detect dim light and cones which function in bright light and allow for color vision. Zebrafish (<i>Danio rerio</i>) have widely been utilized as a genetic model organism to understand retinal cell function. Human visual sensitivity extends from 390nm to 700nm whereas the zebrafish visual spectrum ranges from 340nm to 640nm, allowing for sensitivity in the ultraviolet (UV). Short and long term damage to photoreceptors can occur if continuously exposed to specific wavelengths of light or to bright white light. We propose that cones that respond to short wavelengths of light have adapted mechanisms to limit cellular damage. To test our hypothesis, we look at changes in gene expression between wildtype zebrafish and zebrafish homozygous for a mutant allele of <i>tbx2b</i> leading to a dramatic reduction in the number of UV sensitive cones. We anticipate that fish with a reduced number of UV cones will display lower level expression of genes that protect against light damage. Candidate genes will be cloned and changes in their expression verified by in situ hybridization and quantitative RT-PCR. Microarray analysis detected significant differences in gene expression between wildtype and mutant adult zebrafish. Gene expression profiling showed downregulation of genes involved in preventing cell damage, apoptosis, and stress response in the mutant zebrafish. Expression of <i>tbx2b</i> and the UV-sensitive opsin were also decreased, while <i>gadd45b</i> expression was upregulated in mutants.</p>	Dr. James Fadool	Biology

105	Hannah Cardoso and Kendra Stebbins	Morning	How Age and Cognitive Load Affects Motor Speech Production	<p>Speaking is one of the most complex skills that humans perform. The level of demand placed on the speech motor performance varies by age and functioning. Our study, under the direction of Dr. Megan MacPherson, seeks to determine the effects of increased cognitive demand on the speech motor performance of older adults as compared to younger adults. Subjects are asked to recite sentences of varying cognitive difficulty at FSU's Speech and Hearing Clinic. A cognitively challenging sentence includes a Stroop effect test in which color names are written in a font color that is not congruent with the written word. This test inhibits the subject's habitual response to say the color name rather than the font color. Our findings aim to describe the relationship between age and ability as it pertains to the individual's speech production. It is predicted that by increasing cognitive demand, the healthy older adults will be more susceptible to speech destabilization. This study of healthy speakers provides a foundation for future work in individuals with age-related neurological disorders. We intend to expand our research by discovering the extent of which they are affected by the increased cognitive demand. Speech therapists can adapt their practices as a result of these findings.</p>	Dr. Megan MacPherson	communication science and disorders
106	Joseph Borreca	Morning	Stereotype Threat and Minority Engineering Students	<p>Stereotype threat is a phenomenon where an individual is prone to confirming a self-characteristic or negative stereotype relating to a group to which one belongs. In the classroom and academic realm, it can often lead to underperformance of minority students due to the anxiety caused by the threat of negative labels. The purpose of this study is to determine whether students at the FAMU FSU College of Engineering experience stereotype threat and how this may influence students' goal orientation. Upper division engineering students in mechanical and electrical engineering were asked to complete an online survey that included demographics questions, a stereotype threat susceptibility measure (i.e., the Social Identities and Attitudes Scale), and the Achievement Goal Questionnaire. We expect that students who report being more susceptible to stereotype threat will be more likely to have a performance avoidance goal orientation compared to students with less exposure to stereotype threat. We also expect to see that students reporting more susceptibility to stereotype threat would be less likely to interact with faculty and peers than those reporting more predisposition. Further, we expect that students who are more vulnerable to stereotype threat would have lower course grades than students less vulnerable to stereotype threat. Results will be discussed in terms of the implications for minority students at the FAMU FSU College of Engineering.</p>	Ms. Michelle Peruche and Dr. Janine Turner	Educational Psychology & Learning Systems
107	Alexandra Brockner	Morning	The Relative Effectiveness of a Mixed Method of Instruction for Teaching Critical Thinking Skills	<p>Critical thinking (CT) is an intentional mindset which requires the awareness of our thinking errors and logical fallacies and the personal initiative to apply our intellect when receiving and sending information, whether in the classroom or the workplace. Typical classrooms operate on a system of rote memorization of fact, and while students may prove successful in this environment, research demonstrates that employers are acutely aware of the lack of CT ability in college graduates (Butler, 2012). The present study aims to replicate previous findings which suggest a mixed-method of instruction is most effective for teaching CT skills and to extend these results to future professionals in the Speech and Hearing Sciences (Communication Science and Disorders undergraduates). The study employs a pretest-posttest design using the Critical Thinking Assessment Test (CAT) and a content specific critical thinking assessment, the Critical Thinking in Communication Science and Disorders (CTCSD) test; intermittent with 10 weeks of ~50 minute sessions per week of mixed-method CT instruction. Posttests have been administered, but the results are inconclusive at this time as data is currently being collected and evaluated.</p>	Dr. Richard Morris	Communication and Information

108	Corinne Carlton	Morning	The Behavioral Effects of Oronasal Oxytocin Administration on Infant Mouse Behavior	<p>Oxytocin (OT), a neuropeptide, is most commonly known for its direct effects on uterine contractions and milk ejection and for its role in social behavior in mammals. Recent research has focused on the effects of OT in adult social behavior, yet preliminary research suggests that the behavioral effects OT produce begin in infancy. Mammals depend on social behavior as a fundamental aspect of survival and a means of reproduction. Some of those social behaviors arise as a result from early exposure to olfactory stimuli. One behavior that is of particular interest in this experiment is huddling, an important thermoregulatory behavior in infant rodents. Huddling in infant rodents provides not only a source of warmth, but also an opportunity to gain olfactory preference for their species-specific odors. This identification of species-specific odors help rodents form bonds with their mother, other pups, and potentially gives rise to the ability to find a sexual partner in adulthood. Delayed behavior could pose a real threat to the mammal's well-being by interfering with their ability to bond and communicate with others in their species. Oronasal administration of OT could have profound effects on social behavior in infants, and perhaps have long-term effects. We plan on testing for effects on behavior in infant mice after oronasal oxytocin administration; specifically in huddling behavior.</p>	Dr. Elizabeth Hammock	Psychology
109	Kimberly Champagne	Morning	Flashing Pedestrian Indicator (FPI)	<p>The flashing pedestrian indicator (FPI) is intended to alert turning drivers to the potential presence of pedestrians in the roadway and encourage caution and yielding behavior in response to those pedestrians. Participants in task 1.1 were presented with static driving scenes containing the FPI (as well as other common road signals), and were asked to report the meaning of the FPI in open-ended and multiple-choice formats. Participants in task 1.2 engaged in similar scenes and were asked to imagine that they were a right-turning driver. The participants in this task were then asked to report the correct action (go, stop, yield to pedestrian). The results of task 1.1 indicated that drivers quickly picked up on the meaning of the FPI. However, participants often thought that the FPI signal meant that drivers proceeding straight through the intersection should expect pedestrians as well as those turning right, for which the signal is intended. Task 1.2 indicated that, compared to a standard signal that did not feature an FPI, the FPI encouraged significantly more decisions to yield to pedestrians within a crosswalk both in timed and untimed responses. Participants were more likely to make a response to yield when the FPI was active even when no visible pedestrian was present. Furthermore, participants were slower in making their decision when no pedestrian was present. We interpret this pattern as indicating greater caution and search for pedestrians in the presence of the FPI.</p>	Dr. Walter Boot	Psychology
110	Sarah Coleman	Morning	Critical Thinking and Problem Based Learning in the Classroom	<p>There is a general consensus among the literature that critical thinking skills are vital for student success, and that there is a fundamental lack in development of these skills throughout our educational system. While researchers may implement different pedagogical techniques to improve critical thinking, it is agreed that student engagement with the material and learning process is of utmost importance. Critical thinking is a complex skill and concept that is difficult to teach, however the necessity and benefits of this skill within the university and the workplace make it a skill that is worth teaching and learning. The purpose of this project is to measure the effectiveness of a Problem Based Learning (PBL) teaching approach in the development of critical thinking skill. It is hypothesized that the students in a PBL taught course will demonstrate significant improvements in critical thinking skills as demonstrated on a specific content critical thinking assessment, the Critical Thinking in Communication Sciences and Disorders, and a general critical thinking assessment, the Critical Thinking Assessment Test.</p>	Dr. Richard Morris	Communication Science and Disorder

111	Andrew Castro	Morning	Radical Cascade	<p>The radical cascade method to form polycyclic aromatics is a key part in the synthesis of many natural products, pharmaceuticals, and materials. The advantage of using the radical cascade methodology is that the polycyclic aromatics become selective in its formation and is able to tolerate different functional groups without hindering the overall yield of the reaction. Being able maintain these functional groups allows the product to be further used in synthesis of more complex molecules. A wide range of different functional groups was used that served as both a directing group and a traceless byproduct. The polycyclic aromatics were created by a propargyl methyl ether derivative that was reacted with tributyltin hydride and azobisisobutyronitrile in reflux with toluene. The mechanism for this reaction is a free radical, which is the movement of one electron throughout the molecule forming different bonds. Optimizing this reaction with high yields is the stepping stone for bigger and more complex molecules that can be synthesized which have a wide range of use.</p>	Mr. Trevor Harris and Dr. Igor Alabugin	Chemistry
112	Matthew Damante	Morning	Computer Software Framework Support For Astrophysics	<p>The computation and simulation of large-scale astrophysical phenomena requires both a great deal of processing power, and a reliance on the stability and maintainability of software used. Over time, the software can accrue a variety of modifications that may adversely affect the accuracy of computations if proper routine maintenance and development is not done to ensure that it is functioning properly. The multiphysics computer code Proteus (developed as an offshoot of the Flash code developed at the University of Chicago) is an example of a complex software development project requiring a continuing assessment of its formal correctness. To this end, a separate piece of software "" aptly named ProteusTest "" is used to compare the results of the current version of Proteus against a set of accepted benchmark solutions. To ensure that Proteus is performing correctly, its current version is automatically checked out daily from an SVN repository and a set of regression test are executed in order to verify it compiles, builds, and executes correctly matching the benchmark data. The test results are evaluated and the test summary is distributed to and scrutinized by the code developers.</p>	Dr. Tomasz Plewa and Dr. Timothy Handy	Scientific Computing
113	Natali Andres and Olivia Bergeron-Oakes	Morning	A Sociological Study of Color in Comic Books	<p>Color attracts attention, elicits emotional reactions, and gives depth and dimension to images. Thus, it is a vital factor to the study of comic books. This study examines the sociological implications of colors chosen by comic creators for their characters. Through observations in reading comic books, both in and out of the study, and by scouring through comic encyclopedias, it was determined that certain colors were linked to certain facets of the character or the message they are meant to convey. Looking at heroes and villains from various comics, this study categorized color schemes into what the purpose may be: eliciting emotions, inciting or representing nationalism, gendering, and indicating moral ambiguity. However, colors are not limited to one meaning. Their significance comes when combined with other colors or symbols and depends on the character of the person wearing them. These distinctions have been taken into account and were recorded. Data has been compiled on these heroes and villains, and small biographies on their character, place in history and society, and their costume to demonstrate how they fit into each category have been provided. The links that have been found demonstrate how society reacts to historical and cultural events, how males and females are perceived and portrayed, and the extent to which society puts boundaries on right and wrong.</p>	Dr. Jesse Kleine	Sociology

114	Austin Fitzgerald	Morning	Calvinism, Natural Law, and the Way Evangelicals Think Politically	This research focuses on the work of David VanDrunen and David Little, drawing upon how they interpret John Calvin's view of the law, specifically natural law. The goal of this research is to establish whether or not natural law, in the Reformed tradition, sets a precedent for what VanDrunen would call the " Protectionist" view or the " Perfectionist" view. The " Protectionist" view argues that natural law allows for civil government to protect, and only protect, it's citizens. This is the view of David VanDrunen and can be compared to Conservatism, or even Libertarianism. The " Perfectionist" view argues that the natural law allows for more than protection, but that civil government should inspire virtue in it's citizens. This view can be closely tied with Liberalism and left-wing ideology. David Little represents the more liberal approach to natural law. Through understanding how contemporary scholars interpret John Calvin and the natural law tradition, this research seeks to identify an accurate understanding of Calvin's political position on civil government, as well as why evangelicals today view the role of civil government the way they do.	Dr. John Kelsay	Religion
115	Tayina Gilles	Morning	Modern Day Gender Identification	Within the past few years, gender politics has come to the forefront of American discourse in multiple and conflicting facets including Feminism, Men's Rights Activism, and LGBTQ representation. While some of the aforementioned groups appear to be in opposition to one another, I believe their core beliefs and motivations stem from a dissatisfaction with the construction of gender in our society. In the past, our government, family, social, and economic systems depended on the separation of men and women, but today's service-based economy no longer requires such separation, thus making gender roles a tradition more so than a necessity. In this study, I wish to see how men and women relate to their gender. Furthermore, I wish to understand their goals and motivations in life in relation to their convictions and gender alignment, specifically in regards to feminism, men's rights, and the LGBTQ community. I will also examine the behaviors of these groups to see if they reinforce or oppose traditional gender constructs. I will employ qualitative analysis including interviews, secondary analysis of other works on the topics of gender, equality, and sex, and observation of discussions on Reddit and Tumblr. I will also perform a content analysis of depictions of gender in advertisements and other forms of media. In the end, I hope to have a better understanding of the role gender plays in the modern day.	Dr. Schwabe	Sociology
116	Jared Ifland	Morning	Linear Differential Equations with a Convergent Integer Series Solution	Many linear differential equations with polynomial coefficients are practically impossible to find solutions for by hand. Even with a computer algebra system, many of these equations' solutions would not be able to be computed in a reasonable timeframe. Surprisingly, many of these equations in the second order can be rewritten as a Gaussian hypergeometric series: it is, however, not yet a conjecture whether all second and third order differential equations can be written as such. Even so, by rewriting these equations in terms of hypergeometric functions, we can carry out transformations to find solutions in an easier manner, and therefore indirectly find solutions to these equations (i.e. we find a parallel way to the solution by changing how it is written, carrying those operations out, and changing the equation back to its original form). Differential equations occur in almost all natural sciences, including physics and chemistry, and the development of numerous algorithms that can find exact solutions to these equations would be beneficial to society in many ways. Computer algebra systems are an integral part of research and education, and would allow researchers to solve these equations without first having to learn the math behind the algorithms.	Mr. Erdal Imamoglu and Dr. Mark van Hoeij	Mathematics

117	CJ Kelsheimer	Morning	Exploring the Relationship between Early Life Socioeconomic Status and Late-Life Cognition: A Secondary Analysis of the MindFrontiers Data Set	Population aging represents a major challenge for the United States and the world. Normative age-related cognitive declines, in addition to neurodegenerative diseases, threaten the ability of the rapidly growing older adult population to live independently. Understanding the factors that lead to more or less successful cognitive aging is thus important, and may help reveal interventions to reduce or reverse decline. A link between early life socioeconomic status and late life cognition has been found in some studies, but not others. This thesis explores such a relationship in an already existing data set (primary thesis analysis). These data were obtained from a cognitive intervention study. Although the sample size will be small (N = 46), this study has the advantage of including multiple measures of cognition that were analyzed at the latent-construct level, reducing measurement error. Although the original sample obtained variability in SES with respect to Paternal Income, Maternal Income, and a self reported SES measure, the data did not seem to predict cognitive abilities on whole.	Dr. Walter Boot	Psychology
118	Matthew Kenny	Morning	An Exploration of How College Students Use Digital Technology During Social Interactions	The purpose of this honors thesis is to explore how college students use digital technology during social interactions. Much of the research surrounding college students and technology use is primarily quantitative (Jacobson & Forste, 2011; Roberts, Yaya, & Manolis, 2014; Bicen & Arnavut, 2015; Peterson, Aye, & Wheeler, 2014) "" while some studies use succinct qualitative statements to accompany quantitative survey data (Pettegrew & Day, 2015; Murray & Campbell, 2015). Through the use of focus groups, this thesis provides a holistic, nuanced description of situations when mobile technology is used during the face-to-face interactions of a college student.	Dr. Summer Harlow, Dr. Arthur Raney, and Dr. Lisa Weinberg	Communication
119	Kathleen Kyle	Morning	Developing a Genome Browser for a Non-model Vertebrate	Due to their high degree of color-polymorphism and well-known natural history, guppies have long been a favorite to study in evolutionary biology as a model of adaptation and variation. They are not, however, a classic model organism and as such there are currently few tools available to assist in genomic analysis of this species. The advent of next-generation sequencing, with its increasing speed and affordability, has allowed for the development of significant genomic resources for many species not previously studied at the genomic level. The guppy <i>Poecilia reticulata</i> has several such resources including an assembled genome and several RNA-seq data sets. Prior to this project, these varying data sets were in many different locations and in formats not easily interpreted without complicated software toolkits. A genome browser offers consolidated, graphical representation of large-scale genomic data that facilitates human interpretation of the massive amounts of genetic information in biological databases. The purpose of this research was to develop a genome browser representation of the <i>P. reticulata</i> genomic data using the UCSC Genome Browser features to serve as a permanent, integrated, and scalable data hub for researchers interested in this non-traditional model organism. This research also aimed to further annotate the browser by performing new analyses such as GC percent, genome coverage, and repetitive element masking on the existing data. The browser along with these annotations serves as a powerful tool for future research and as a step towards further integration of genomics and evolutionary and ecological study.	Dr. Kimberly Hughes and Dr. Daniel Vera	Biology

120	Emily Barton	Morning	Poverty in Correlation to Suicidal Risk	<p>Evidence shows burdensomeness and belongingness are significant in predicting a person's suicidal risk, and the capability to attempt suicide comes from the desire and ability to commit suicide (ITS; Van Orden et al., 2010). It has been demonstrated that the rates of mental health disorders were associated with people meeting the low-income threshold (OECD, 2012). Little research has been pursued on poverty effecting variables more specific than mental health disorders. In this study poverty was examined in correlation to suicidal capability and suicidal attempts. It is anticipated that the dependent variable (DV) of poverty will have an effect above and beyond the DVs, burden, belonging and capability, on the independent variable of suicidal risk, specially the number of attempts. This study surveyed over 100 Florida State University students and Tallahassee community members on their current social economic status (SES), history of major depressive episodes and history (MDE), acquired capability for suicide scale(ACSS), and a depression symptom inventory- suicidality subscale(DSSI-SS) to determine suicidal ideation. Poverty was used as the independent variable to examine its indirect effect on the dependent variables of suicidal risk, and suicide attempts. The results of these assessments told us the correlation between poverty and suicidal risk and number of attempts above burden, belonging, and capability. Poverty was concluded to go above and beyond the that of burden, belonging, and suicidal capability in contribution to suicidal risk, and number of attempts. The results of the study provide a better understanding of the contributing factors for suicidal risk, and how we can start to better understand and treat suicide as a whole. This will also support why certain patients with depression undertake suicidal behavior and why some patients with do not.</p>	Mr. Chris Hagan and Dr. Joiner	Psychology
121	Samantha Levell	Morning	Maternal Effects and Stress Response in the Least Killifish, <i>Heterandria formosa</i>	<p>Transgenerational, or maternal effects, are conditions or traits that are passed through generations from mother to offspring. The least killifish, <i>Heterandria formosa</i>, is an interesting study subject for this field as a live-bearing Poeciliid fish that experiences superfetation, allowing multiple broods in different stages to be held by a mother at the same time. In this experiment we address how stress tolerance may be passed through generations. Using crowding as a stress factor, low and high density environments were created based on natural population densities for two populations of <i>H. formosa</i>. One of these populations naturally experiences high densities (Wacissa River) and the other normally low densities (Trout Pond) compared to other <i>H. formosa</i> populations. Stress is a somewhat difficult response to study in organisms due to its variety of influences. However, as there are many factors that could contribute to stress, there are also many possible responses by these fish. Because of this, several variables were considered when assessing the stress response in <i>H. formosa</i>: growth rate, survival, reproductive rate, size at birth (maternal investment), and cortisol level. Expecting to see a decrease in fitness in a high stress situation initially, there would be implication for future generations to tolerate stress better based on their mother's conditioning.</p>	Dr. Joseph Travis	Biology

122	Apple Levine	Morning	The " State" of Behavioral and Demographic Analysis of Longevity Risk: A State-Aggregated Approach to Studying the Inter-Related Effects of Financial Education and Financial Literacy	<p>Statistical abstracts and various data sources suggest that some states are more financially prepared than other. By developing a unique dataset that shows the key characteristics between states that are more financially prepared than others, we seek to explain the state variations in annuity payments to beneficiaries. This dataset is created by pulling state information from sources such as the U.S. Census and the Department of Labor, and it will be used to describe the environment for financial literacy and longevity risk at a state level. Some of the factors that we hypothesize to affect the decision to annuitize include income, education, unemployment, and other demographic and household characteristics. At the current stage of the project, we are focused on the effects of overall education levels in each state. Previously, I focused on locating and gathering educational achievement and enrollment data, provided by year and by state, from a wide variety of sources that date back to the 1950's. Currently, I am working on organizing data by state in regards to the total number, total amount, and amount per family of life insurance in the United States from 1948 to the present. This data compilation will help us, in the long-run, to find correlations between financial preparedness and certain demographic or household characteristics.</p>	Ms. Eleanor Sirmans and Dr. Patricia Born	Business
123	Chelsea Massaro	Morning	gem-Dimethylcyclopentane Fused Pharmacophores	<p>The improvement of analgesics, such as ibuprofen and salicylates, as well as other pharmacophore containing compounds, such as the amphetamines and ephedrine, is currently a large area of research. Many analgesics are considered accomplished drugs, but each have a substantial list of possible side effects. This research aims to synthesize a derivative of amphetamines containing a gem-dimethylcyclopentane ring fused to the benzene core structure. It is expected that the introduction of this hydrophobic functional group will perturb the pharmacological effects in potentially valuable ways in the search for new and safer medicines. A previously developed methodology pairing a fragmentation reaction with an olefination to give 1,6-enynes, followed by Rh-catalyzed cyclization was utilized to prepare a gem-dimethyl indane, which will be used as the core structure to reach the amphetamines. The approach to synthesizing the amphetamine derivative was to reduce the ester of the indane core to a primary alcohol, followed by an oxidation to the aldehyde. The aldehyde was further reacted with triethyl 2-phosphonopropionate, resulting in an ester. Hydrogenation and saponification give a carboxylic acid, which can be used to access the amphetamines through a Curtius rearrangement.</p>	Dr. Gregory B. Dudley	Chemistry and Biochemistry

124	Erika Mercier	Morning	Production of Low-Front Korean Vowels in Various Contexts	<p>In the Korean language a vowel merger has occurred over time. This reduced e and É into the single vowel of É (Brown, Yeon, & Jiyoung, 2015). Lehnert-Lehouillier (2007) stated that duration contrasts previously used to distinguish vowels has been diminishing, resulting in the vowels being produced with very similar formant frequencies and durations, merging the production of the vowels. (Lehnert-Lehouillier, 2007; Brown et al., 2015). Several studies have been done to determine if a difference occurs between the production of e and É in Korean speakers. However, these studies have been highly contradictory. Several studies stated that the southern Gyeongsang dialect preserved some of the tonal nature of Korean, while another study found no difference in the contours of the vowel (Kenstowitz, Cho, & Kim, 2008; Choi, 2012; Lee & Jongman, 2012; Eychenne & Yang, 2015). These results indicate that there is a need for further evaluation of the acoustics aspects of Korean speakers. Our study consists of 21 native speakers of the southern Gyeongsang dialect of Korean who produced e and É in three contexts. Acoustic analysis will consist of evaluations of the fundamental frequency of the first, second, and third formants and vowel length. Vowels will be compared across contexts to determine if any observed production differences between the two vowels in each of the contexts might be perceptually realized. The analysis is still being completed and therefore we do not have any data of results, nor do we have any implications of this study.</p>	Dr. Richard Morris and Dr. Eundeok Kim	Communication Science and Disorders
125	David Advent	Morning	A Comparative Study of Three Streetcar Systems: Melbourne, Portland, and Toronto	<p>The Portland Streetcar has long been an exemplary streetcar system in the United States. In particular, Portland has a relatively higher ridership than many other systems in the nation. However, there has been little research concerning an international comparison of Portland and other major streetcar systems across the globe. This project, therefore, focuses on comparing the Portland Streetcar with two international streetcar systems, Melbourne and Toronto. Using data collection as the primary mode of research, the project shows that when compared to other streetcar systems outside of the United States, the Portland Streetcar falls a little short. Taking into consideration the built environment of each of the three cases (deemed external factors in the study) and the internal factors of each transit agency (such as speed, reliability, punctuality), the project demonstrates that Portland Streetcar lacks significantly in providing a fast and reliable service to the Portland area. The project also provides explanations for Portland's unreliability and offers suggestions that the local transit agency could enact to improve service.</p>	Prof. Jeffrey Brown	Urban and Regional Planning

126	Anne Piervil	Morning	INCREASING EMERGENCY AWARENESS AMONG ESOL STUDENTS	<p>The aim of my Honor's project was to provide information to increase the knowledge of disaster readiness among immigrants for whom English is a second language and who are English language learners through providing and evaluating a short-term emergency protocol awareness course. The major research questions guiding my project were: 1) Does providing emergency awareness protocol education increase ESOL students' awareness of potential natural disaster related threats? 2) Do providing emergency awareness education increase ESOL students' knowledge of how to respond in emergency situations? Specifically, my project entailed creating an emergency awareness intervention course for students in an ESOL program to promote the importance of being prepared and knowledgeable in an emergency situation. This intervention course focused on being prepared for hurricane season, other natural disasters, and helped the students create a basic supply list. With the support of the ESOL program coordinator, I created a curriculum focused on emergency situations that affect Floridians. My findings show a slight improvement in student's knowledge pretest and posttest. Students were able to develop a basic emergency plan and a supply list. My results thus far support my hypothesis that participating in a short-term emergency protocol awareness course will increase ESOL students' awareness of natural disasters that may occur in Leon County and their knowledge of how to respond in emergency situations.</p>	Dr. Shamra Boel-Studt	Social Work
127	Alexander Pollack	Morning	Interstellar Fullerene Chemistry	<p>Fullerenes, more popularly known as "buckyballs", are closed-cage carbon molecules that have gained much attention for use as MRI contrast agents and other biomedical diagnostics, renewable energy, and materials. Very recently, these exciting nanomaterials have been found to be import cosmic molecules as well. Ionized fullerenes have been unambiguously identified to exist in large quantities in interstellar space and are prevalent across the galaxy. They likely also exist in stellar and circumstellar environments such as in the outflows of carbon-rich stars and planetary nebulae. These new findings reveal that buckyballs are very important cosmic molecules and likely impact many astrochemical processes. Here, I use a high energy laser to replicate the conditions of stellar outflows in the laboratory to gain new insight into the astrochemistry of fullerenes and other carbonaceous cosmic molecules, such as the formation of the cages and how they might interact with other interstellar molecules. These results may also provide clues into the origin of carbon stardust, which is essential for existence of carbon-based life.</p>	Dr. Alan Marshall and Dr. Paul Dunk	Chemistry and Biochemistry

128	Meagan Raley	Morning	Failure Detection in Structural Composite Systems through Triboluminescent Sensor Wires	<p>As more composites are used for large-scale manufacturing in such industries as automotive, aerospace, naval engineering, and civil engineering, there is a corresponding need for more accurate and real-time data regarding any damage and deformation to these composite structures. From this need has arisen a new technology known as Structural Health Monitoring (SHM). The goal of this technology is to detect the location of damage in a structural composite at the moment it occurs, similar to the way a living organism senses pain. One way in which this structural nervous system is being developed is through the utilization of triboluminescence. Triboluminescent materials contain crystal-like structures that will emit visible light when those crystals are fractured. This material property can be utilized in SHM by fabricating a composite embedded with triboluminescent sensor wires. The light emitted by the triboluminescent material and transmitted through optical wires can be utilized in the detection of impact damage to a composite. Design of Experiment will be implemented in order to determine optimal sensor wire configuration by analyzing the way in which sensor nodes are activated by the impact propagation. This thesis will contribute to current SHM research by determining the most efficient way in which triboluminescent sensor wires can be used in the detection of structural composite failure.</p>	Dr. Tarik Dickens and Mr. Kunal Joshi	Industrial and Manufacturing Engineering
130	Shelbi Swanson	Morning	IGO Membership Effect on Human Rights	<p>Acknowledging that in an interconnected and interdependent world system, states are more often held accountable for domestic actions, abuses, and inactions, by their external diplomatic partners, I propose that increased membership in international governmental organizations can have influence over the status of human rights records at the domestic level. The purpose of my correlational study is to determine the relationship between state membership in international governmental organizations (IGOs) and each state's specific domestic human rights records over a time period of fifteen years. If data may be found to argue that state presence in IGOs truly influences domestic human rights practices, I will infer that the process of norm diffusion in this case reflects the omnipresent nature of human rights represented in all facets of international interaction. Furthermore, this increasing interconnectivity of the international system is beneficial not only to states who may join organizations to forward their own interests, but also to individuals within states with poor records whose rights as human beings are innate and eternal but not always recognized as such. Some on the receiving end of human rights abuses, in turn, may pressure for further participation in international organizations and respect for universal principles.</p>	Dr. Na'ama Nagar	Political Science

131	Allaura Sherman	Morning	Flavivirus and Interferon Interaction	<p>Dengue virus (DENV) is the etiological agent of Dengue, a global disease that poses a significant health threat to millions of people per year. Interferons (IFNs) are the first line of defense against many RNA viruses, like dengue virus, and exert their function through the induction of hundreds of interferon-stimulated genes (ISGs). Dengue virus is known to infect cell types of every kind. Our lab infected NCI-60 cell lines with DENV to see if some cells did not die within 48 hours of infection. We found that very few cell lines did not die completely when infected with DENV. I wanted to see what stopped these cells from dying. My first assumption was that something in the innate immune system was stopping DENV replication within the cells. I added JAK inhibitor to the cells, which stops the JAK-STAT pathway, in order to see if interferon had an effect on DENV replication. When I added the Jaki, infection percentage doubled in the cells. This leads me to believe that some of these cell lines have a stronger interferon response to DENV than the other cell lines. Zika virus is very similar to dengue virus. It is an RNA arbovirus that transmits to humans using mosquitoes. I want to see if the interferon response in the cells that stops DENV can stop Zika virus (ZIKV). I plan on repeating the DENV experiments using ZIKV to see if the cell lines that are less permissive to DENV are also less permissive to ZIKV.</p>	Dr. Hengli Tang and Ms. Christy Hammack	Biology
1	Laura Abril, Monica Nemat, Jackie Mendoza, Inge Montoya, and Jordan Smith	Both	Faith-based Cognitive Intervention for Distressed African-American Dementia Caregivers: Analysis of the Strengthening of Relationships Through Spiritual Components	<p>Epidemiological research estimates 5.2 million U.S adults have Alzheimer's' disease or a related form of dementia. The prevalence of dementia is higher in African Americans than non- ~Hispanic Whites, with African Americans twice as likely to develop the condition. Eighty percent of older adults with dementia receive ongoing care in the home from family caregivers. Although the demands of providing assistance to older adults with dementia are high across all ethnicities, African- ~American dementia caregivers report higher levels of caregiving burden than non- ~Hispanic White counterparts. Previous research has shown dementia caregivers are at high risk for depressive disorders. Although cognitive-behavioral interventions have been effective in improving depression, many African Americans have reduced access to these interventions due to transportation and financial barriers. Lack of concordance of these programs with the sociocultural characteristics and religious beliefs of this population also has been an obstacle to uptake. Studies of faith-based cognitive-behavioral programs have shown reduced depression in persons with chronic illnesses and their family caregivers. The objectives of this investigation were: (a) to assess dementia caregivers' perceptions of the effects of the spiritual component of the faith-based depression-reduction intervention on relationship quality among group members and (b) to assess caregivers' appraisals of the impact of such spiritual elements on their caregiving activities. Four interviews with 12 caregivers and 4 facilitators were conducted over the telephone across the 12-week program. Their responses were content analyzed to assess the overall effects of spirituality on the quality of participants' relationships and their impact on daily caregiving activities.</p>	Dr. Robert Glueckauf and Dr. Michelle Kazmer	Behavioral Sciences & Social Medicine

2	Clare Davis, Spencer Owen, and Taylor Shelby	Both	Art and Virtual Reality	Virtual reality, long in development, is finally becoming available for widespread consumer use. With devices such as HTC Vive, Microsoft Hololens, Samsung VR, and Oculus rift, the primary focus has been on the applications within gaming. Our project, instead, chose to focus on the potential of virtual reality for art. Our research sought to explore ways in which virtual reality could be used to augment a gallery experience, creating an environment in which viewers could more directly interact with an art piece. The first semester of our work was spent familiarizing ourselves with the Unity development software in order to create original pieces for the Oculus. The second semester has been primarily devoted to applying those skills in order to expand the Anomaly in Apalachicola Forest exhibit of Professor Keith Roberson. This exhibit has been presented in several galleries, including Tallahassee's own 621 Gallery in Railroad Square Art Park.	Prof. Keith Roberson	Art
11	Marina Carlson, Yizhao Gong, and Bryce Miller	Both	A Study on the Perception of Evaluators: Based on Rankings of Public Affairs Programs Using Lens Model in Social Judgment Theory.	When choosing a higher learning institution, potential students may refer to national rankings to sway their decision or provide them with additional information about these universities such as how they compare to each other. Certain factors come into play when evaluators rank these institutions on national lists such as USNews and WorldReport. These factors have the potential to influence evaluator's decisions on where to place each university. These factors will be investigated in this study in order to find what impacts ranking the most. Data was collected from each of the 250 Public Administration Institutions pertaining to academic achievement as well as the achievements of each professor were taken and compared using statistical regression. This study will guide MPA directors on how to appeal to evaluators in order to increase their program ranking which will then appeal to new students.	Mr. Ki Woong Cho	Public Affairs
19	Shelby Curran, Oliver Glace, and Courtney Simoncelli	Both	Reading Attitudes in Young Spanish-speaking English Learners	Fewer children in this day and age enjoy reading a good book than in previous generations. Failing to find pleasure in reading certainly creates a dilemma for educators attempting to instill a sense of literacy in the classroom. Evidence suggests there is a strong correlation between a child's early interest in reading and subsequent reading achievement. It is believed the growing lack of interest in reading among youths is especially prevalent for bilingual children raised in contemporary American society. Some obvious reasons cited for this are that many English-language learners tend to be born into households where access to reading materials is limited at best due to certain socioeconomic constraints. The research that I have participated in explores the relationship between reading attitudes and language and reading performance. The surveys distributed to the children featured a range of questions relating to the child's interest to read in both an academic and recreational capacity. Preliminary analyses revealed that there were no mean differences in reading attitude scores between students in kindergarten and first grade. There were also no mean differences between reading and academic scores for each grade.	Ms. Clairebelle Gabas and Dr. Carla Wood	Communication Sciences and Disorders

33	Andrew Heckel, Maria Rodriguez, and Paisley Snowden	Both	The Effects of Aerobic Exercise on Driving in Healthy Older Men and Women	<p>The purpose of this randomized controlled study is to elucidate the effects of aerobic exercise on driving and cognitive functions among an elderly (≥ 65 years) population. Aging is associated with a decline in both physical and cognitive functions, resulting in difficulties in daily activities, such as driving. However, the decline of these functions can be attenuated with physical activity.</p> <p>Specifically, aerobic exercise as a simple, cost-effective method can help improve these functions, which, in turn, improves driving performance. To examine this, driving will be measured via a driving simulator and cognition will be assessed via a cognitive battery. The participants in the experimental group will be given a twelve-week aerobic exercise regimen that consists of three days of treadmill activity per week. Additional measurements include anthropometrics, questionnaires, physical function assessments, and VO2 testing. We hypothesize that the experimental group will see improvement in all areas and outperform the control group. Data is still being collected.</p>	Mr. Justin Mason	Sports Psychology
52	Cristina Hernandez, Erin McCord, and Stephen Soto	Both	Does It Matter Who's in Charge? Partisan Control of the Legislature and Agenda Setting	<p>Previous political science scholarship has demonstrated that women of the minority party in the U.S. House of Representatives are more successful than their male counterparts in keeping their sponsored legislative bills alive longer through the legislative process. However, female legislators of the majority party are far less effective than their male counterparts in supporting their bills, especially as Congress becomes increasingly polarized. The aim of the following research is to replicate these findings of the Comparative Agendas Project at a subnational level in the state legislatures of Florida and Pennsylvania. This research will adopt similar methods of analyzing data from the CAP that follow each stage of a bill from its introduction to either its death or acceptance, then correlating said data with the sex and party of the legislator who introduced the bill. The data gathered from these methods will then be used to determine whether female legislators truly are more engaged in consensus-building activities than their male counterparts in the legislatures of these states between the years of 1993 and 2015.</p>	Dr. Carol Weissert and Ms. Teresa Sanquist	Political Science
129	Nicole Palenzuela and Shefali Patel	Both	Orofacial Electromyographic Measures of Stroop Task Performance	<p>The purpose of this experiment was to study age-related differences in orofacial electromyographic measures during performance of a standard version of the Stroop Color and Word Test – Adult Version. Stroop task performance can be negatively impacted by various factors, including aging and cognitive load. Participants were healthy individuals in two age groups: younger (22-32 years) and older (68-78 years) adults. Orofacial surface electromyographic (sEMG) signals were collected while participants performed the color, word, and color-word Stroop task conditions, each of which is hypothesized to uniquely tax cognitive-linguistic processes. sEMG data were processed and analyzed, and potential differences in neuromuscular activation during speech were examined between participant groups and across Stroop task conditions. Current findings will be discussed. Additionally, this study will provide the foundation for future work examining the effects of Parkinson's disease on orofacial neuromuscular activation during speech produced under conditions that vary in cognitive load.</p>	Dr. Megan MacPherson	Communication Science and Disorders

3	Meagan Johnson	Afternoon	Sprezzatura	<p>This project was organized to assist Professor David Kirby in his research. Dr. Kirby is currently preparing to travel to Florence, Italy this summer to write a book of poetry that celebrates Italian culture and influence. The book is tentatively titled Italian Hours, in honor of the esteemed essays written by Henry James. This project has won the 2015-2016 Committee on Faculty Research Support award. This research analyzes many aspects of Italian culture ranging from Dante Alighieri's most prominent biographies, to Baldassare Castiglione's The Courtier and its literary criticisms, as well as famous Italian cinema such as La Dolce Vita. The goal of this research project is to emphasize Italy's considerable world influence despite its small size. By analyzing the lasting influences of Italian literature, art, and cinema, this project proves that Italy's cultural influence has been and continues to be vastly disproportionate to its size.</p>	Dr. David Kirby	English-Creative Writing
4	Kaelynn Chambliss	Afternoon	Fused Deposition Modeling with Carbon Nanotubes	<p>Fused Deposition Modeling (FDM) better known as consumer 3D printing has grown in popularity over the last few years with early adopter transforming the market and push towards crowdfunding initiatives. While the market for 3D printing filaments is strong, researcher are now turning their attention to multifunctional printing filament. Multi-walled carbon nanotubes (MWCNTs) and graphene are being investigated as additives to the standard FDM thermoplastics Polylactic Acid (PLA) and Acrylonitrile Butadiene Styrene (ABS). At low concentrations of these additives the percolation threshold of the polymers can be reached enabling the filaments to perform and conductive wires. This research project investigates the synthesis and modification of ABS-MWCNT, PLA-MWCNT, and PLA-graphene MWCNT filaments for FDM printing. In addition to the Fused Deposition Modeling with MWCNTs, the research project was augmented with rich media presentations through the GEOSSET Studios initiative. The studio, opened by Bill Nye "The Science Guy", was used to create short videos explaining some of the principles involved in the research project.</p>	Dr. Steve Acquah	Chemistry
5	John Wilcox	Afternoon	Responsibility for the Type 1 Diabetes Regimen	<p>The treatment of type 1 diabetes can result in overcorrecting hyperglycemic levels leading to hypoglycemia through insulin administration. The negative effects of intensive treatment regimens associated with poor blood glucose level control may lead adolescents and their parents to become anxious or fearful of hypoglycemia and develop behaviors that result in avoidance of hypoglycemic events. These behaviors may hinder correct diabetes care and treatment, resulting in health risks that can arise if blood glucose levels are not properly controlled. Insulin pump usage has allowed patients to more tightly control their diabetes by quickly and easily administering insulin boluses and manually adjust basal rates. Families that use insulin pumps report lower levels of fear of hypoglycemia. Responsibility for diabetes management shifts from parents to adolescents as age increases. No studies have assessed responsibility to the insulin pump regimen in adolescents. The purpose of this study was to assess adolescent and parental fear of hypoglycemia and responsibility in the context of insulin pump use.</p>	Dr. Kimberly Driscoll	College of Medicine

6	Sabrina Ishaque	Afternoon	Goal-setting of low-performing college students	<p>Generally, first-generation college students have a hard time setting realistic goals and as a result end up performing poorly academically in their first semester of college. This project is studying instilling metacognitive thinking in low performing first generation college students. The research is comprised of a series of surveys, assessments, workshops, and handbooks in order to teach goal setting to these failing students. At the end of the six weeks, we hope to find the students being more metacognitive aware of their assignments, goals and grades. We will meet weekly with these students to observe their progression throughout the research process. Incentives being used are food, gift cards and the pure fact that the students will end up succeeding and excelling in their classes. The ultimate end goal is increasing the academic performance of these freshman students, hopefully instilling the ability to set realistic goals throughout the rest of their academic career. Academic efficacy is also the goal due to the importance of self-motivation and belief in doing well. The research will also improve self-regulation, teaching the students how to control themselves through discipline. The research will start with the setting of realistic goals and the teaching of supporting making your goals. The students will conduct in reflective writing and monitor the use of their time, such as studying or other activities. This research will bring an awareness to the student and show them executive functioning through planning, goal setting and receiving feedback.</p>	Ms. Jenay Sermon	Psy
7	Esther Oyetoro	Afternoon	The Intersection Between Executives and PAC Contributions	<p>By asking and answering questions related to corporate finance, this research is intended to further prior research that have examined the relationship between corporate finance and politics. Specifically, this research is designed to understand the important role players in firms Political Action Committees (PACs). A PAC is a political organization that pools campaign funds from its members and donates those contributions to campaign for or against candidates and legislations. About 10% of Congressional Campaign spending is sponsored by Corporate PAC contributions, so PACs makeup a sizeable portion in political fundraising. Because PACs can be a valuable tool in a company's business strategy, board members as well as CEOs and CFOs tend to donate funds to them. The goal of this research, " Intersection between CEOs' Influences and PAC Contributions," is to quantify the degree to which CEOs and CFOs influence the decisions in the allocation of a firm's PAC contributions. By collecting data on the personal contributions of CEOs and CFOs from 1992 to date and regressing the data collected with the firms' PAC contributions while these executive managers were in office, this research aims to find an overlap (or a lack therefore) between the executives' contributions and the firms' PAC contributions. The result may reveal a reasonable correlation or the presence of a different underlying influence which in unison will add to the existing knowledge about the function of PAC contributions in corporate finance.</p>	Ms. April Knill	Finance

8	Taylor Crosby	Afternoon	Political & Aesthetic Discourse: Urban Landscape Reform In Eighteenth-Century Colonial Lima	<p>The construction of the Alameda of Callao, a road joining the " sister cities" of Lima and Callao, began soon after the earthquake and tsunami of 1746. Its conception and execution reveals Late Spanish Colonial-era values regarding urban planning and landscape, which mirrored the social organization of the Peruvian capital. The Alameda provided the public with access to open spaces and rural areas, maintaining access through the use of gateways, demonstrated by the Portado del Callo (1863) and the Portada de Maravillas (1868). The Lima cabildo, or town council, and the Tribunal del Consulado, an agency consisting of elite Creoles, or American-born Limeños promoted and funded the public works. The Alameda and its associated spaces and monuments suggest an imperial statement by Spanish royal officials aimed at legitimating Spain's imperial supremacy in one of the empire's most important cities in the Americas. However, the simultaneous promotion of such projects by both the Creole elites and the viceregal authorities exposes a more complicated late Colonial situation in which both European and local political and aesthetic values comingled.</p>	Dr. Paul B. Niell	Art History
9	Ruby Quea	Afternoon	Analyzing Classroom Developments of Language and Notation for Interpreting Matrices as Linear Transformations	<p>As part of a larger study of students reasoning in linear algebra, this research analyzes how students make sense of language and notation introduced by instructors when learning matrices as linear transformations. This paper examines the implementation of an inquiry-oriented instruction that consists of students generating, composing, and inverting matrices in the context of increasing the height and leaning a letter " N" placed on a 2-dimensional Cartesian coordinate system (Wawro et. al., 2012). I analyzed two classroom implementations and noted how instructors introduced and formalized mathematical language and notation in the context of this particular instructional sequence, and then related that to the ways that language and notation were subsequently taken up by students. This work was conducted in order to enable me to build theory about the relationship between student learning and the ways in which language and notation are introduced.</p>	Dr. Christine Andrews-Larson	Education
10	Jacob Goldstein-Greenwood	Afternoon	Sacrificing one to save the many: compassionate or cold-blooded?	<p>Sacrificial moral dilemmas, in which causing harm maximizes overall outcomes, are a ubiquitous part of moral psychology research. Recent work has argued that folk harm-acceptance responses to these dilemmas are more a result of callous uncaring and disregard for causing harm than they are a product of genuine moral concern for maximizing overall well-being (Kahane et al., 2015). This claim was supported by correlative data linking harm-acceptance judgments with psychopathy, egoism, and other such personality traits. However, this work faultily assumes that utilitarian (harm-acceptance) and deontological (harm-avoidance) inclinations are inversely related, and that a willingness to cause harm to achieve a better overall outcome directly reflects a lack of affective concern for causing said harm. As per Greene and colleagues' (2001) dual-process model of moral judgments, both inclinations may in fact be active and collaboratively contribute to final judgments. Consequently, harm-acceptance judgments may result either from a dispassionate failure to engage with affective aversions to harm (as suggested by Kahane and colleagues) or from a genuine commitment to the maxims of philosophical utilitarianism. The current research applies Jacoby's (1991) process dissociation technique to sacrificial moral dilemma responses to calculate the independent strengths of utilitarian and deontological inclinations in participants. The results of this work, as well as complementary theoretical models, indicate that when traits like psychopathy and egoism correlate with harm-acceptance judgments, it is a reflection not of heightened utilitarianism, but rather of lessened deontology.</p>	Dr. Paul Conway	Psychology

12	Allison Wentworth, Alexandra Clise, and Hope McNally	Afternoon	Successful Coparenting After Divorce	<p>The Institute for Family Violence Studies in the College of Social Work at Florida State University has developed an online course for parents in the state of Florida going through a divorce to teach them successful co-parenting techniques, communication skills, the influence of a stable environment for children and the long-lasting effects of divorce on a family. The goal of the course is to help divorcing parents work together in raising their children. The Institute for Family Violence Studies has used research that has been conducted for years by the College of Social Work to create an interactive, educational, multi-media platform. The course has been launched and accessed successfully by hundreds of parents across the state. The next step for the Institute of Family Violence Studies is to disseminate into other states and, eventually, nationwide so that all parents can access the course.</p>	Dr. Karen Oehme and Ms. Thallia Malespin	Social work
13	Adrianna Alonso and Casey Coholan	Afternoon	Sport and Happiness: A Multi-level Analysis of Sport Consumer's Subjective Well-Being and Need Fulfillment	<p>This study aims to examine the types and degrees of psychological need fulfillment regarding various sports consumption. A need is a deficit state of the organism in which fulfillment positively contributes to mental health and failure to fulfill a need leads to negative mental symptoms. Need fulfillment can be a useful construct in exploring the well-being benefits of sport consumption activities, such as sport participation, sport spectating, or sport media viewing. Understanding how to effectively improve the sport consumer's well-being, as well as finding effective strategies to do so, requires the identification of which needs are fulfilled and to what extent they may be fulfilled through a particular sport consumption activity. Comparing the need fulfillment of sport related activities versus those of non-sport related activities could give value to the effects of sports to a person's well-being. A survey-based field study was conducted based on ecological momentary assessment. With a panel of 300 respondents, each respondent was signaled 2-3 times per week over 6-9 weeks to report on the type of activity engaged at the time of signal, subjective well-being state, and need fulfillment experience in relation the respective activity. The data of 2,720 responses made by 238 respondents will be analyzed with multi-level structural equation modeling. Potential implications of this study include the emphasis on the well-being benefits of sport consumption, comprehensive understanding on sport consumption activities for a holistic view on sport consumer well being, and the value of sport in improving one's well being, among others.</p>	Ms. Jeeyoon Kim	Sports Management
14	Nicholas Austin	Afternoon	Digital History of World War II: The Lawrence Vaughan Collection	<p>Global in its breadth, World War II affected millions of lives. For my research assistantship, I read, transcribed, and digitized letters from Lawrence E. Vaughan, a GI stationed in the Philippines and Japan. The relationship between the overseas GI and loved ones back home is seen through Vaughan's eyes through his letters to his wife and parents. Using other primary source documents and secondary sources, I filled in the holes within Vaughan's narrative through annotations, which identify and explain the different events and people Vaughan wrote about. Letters and documents from GIs shed light on how these men, barely out of high school, risked their lives, sometimes by choice, but mostly as a result of being forced through the draft. The Digital History of World War II Project culminates in the publication of Lawrence Vaughan's letters on the Institute for World War II and the Human Experience's website, allowing researchers, students, and those interested in GI experiences greater access to documents depicting his individual experiences to be kept alive for future generations.</p>	Dr. G. Kurt Piehler	Institute on World War II and the Human Experience, Department of History

15	Rachel Bogdon	Afternoon	Resistance Literature and New Media Protest	The goal of this project "New Media Protest and Resistance Literature" is to analyze and understand the inherent connection between new media protests and resistance literature by analyzing similarities in rhetorical strategies, visual techniques, diction, syntax and delivery method. This projects aims to understand how current social protest movements draw from resistance literature and imbue it with new significance, bringing it back into the matrix of popular culture. Specifically, my alcove of this project analyzes the creative and rhetorical similarities between the social protest movement #BlackLivesMatter and contemporary black poets.	Prof. Lakey Lakey	English
16	Nicholas Bergere	Afternoon	Deconstruction of Bring Me the Horizon's Top Single, "Throne"	This study is to shed light on the theoretical makeup of pop music today, specifically Bring Me the Horizon's "Throne", a song that hit #1 on Billboard's "Mainstream Rock Songs' within its initial release. The composition of pop songs like these are much more different than those of classical decent, of which were more based on harmonic and melodic complexity, while pop songs being more grounded in instrumentation and texture modifications. Although this song does not perfectly reflect standard practice in pop composition, it is a great representation of rock music and creative writing within seemingly simplistic music.	Mr. Chandler Bridges	Music Education
17	Morgan Bradley	Afternoon	Autobiographical Memory's Association with Psychological Traits	The purpose of this research is to examine the correlation between phenomenology and specific health conditions such as obesity. The connection will be examined through the retrieval of an autobiographical memory. Phenomenology is the study of structures of consciousness that are experienced from a first-person point of view. Autobiographical memory uses the recollection of memories from one's life based off of personal experiences and general knowledge of the world. Online surveys will be distributed to 200 young American adults through Amazon's Mechanical Turk. These surveys will (a) explore the phenomenology of a specific autobiographical memory, i.e. "being self-conscious about weight" vs. a control memory, and (b) explore its association with weight perception, perceived discrimination, health-related behaviors, and intentions. Participants will be assigned to either the experimental condition or the control condition, where they will recall a related personal experience. The results will be used to determine interrelations among the variables. The research aims to add onto pre-existing knowledge regarding autobiographical memory and its correlates. The survey is currently in the process of being constructed for distribution and therefore there are no results to report thus far.	Ms. Martina Luchetti and Dr. Angela Sutin	Social Sciences

18	Brennan Taylor	Afternoon	A Policy Implementation Typology of Florida's Developmental Education Reform	<p>Public policy has always been problematic at the level of implementation. "Street level bureaucrats" (Kluge, 2000) have been identified to be key players on whether or not a policy succeeds or fails. This study attempted to categorize the street level bureaucrats into 4 types and analyze their impact on the implementation of public policy. Focus group procedures were constructed for 4 semi structured focus groups. Focus groups of the street level bureaucrats were conducted (Administrators, Faculty, and Advisors) to analyze how these street level bureaucrats felt about the policy and what they did to either halt or bolster its implementation. While the other focus group were students only to get their perception on whether or not the implementation of the public policy was beneficial to them. Data from these groups was separated into categories and later simplified to 4 major categories (Low Effort Low Compliance, Low Effort High Compliance, High effort High compliance and High effort Low Compliance). From here, these categories were then characterized into types of behaviors, a street level bureaucrat could fall into one of four types (Indifferent, Satisficing, Oppositional, or Facilitative). The results show that street level bureaucrats can have a significant impact on whether or not a policy is implemented correctly based on which " type" of bureaucrat they are. It is mainly their perception and discretion of the policy which determines whether or not they support or oppose the implementation of a certain public policy.</p>	Dr. Rebecca Brower	Education
20	Monique Costner	Afternoon	Examining the Emergence of Themes in Media Coverage of Modi's Visit to the U.S. in September 2015	<p>India and the United States have a complex relationship with one another and are connected through multiple facets. The political leaders of these countries, Prime Minister Narendra Modi and President Barack Obama, each have a vested interest in presenting their respective countries in a particular light. In September of 2015, Prime Minister Modi made his second visit to the United States. This study aimed to understand the themes which emerged in the media surrounding this visit. In order to examine Prime Minister Modi's visit the United States, stories from news outlets in India and the United States were collected and analyzed. A system of open-ended coding was used to create and build upon a list of themes which were present in these stories. The stories were then sorted chronologically and labeled by the themes which were identified for the study. After conducting the analysis, it was found that various themes emerged which were heavily related to current events and discussions among the public with regards to India. The primary themes which were present in the coverage of Modi's visit were business, technology, and politics. The findings of the study suggest that the news outlets followed a narrative Modi wished to convey to the public with an emphasis on a growing business and technology sector in India. This demonstrates how the media can support or undermine a particular agenda. Further research would investigate coverage of Modi's visits to other countries or the visits of other world leaders to the United States.</p>	Dr. Steve McDowell	College of Communication and Information
21	Devin Justice	Afternoon	Unusual High Strain Hardening of Carbon Nanotube Networks: Mechanisms and Experimental Results	<p>Mechanical stretching of carbon nanotube (CNT) networks, or buckypaper, results in a unique phenomenon of strain hardening that corresponds to dramatic increases of alignment degree and crystalline packing. The strain hardening index and the mechanics behind it were compared to those of other engineering materials. Buckypaper has an extremely high strain hardening index as high as 0.8 because in addition to strain hardening the Buckypaper increases strength significantly due to the substantial improvement of alignment in previously random CNT networks. Such increase in strength due to alignment is not present in metals and is present only in much less significance among polymers. Buckypaper's high susceptibility to strain hardening has proven to be a useful property to enhance mechanical properties of CNT materials for potential industry applications.</p>	Dr. Richard Liang	Industrial and Manufacturing Engineering

22	Carolena Charalambous	Afternoon	Sport Psychology Used to Correct Performance Errors	<p>Testing and theorizing motor task errors is a major research area of sport psychology. Motor task errors are errors that are made when using the motor cortex functions of the brain. The contrast between Implicit Overcompensation Hypothesis and the Ironic processing theory is a viable example. In order to test these theories in golf-putting, participants in the Sport Psychology Lab at Florida State University were asked to putt the golf ball to a target on the putting green. IOH predicts that participants would putt the ball past target if they were asked not to putt the ball short of the target. To the opposite, IPT proposes that participants would ironically putt the ball short under the same instruction. Current research results supported IOH compared to IPT, although certain moderating variables entail further research clarification. Findings of this study have both research and applied implications. Regarding research, more investigations were simulated to test potential moderators of error types. For application, knowledge of these two error types makes practitioners more ready to help motor task performers, such as athletes, musicians, and veterans. For example, application of this research can be used to help veteran's relearn how to preform simple motor tasks that may be difficult for them after coming back from combat.</p>	Mr. Nataniel and Mr. Liu Sicong	Sport Psychology
23	Paulina Ceballos	Afternoon	Literacy levels in low SES families	<p>a. As a participant in assistantship to Florida State University's BLOOM project, the tasks have been versatile, but all revolving the idea of second language exposure on bilinguals, and how that, in essence, alters their literacy levels. Essentially, children who come from a hispanic background will be evaluated through e-books using vocabulary words that will allow their growth in the English language to be catalyzed. The children evaluated will be in either grades K-1, and all essentially derive from low socio-economic neighborhoods in either Florida or Kansas, which in turn have proven to use Spanish as their first language in their home. In order to determine if whether a child's scoring on the e-book vocabulary interactions, along with other assessments done to measure what literacy level they obtain, demographic information is essential to the BLOOM project. As an assistant, I assessed the children on things like sentence-repetition examinations, and completed phone interviews with the parent guardian of the child. These interviews allowed for factors such as parental education levels, origin and other significant factors in the BLOOM project to be evaluated.</p>	Dr. Estrella Rodriguez and Dr. Carla Wood	Communication Science and Disorders
24	Allison Cantrell	Afternoon	Transnationalism and Cosmopolitanism: How WWII Refugees Influenced Cross-Cultural Exchange	<p>This research project looks at what happens to refugees who are under duress, who are forced to leave their homes because of political conflict and seek exile and asylum in a foreign country. In particular, it looks at the famous German exiles Marta and Lion Feuchtwanger. Lion Feuchtwanger was a successful German author, the couple lived in exile in France and later the US. After Lion's death, his wife promoted her husbands work in America and Europe. This project explores Marta Feuchtwanger's impact and diligent transnational efforts to promote her husband's work on two continents. Through locating Marta's interviews, articles, and personal accounts, it also seeks to define her work in the context of cosmopolitanism and transnationalism. This study will relate not only to historical studies but also to humanities and aspects of human right involving the role of nationalism, transnationalism, and patriotism as well as the identity of exiled authors during and directly preceding World War II. The results if this research will deliver a deeper insight into the dark moments of humanity. It will provide a definition of " cosmopolitanism" and " transnationalism" and provide a more detailed understanding of how being an exile and refugee influences cross-cultural exchange. Further research should include studies on authors in similar situations as well as the role their spouses played in their success.</p>	Dr. Birgit Maier-Katkin	Modern Languages

25	Dillon Jepsen	Afternoon	Social Nature of Cosmetic Surgery	<p>This paper presents the preliminary findings from a qualitative investigation of patients' accounts of their cosmetic plastic surgery. Publicly available YouTube videos that document patient accounts of cosmetic surgery serve as the primary data source for this study. Using grounded theory as a guiding framework, this research attempts to make sense of the subjective experiences of cosmetic plastic surgery patients, their decision making process, and the individual and collective practices they engage in to foster a sense of self-worth and positive emotions. Medicalization scholars have long been interested in the processes through which formerly "normal" human conditions come to be described as medical problems that are treatable with medical solutions. This study aims to contribute to the cosmetic surgery and medicalization literatures by underscoring the relevance of patient identity. By interrogating the role of identity formation and maintenance, we anticipate results that better illuminate the role of gender and sexuality within the medicalization process.</p>	Mr. Harry Barbee	Sociology
26	Andrew Bryant	Afternoon	Can Consumer Sentiment Indices of Population Sub-Groups Better Predict Household Consumption?	<p>United States household consumption makes up over 70% of the U.S.'s gross domestic product (GDP). The University of Michigan's Index of Consumer Sentiment and the Conference Board Consumer Confidence Index are often cited as important leading indicators for consumption, and accordingly, GDP. Each survey consists of five questions, with two regarding present conditions and three regarding consumer expectations. While a handful of research papers exist that discuss the correlations found between consumer sentiment and household consumption, these papers largely tend to focus heavily on which sections of the index questionnaire correlate more strongly with future consumption. However, the examination and analysis of which demographics of household consumers correlate most strongly with the Conference Board Index is left largely unexplored. The University of Michigan's Index of Consumer Sentiment has been conducted longer than the other index "" since the late 1940's "" and all the data are freely available to download on the University of Michigan's Survey of Consumers webpage. Importantly, the data is available to be downloaded in such a way that consumer sentiment can be divided up based on income bracket, age, region, gender, and education level, providing possible insight into which segments of U.S. consumers are most predictive about the economy. Obtaining data of household consumption "" including splits for durable and nondurable goods, in addition to overall personal consumption "" can help us further evaluate the attitudes of different slices of the U.S. populace in order to potentially identify groups that may be better indicators of future overall consumption than others.</p>	Dr. Shawn Kantor	Economics

27	Melissa Gibson	Afternoon	Anxiety Sensitivity as a Predictor for Self-Rated Physical Health	<p>Anxiety Sensitivity (AS), a well-researched risk factor for anxiety disorders, is the fear that physical sensations associated with anxiety (elevated heart rate, sweating, etc.) will have harmful psychological, somatic, or social consequences. The Anxiety Sensitivity Index-3 (ASI-3) was designed to measure the three AS factors most supported by research: Physical, Social, and Cognitive concerns. Research conducted before the development of the ASI-3 shows that self-rated physical health is associated with overall AS. Self-rated health has shown to be a stable measure for general overall physical health in adults as it correlates with physician-rated health and the presence of chronic illnesses. This study aims to explore the relationship between self-rated health and the subfactors of Physical, Social, and Cognitive AS. Participants were screened for high levels of AS. The current sample consisted of 59 undergraduate students who were given a Medical Screening Questionnaire including a measure of self-rated physical health and the ASI-3 in the Schmidt Lab at Florida State University. Results from this sample indicate that AS-Physical predicts poor self-rated health without controlling for existing anxiety, although this relationship is no longer significant after controlling for anxiety. There were no significant relationships between AS-Cognitive or AS-Social and self-rated health. The implications of these results are that the negative physical experiences associated with AS-Physical may be influencing the perceived overall health of those with high levels of AS. This relationship could potentially be used to screen for disorders associated with poor self-rated health and high AS such as panic disorder.</p>	Mr. Aaron Norr	Psychology
28	Eden Gordon	Afternoon	Locating Zinc in HeLa cells using SNAP-tag Technology	<p>Few people will deny the importance of vitamins in a healthy life style. However, even fewer people are able to explain why vitamins are important or what their function is in the human body. In biology, vitamins are referred to as micronutrients. These substances are required by the body in small amounts, and must be derived from a person's diet. One of the most important micronutrients required by the human body is zinc. Zinc can be found in cells throughout the body, most notably in neurons. It is instrumental in basic bodily functions including cell division, cell growth, healing of injuries, the senses of smell and taste, defense against disease, and the natural release of insulin in the body. A deficiency or an excess of zinc can be extremely detrimental, causing anything from hair loss to hypogonadism. This research seeks to enhance the scientific community's understanding of zinc's role in the body at a cellular level using SNAP-tag technology. This begins with synthesizing molecules that undergo zinc(II) coordination-mediated fluorescence. In other words, these molecules emit light when bound to zinc. These molecules can be localized to specific organelles using SNAP-tags. The resulting molecular complexes are bound to specific proteins within cells derived from a HeLa cell culture, making it possible to essentially dye the areas within a cell that contain zinc. The cells can then be viewed under a microscope, under which it is possible to see exactly where zinc is being used in a human cell. These findings may be significant to the medical, chemical, and biochemical communities. The fluorescent molecules explored in this research may influence future experiments involving SNAP-tags, and the overall findings of this research will lead to a deeper understanding of the importance of zinc in the human body.</p>	Dr. Lei Zhu	Chemistry

29	Taylor Goldberg	Afternoon	Auxetic Foam And Its Advanced Prosthetic Technology	<p>An amputee's quality of life is already hindered do to their lost limb, uncomfortable prosthetics should not add to their list of worries. Auxetic foam's ability to expand when stretched can improve an amputees quality of life tremendously. The focus of this experiment was to explore the mechanical properties of auxetic foam. This was done by developing a vacuum bagging technique to produce the foam from polyurethane foam as well as using a multitude of mechanical tests to understand the properties of auxetic foam. One main property that makes auxetic foam so unique is it's negative Poisson's ratio. Compression, tensile, and tear tests were compared between conventional and auxetic foam. The Poisson's ratio was calculated based on video data acquired during a tension test. The Poisson's ratio of conventional PU foams exhibited near a constant value of +0.5. In comparison, the auxetic foam showed a negative Poisson's ratio throughout the entire range of strain studied. Auxetic foam also had a four times higher value of tear strength and a lower tensile elastic modulus then conventional foam. Auexetic foam also showed a quasi-exponential stress strain relationship while conventional foam exhibited a three-stage behavior. The results of these tests support the fact that auxetic foam has better mechanical properties than commercial foam allowing it to be used in a multitude of applications such as prosthetic legs.</p>	Ms. Zhe Liu and Dr. Chengchun Zeng	Engineering
30	Nicole Grubb	Afternoon	Synthesizing New Plastics from Biomass	<p>Polymers are essential to everyday life due to its myriad uses such creating plastics for packaging of food to creating fabric for clothing. Because it has been integrated so tightly into everyday life, producers and consumers are concerned with its environmental impacts such as sourcing to create desired polymers and its rate of degradation. The degradation of the polymer polyvinyl furan will be investigated further in this time-based study through UV Vis and IR spectroscopy. Conclusions will be made after collecting data from these spectroscopic techniques that can determine what is occurring over a span of time between bonds in this polymer and interaction with environmental factors such as light and other elements polyvinyl furan is exposed to.</p>	Dr. Justin Kennemur	Chemistry
31	Ryan Cote	Afternoon	Value Effect of FDA Stage for Investigational New Drugs: Valuation from Acquisition Amount	<p>The aim of this study is to examine the broad trends in valuations of private American entrepreneurial drug companies according to which stage of the U.S. Food and Drug Administration (FDA) Drug Review Process their lead drug candidate is in. The private companies' valuations can be found by determining the price that companies pay to acquire them. The values of the companies are expected to increase with every phase of the FDA process they complete for their Investigational New Drugs. The projected value added by completing each stage can be determined by using the average valuation for the previous stage of the FDA process. Trends in the average stage of acquisition over time can be determined by examining the frequency of acquisition by year for each stage. A decrease in the average stage of acquisition by year could indicate that competition in the pharmaceutical industry is increasing, and companies are trying to increase their drug pipeline at a faster rate.</p>	Dr. James Ang	Finance

32	Haley Cruzado	Afternoon	Landscapes of Reform in Nineteenth Century Puerto Rico	<p>Landscapes of Reform in Nineteenth Century Puerto Rico examines the way the built environment of this Spanish colonial island came under revision and the response of the common people to these changes. During this time period, material culture in Puerto Rico in the form of architecture, building plans, and public spaces was used to promote reform from elites. Reform in this time period in Puerto Rico has been examined in various dimensions by historians, but has never been examined through the lens of landscape studies or considered by its material dimension which took place through the negotiation and petition of the common people in their everyday lives. Through the analysis of primary source documents, including building plans and official documents, from the archives of major cities in Puerto Rico, particularly Ponce, reform brought about by the common people to their own material space can be analyzed for an overall more comprehensive understanding of reform.</p>	Dr. Paul Niell	Art History
34	Holly Cramer	Afternoon	The Impact of 2008 on Public Private Partnerships	<p>Public Private Partnerships, or P3s, are an alternative method for the funding, operation, and maintenance of transportation projects. P3s have arisen in recent decades as more suitable solutions to a broader issue of resource scarcity on the state's behalf for transportation funding. This study examines how the context of P3s was affected by the external shock of 2008 and the economic crisis that ensued. The fallout of 2008 reshaped how we as consumers look at economics in the public and private spheres; and sequentially for P3s, 2008 led to a shift in the array of actors involved in P3s and the typology of P3s being utilized due to this changing consumer perspective. Particularly focusing on the actors involved in P3s, this study demonstrates how 2008 facilitated an increase in regulatory bodies and legislation within the public sphere. The introduction of these regulatory bodies and general scrutiny on part of the public is due in large part to a change in perception of the balance of costs involved in P3s. Consumers post-2008 have become more distrustful of private entities assuming great control over public assets, thus attention has been directed toward more critically analyzing P3s and specifically which actors assume the burdens of transportation projects and which enjoy the benefits in various types of partnerships. An extensive study of P3s post-2008 is necessary in order to better understand how we fund transportation in a world that has been permanently marked by the implications of the Great Recession.</p>	Dr. Jeff Brown	Urban and Regional Planning
35	Taegan Dennis	Afternoon	Resistance Literature of the Ayotzinapa Abductions	<p>This project seeks to find developing trends in new media social protest and understand their relationship to " traditional" literature. By analyzing language, delivery method, and visual techniques, the project looks to explain how social protests are creatively using and revitalizing older literary procedure. Literature is found through social media sites such as Facebook, blogs, and twitter. Literature is analyzed for references to other social protests, relationships between the protestors to governments and foreign policies, and use of new publication media. Focusing on the Ayotzinapa abductions in Iguala, Mexico, this piece of the project specifically looks to see how different authors, publication media, and intersectionality of content is used to protest the Mexican government. Results are preliminary, as many of the protests are evolving and continue to be studied. However, intersectional protests of systemic issues, ie. police corruption in Mexico to police brutality in the US, seems to be a growing trend in resistance literature, as is the use of personal blogs to revitalize traditional magazine and poem styles.</p>	Ms. Lakey	English

36	Thaís Eloá da Silveira Venzel	Afternoon	Multi-Material Filament Production using Carbon Nanotubes and Graphene for 3D printing	<p>In 1984 Chuck Hull invented a device that would revolutionize research and teaching laboratories: the 3D printer. 30 years later, the demand of more efficient materials to use on this device is increasing. The next generation 3D printing filaments will require advanced functionality which may be achieved by the integration of nanoparticles. We have produced mixed material filaments containing carbon nanotubes, graphene, metals and metal oxides. Homogeneous solutions of polymers Acrylonitrile butadiene styrene and Polylactic acid were used as they are the most prevalent in fused deposition modeling. Batch solutions of polymers were made and mixed with the nanoparticles, followed by solvent removal and shredding. The pellets were used to create the filaments and the properties were then tested and used for 3D printing. Supporting videos were produced using GEOSSET Studio facilities.</p>	Dr. Steve Acquah	Chemistry
37	Brooke Hagerott and Dominique Larrea	Afternoon	Investigation of Antidepressant Maintenance Medication on Speech Related Autonomic Function	<p>Parkinson's disease (PD) is a neurodegenerative disease that can affect speech, motor cognition and autonomic functions. Research is being conducted to establish how PD affects autonomic nervous system function related to speech production and how systems differ from healthy individuals, a comparison group of healthy adults is needed. A current challenge being faced is that approximately one in 10 Americans would traditionally be excluded from these studies due to antidepressant use. The question being posed in this study is whether speech related autonomic function variables of interest in our research would be affected and if there is a difference between asymptomatic antidepressant maintenance medication group and those without antidepressant medication within six months. If there is a significant difference then those individuals will possibly be excluded, however; if there is not a significant difference those individuals on maintenance medication can be included. To determine this, a literature search was conducted for relevant background research. The current study will also include the collection and comparison of speech related autonomic nervous system function in the antidepressant maintenance medication group and those not on antidepressants within six months.</p>	Dr. Megan MacPherson	Communication
38	Marissa Guedes	Afternoon	Making student thinking visible in a biology lab course	<p>In order to observe a change in motivation, attitude, and biology content knowledge students completed pre- and post-tests that focused on biology content knowledge before and after taking this course, change in attitude about the relevance of science survey (Siegel and Ranney), and motivation to learn science survey (Glynn, Taasobshirazi, and Brickman). This research focused on if undergraduate students' attitudes changed about those topics over a semester of a general biology lab course for non-science majors, and what types of relationships exist between different motivational factors, attitude, and biology content knowledge before and after taking this course. In order to understand the undergraduate students' relationship towards biology over a semester, a paired samples t-test was used, and in order to see the relationship between different motivational factors, attitude, and biology content, a Pearson product moment correlations test was performed. The pre- and post-tests would allow one to be able to determine if there was some change (positive or negative), or no change at all of the undergraduates students' attitude towards biology. The hope is that by the TA facilitating classroom conversations by using techniques of re-voicing, probing, pressing, and encourage student-student conversations, these students would have a new found respect and interest in biology.</p>	Prof. Anna Strimaitis	Education

39	Kaitlyn Huetteman	Afternoon	Autophagy regulation in the genetic network of mutant Drosophila.	<p>The centrosome is a microtubule-organizing center in animal cells. Centrosomin (cnn), a gene that codes for a centrosomal protein, is a key regulator of the centrosome; it regulates microtubule activity and is required for centrosome assembly. Mutations in the human cnn gene are associated with an inherited developmental syndrome called autosomal recessive primary microcephaly (MCPH). MCPH is a disease characterized by small brain size due to reduced cerebral cortex development. The model organism <i>Drosophila melanogaster</i> (fruit fly) is useful for studying human disorders because genes in <i>Drosophila</i> usually serve similar functions in Humans. Cnn mutant <i>Drosophila</i> were used in this investigation as a model of MCPH in order to examine the genetic basis of the disease. Adult <i>Drosophila</i> are able to survive with the cnn mutation but they have a Parkinson's-like neurological disorder. Using the <i>Drosophila</i>, a genetic screen was performed, and it was discovered that autophagy, a normal protective function that involves the self-degradation of cells, was involved in the genetic network of MCPH. This process is regulated by centrosomes and is needed to cope with starvation. In <i>Drosophila</i>, starvation sensitivity is consistent with an autophagy defect and results in poor neurological function. To further investigate, a genetic screen was performed to find mutants that were synthetic lethal with cnn and tested to see if they were sensitive to starvation by only giving them water instead of nutrient rich food. The purpose of the current research was to observe which other genes regulate autophagy in the cnn genetic network. During the experiments, several mutants were found that fulfilled criteria for starvation sensitivity, one of which is a mutation that was mapped to a gene which encodes a microtubule-based motor protein. This is an interesting candidate gene in the cnn network, since both genes involve function via the microtubule cytoskeleton. Present research focuses on building genetic tools that will help create mutant mosaic tissues in <i>Drosophila</i>, and a starvation assay together with tests for autophagy induction in these mosaic mutants will be used to determine whether they are defective in the regulation of autophagy. This research contributes to current efforts in determining the genetic network involved in MCPH.</p>	Dr. Timothy Megraw	Biomedical
40	Abigail Irwin	Afternoon	Florida State University Card Archive	<p>This project aims to examine postcards as primary artifacts in understanding the lasting rhetorical effects of exaggerations in circulation. The focus is primarily on 20th century postcards and two branches of postcards that employ an element of exaggeration: Tall Tale postcards and Exaggerated postcards. Throughout the project careful attention is paid to how visual elements work in conjunction with writing-- whether it's captioned writing or user added. Attempts to explain how these images influence perceptions of especially rural location and how a sense of place is cultivated in remote locations within the United States guide the project through it's major points of inquiry. This exhibit will connect questions such as: Do postcards leave their recipients with an accurate sense of their origin? Is photography as a medium more persuasive? Do postcards work to preserve a history of a location or is the history influenced by the texts that are generated there? How does the element of exaggeration work rhetorically to accomplish short-term and long-term effects? The conclusion of this exhibit opens a question to the audience about the perseverance and pervasiveness of the myth of American abundance. How this narrative of excess has created an expectation of the United States and how this narrative is perceived and manipulated through time and transculturally.</p>	Dr. Michael Neal	English

41	Kevin Hernandez	Afternoon	The Creation Cycle	<p>This project exists primarily as a political commentary on the culture of disposal in the modern world. The work focuses on transforming typically discarded items into something either functional or artistic. In this way, it is hoped to affect the way society discards countless everyday items, fostering instead ideas of renewal. For example, one part of the project was to transform a discarded Stairmaster machine into a functional human-powered plastic shredder, which can be used to break down materials either for proper disposal or to make filament for a 3D printer. In addition, a contraption was built with re-used materials to make plastic wire from discarded soda bottles. One of the uses of this harvested wire was for weaving material. This project thus not only provides real examples of functional (including artistic) recreations but also inspirations and help for others who want to transform their own discarded materials.</p>	Prof. Robert Duarte	Art
42	David DeStephano	Afternoon	Blogged Narratives of Disasters for Peace	<p>Blogs are seen as a conversation (Dedai, 2013) more than an essay, thus demanding a format that allows two-way communication. Several blogs in the digital world are taken as form of storytelling (Alexander, 2011). Previous research has focused on blog writers communicative ability to achieve a freedom of thought in writing blogged discourses (Dedai, 2013). Within the storylines of online published narratives by news media, blogs open a new space as a form of online journalism (Wall, 2005). News-oriented blogs have been analyzed by communication researchers in several aspects of contributions in understanding the new genres of news. What is different about blog writers in the online journalism strata is that blogs allow ordinary people to become content creators, able to publish and potentially globally distribute their writing (Blood, 2002b). The blogs of interest here are news blogs, especially blogs written on issues of War, Conflicts and Disasters. Various attempts have been made to identify the type of journalism news blogs related to war produce through various methods such as genre analysis, a form of rhetorical analysis (Wall, 2005), through frame analysis (Wall, 2006). These researchers identified contributions of blogged narratives as promoting peace reporting. Previous researchers focused on cases or particular events and have not yet analyzed the blogged discourses as form of online conversations involving interactive discourses and discussions among news media and its subsequent audience. We used the method of discourse analysis, to assess several possible aspects of blogged narratives that can be analyzed to view a blogged discourse on Wars, conflicts and disasters as a conversational opportunity for readers that may promote peace. The purpose is to establish that blogged narratives can raise issues that generate a need for extended discussion and interactive discourse for readers, providing opportunities to find solutions.</p>	Ms. Mariam Shaikh	Communications

43	Gabriella Dean	Afternoon	Evolutionary Patters of Guppies	<p>Evolutionary changes in species can have both beneficial and adverse effects on its ongoing survival, and studying these changes can lead to breakthroughs scientifically. In order to learn more about how evolution can lead to the survival of a species, the body shape of <i>Poecilia reticulata</i> was studied before and after a major flood. The body shapes of the surviving individuals were compared to that of those that did not survive this flash flood. <i>P. reticulata</i> were collected from four rivers and photographed in order to carry out landmarking of each individual. Landmarks were placed on 11 distinct locations for all specimens and then compared using digital software. The characteristics of fish that were present prior to the flood, in August, were compared to those fish that had survived the flood, in September. It was concluded that the mortality rates were selective based on overall shape, yet varied based on the river location and with gender. Overall shape was statistically different between the August and September groups in a multivariate analysis. A unique finding was that selection favored a downwardly curved body for all combinations of gender and river population, except for the females studied in the ULL river. This data can be applied to studying natural disasters and how evolution can aid in the survival of species. It can also be used to further the study done on survival rates of this species in both the wet and dry seasons.</p>	Mr. Alex Landy and Dr. Joseph Travis	Biology
44	Nicholas Doyle	Afternoon	Development of New Environmentally Responsive Photoluminescent Molecular Butterflies	<p>Molecular Photochemistry is a very useful field in Chemistry. Understanding this field can help a researcher determine many properties of molecules including structures and mechanisms. This research will consist of the synthesis, characterization and analyzation of photoluminescent butterfly-like platinum binuclear complexes. These molecules can be considered "butterfly-like" because of their molecular structures and the way the molecules "flap their wings" after becoming excited (photoinduced structural change). A systematic approach will be used to study these fascinating molecules. A series of complexes must be made in order to prove that the complex in question is in fact environmentally responsive. It is believed that the molecule BdmappyPtPz is environmentally responsive to the polarity of the solvent it is dissolved in. A series of complexes will be made with the same molecular structure as BdmappyPtPz, but replacing the functional group believed to be responsible for the environmental responsiveness (dma). This can be considered the control group. Once all of the data is collected, a mechanism will be proposed for this phenomena and a research paper will begin to be prepared for review and publication.</p>	Dr. Biwu Ma	Chemical & Biomedical Engineering
45	Grace Garratt	Afternoon	The effect of category learning on visual attention to objects: neural correlates	<p>When we perceive visual objects, we interpret them based on our previous knowledge of and experience with the object. For example, a dog show judge would be able to better distinguish between different dog species than someone who isn't a dog show judge. Studies have shown that neural representations of objects in the temporal cortex are enhanced when attending to objects with diagnostic visual features that the observer has already learned to categorize versus when attending to unlearned stimulus features, but there is still room for further explanation. In our study, participants performed a series of six behavioral sessions where they learned to categorize previously unlearned objects by attending to three diagnostic features, while an additional three non-diagnostic features were ignored. In a final EEG session, the steady-state visually evoked potential (SSVEP) was recorded in order to compare neural activation between attended and unattended stimulus features on learned and unlearned objects. We expect to determine whether visual attention to learned diagnostic features is more efficient compared to unlearned features. These findings may suggest that category learning has a significant effect on visual perception.</p>	Dr. Jonathan Folstein and Ms. Yue Meng	Psychology

46	Danielle Giachos	Afternoon	The Utilization of the Affective Faces Task-Switching Paradigm to Measure Boldness and Disinhibition	<p>Psychopathic personality is based on a three factor model which encompasses the traits meanness, boldness, and disinhibition (Patrick et. al, 2009). The ability to recover quickly from a distressing event or task, ie., high self- efficacy characterizes the trait boldness and is examined further in the course of this study. The individuals who display boldness have the capability to perform in the presence of high stress and aversive stimuli. Interestingly enough, previous research has discovered that behavioral control processes exhibited by psychopathic individuals exemplify disinhibition and deficient emotional reactivity such as boldness and meanness (Patrick et al., 2009). In this experiment, these behavioral processes will be tested by means of a task-switching paradigm in order to examine how an arbitrary task can elicit these behavioral responses of disinhibition, boldness, and adaptive flexibility (the individual's capability to manifest novel situations to complex problems) (Pulakos, 2000). In previous task-switching paradigms, most participants had a slower reaction time on a " switch trial" or a trial that required them to shift their frame of processing or adaptation (Miyake and Friedman, 2000). This study focuses on a novel task-switching paradigm that utilizes emotional faces as " switch cues" compared to a control, resting face. The participant's reaction time and accuracy of the switch task, and how an individual's boldness effects task performance was investigated in the course of this experiment. The hypothesis predicts that individuals with high disinhibition will display less adaptive flexibility.</p>	Mr. Colin Bowyer	Psychology
47	Shelby Lucas	Afternoon	Mastering the Mind	<p>Pluripotent stem cells are a key component to modern day stem cell research. These cells are normally derived from adult human fibroblasts, specifically mesenchymal tissues. These cells can be manipulated to grow into neurons and eventually play a key role in treatments for degenerative diseases, such as Alzheimer's disease and paralysis due to strokes and other traumatic causes to the spine. Observing cell-cell and cell-extracellular matrix (ECM) interactions; such as cell fate, death, and functions; provide information essential for controlling cell metamorphosis as it becomes more stable. In order understand Alzheimer's disease, we examine the cells when a protein, Amyloid Beta Peptides (Abeta-42), is presented to the medium. Abeta-42 composes the brain amyloid plaque that characterizes the progressive neurodegenerative disorder.</p>	Dr. Yan Li and Mrs. Julie Bejoy	Biomedical Engineering
48	Danielle Wirsansky	Afternoon	City of Light: History on Stage	<p>This project looks at the effect of Holocaust Education using theatre as a medium, starting with in depth studies on the effectiveness of Holocaust education in Florida and continuing with exploration of new means for this education. Only six states in the United States have an education mandate requiring public schools to teach about the Holocaust. To test the mandate's effectiveness In Florida, where it has been in effect since 1994, random Florida resident students were asked sample basic questions such as: Which country did Hitler lead? What kind of people were targeted? Many students are hard-pressed to answer the questions. Twenty years after the Florida mandate commenced, the current generation has much fewer ties to the Holocaust. Fewer witnesses remain as a resource to new generations. The times and the needs of students have changed, but the mandate has not. To fill this gap, I started introducing the subject in new and creative mediums, using theatre to bring the events to life and enable students to interactively learn about the Holocaust. Theatre is a particularly effective way to foster change, as it engages individuals and encourages them to take action. The focus of the project was an exploration of the " lost" sham city of Paris that was built by France during WWI to mislead German bombers, through a WWII perspective. This culminated in a musical, blending history and fantasy, which will be performed for the Tallahassee, FL community in late spring of 2016.</p>	Dr. Thomas Ossowski and Dr. Stoltzfus	Theatre

49	Justin Krumper	Afternoon	Bangladesh Accord	<p>Many companies and corporations make certain decisions based off of political policy and public image. More specifically, over two hundred companies have joined the Bangladesh Accord. The Bangladesh Accord defines itself as " an independent, legally binding agreement between brands and trade unions designed to work towards a safe and healthy Bangladeshi Ready-Made Garment Industry. Our purpose is to enable a working environment in which no worker needs to fear fires, building collapses, or other accidents that could be prevented with reasonable health and safety measures." While it seems very positive that companies are joining the accord, the question comes as to why they are joining it. Do companies join just for the support of the cause, or for public image and other political factors? Through research of data in companies joining dates, type, and country, I hope to find out the underlying reasoning for joining the accord, and its effects on politics.</p>	Mr. Rich Devine	Business
50	Calista Pappas and Austin Yap	Afternoon	Functional and Structural Analysis of KSHV Virion Proteins	<p>We have been studying proteins associated with the Kaposi's sarcoma-associated herpes virus (KSHV). Ultimately, the goal of the research is to find a more cost-effective alternative vaccine to this virus. The proteins within the tegument layer, a space between capsid and envelope in the viral particles, are studied. These proteins have been found to have a substantial impact on the expression of more viral particles. One protein in specific, ORF45, inhibits the natural antiviral response of the host cell. The KSHV ORF45 protein confuses the MAPK signal pathways, a series of proteins that signal to neighboring proteins whether to continue cell division or to stop (switch "on" or "off"). The ORF45 protein keeps other proteins in the "on" state, which leads to cancerous cell division. Recently, another KSHV protein, ORF52, has been discovered to inhibit DNA sensor cGAS (cyclic GMP-AMP synthase), a component of the innate immune system that functions to detect the presence of cytosolic DNA and, in response, trigger expression of inflammatory genes. Without cGAS, an organism becomes more susceptible to retroviruses because of the cell's inability to identify these viruses. The main approach to this research is to make recombinant plasmids of ORF45 and ORF52. These plasmids are then placed them in petri dishes to watch cell division in addition to exposing the proteins to extreme climates. This research has shown the implications of these virus proteins.</p>	Dr. Fanxiu Zhu	Biochemistry
51	Jirye Kang	Afternoon	An analysis of cultural materials from Borrow Pit Site 8LE170 in Leon county Florida	<p>This study will focus on the analysis of cultural ceramics, lithic tools, and other types of material cultures that were excavated from the Borrow Pit site 8LE170 in Leon County, Florida. While the Borrow Pit site was destroyed due to the construction of I-10, archaeologists were able to quickly excavate this site over two-week period in 1970. Assemblages among artifacts from different levels in excavation units can tell us stratigraphic aspects of cultural materials that indicate the age of and relationship between artifacts found in different levels. Yet, many of the artifacts have not been studied. In an effort to spark interest in the artifacts from the Borrow Pit site, I will be revisiting previous research.</p>	Dr. Rochelle Marrinan	Anthropology
53	Kacey Johnson	Afternoon	Social Media Research	<p>. In late 2013, Zoe Quinn, creator of Depression Quest, started receiving backlash from her game and Eron Gjoni, her boyfriend at the time, posted revealing messages about their relationship. This started the GamerGate controversy which grew in popularity on twitter. People that are for GamerGate claim it is intended to criticize gaming journalism whereas those against it claim it is merely attacking minorities in the gaming industry predominantly women and children. I, along with everyone else on the team sought out to determine the civility of those tweets and if they carried sexist or supportive feminism. I also worked on analyzing the Kim Davis controversy through memes. In Spring 2016, I will be coding memes with various ideologies such as religion and feminism.</p>	Prof. Summer Harlow	Communication

54	Andrea Martin	Afternoon	"Face-to-Face Bullying, Cyberbullying, and Depressive Symptoms: An Examination of Gender Difference"	<p>Bullying is a serious social problem among children and adolescents in school face; both face-to-face bullying and cyberbullying. Our investigation, " Face-to-Face Bullying, Cyberbullying, and Depressive Symptoms: An Examination of Gender Difference" , focuses primarily on the association between different kinds of bullying perpetration and victimization and how it affects behavioral health outcomes in school-aged adolescents in the United States. Our investigation uses data from the 2005-2006 Health Behavior in School-Aged Children (HBSC) study in the United States. Our first step in our investigation was receiving permission from the Florida State University's Institutional Review Board (IRB). During this time I also received my certificate in " Protecting Human Research Participants" from The National Institutes of Health (NIH) Office of Extramural Research. Both the certificate and IRB approval is necessary in any experiment involving human subjects and protecting their confidentiality. Once that was completed, a lot of background research had to be conducted in order to see what has previously been found in regards to cyberbullying and face-to-face perpetration and victimization. Collecting this information helped us begin the next step of our experiment "" writing our literature review. While I focused on this part of the investigation, my research sponsor worked on the analysis of the data. What we found was that every relationship (boy and girl) of bullying victimization and perpetration, and depression was a positive relationship, except one "" cyberbullying female perpetrators had a negative relationship with depression. In other words, girls who have cyberbullied actually have less likelihood of depressive symptom. These results are beneficial in helping understand the effects of bullying and ultimately finding ways to prevent it.</p>	Ms. Jungup Lee	Social Work
55	Andy Lau Koo	Afternoon	Supporting Clinical Diagnoses of Depression and Models of Psychopathology with Measures of Emotion Regulation	<p>In trying to understand the risk factors in specific disorders like depression, the role of one's ability to regulate their emotions both consciously and nonconsciously has been progressively further analyzed. The topic of emotional regulation has been increasingly popular with the upsurge in literature that notes its predictive value in models of psychopathology. Conceptualization of emotional regulation defines favorable regulation by positive life outcomes including good health, relationships, and performance. Conversely, it is heavily argued that individuals who fail to effectively manage emotional responses experience more serious terms of distress. Those who fail to foster healthy emotion regulation strategies or who instead develop maladaptive strategies are at risk of allowing these periods of distress to grow into more serious diagnosable disorders including depression. In the present study, we look at how difficulties, or lack-there-of, in emotion regulation associates with depression. We used a comprehensive self-report measure of emotion regulation: Difficulties in Emotion Regulation Scale (DERS), to determine individual's aptitude towards several domains of emotional regulation and compared it to depression scores from the Depression Anxiety Stress Scale (DASS). Our results show correlations between difficulties in emotion regulation and depression. More specifically, the interaction of the Goal and Strategies subscales predicted the greatest depression. It is evident that deficiencies in emotion regulation strategies influence a spectrum of disorders. Given its potential for diagnosis, the information gathered could be further used to support a clinical diagnosis that could lead to eventual treatment of this and related disorders.</p>	Dr. Brad Schmidt and Mr. Brian Albanese	Psychology

56	Sydney Loiacono	Afternoon	I Quit! A Meta-analysis of Turnover Antecedents for Information Technology Professionals	This study uses meta-analytic techniques to yield important insights about the existing research on turnover of Information Technology (IT) professionals. Our analysis shows that affective organizational commitment, job demands, job satisfaction, leader-member exchange, and work exhaustion influence IT turnover intentions. Building on the findings from our meta-analysis, we intend to propose a new theoretical model of IT turnover and present propositions for future research.	Dr. Deborah J. Armstrong and Mrs. Ibtissam Zaza	Business
57	Gerthie Jean-Claude	Afternoon	Representation of African Americans on Social Media	Amandla Stenberg herself led the conversion of cultural appropriation, in the case of many popular figures in media adopting African American culture as their own, deeming it in a higher standing on white people but insulting African Americans. She released a video, which was a school project with a classmate titles " Don't cash crop my corn rows" . She then called out socialite Kylie Jenner on Instagram for posting a picture of herself with cornrows. In the comment she stating how Kylie adopted black culture but did nothing to help raise awareness to black issues. She later posted an essay on her Tumblr page furthering explaining her comment. She explained that it is common for features on African American women to be deemed inappropriate, and ugly but trendy, urban or high fashion on white women. The research is to see if the racial issues brought up by Amandla Stenberg were received in a positive or negative response on social media.	Dr. Steve Mcdowell	Communications
58	Kimberlee McMillin	Afternoon	Hemingway's Religious Influences in the Writing of A Farewell to Arms	Ernest Hemingway has been an integral figure in literature since his first novel, The Sun Also Rises, was published in 1926. His works have influenced, in some way, nearly every contemporary writer. As such, his influences play an important role in literature today. Hemingway maintains a religious undertone throughout A Farewell to Arms (AFTA), and the present study addressed where these undertones originated and why they were included. Private Hemingway records, including volumes of his personal letters, were used to analyze his own religious influences, both in writing AFTA and in his life. Analyses of his novels and short stories were consolidated and reviewed. Any mention of religion (" Catholicism," " Priest," " Church," or the like) was recorded and grouped by subject area. Though the project is not complete, it appears that Hemingway's main religious influence came from his second wife Pauline Pfeiffer, to whom he was married while writing AFTA, and her family. This influence contributed both to him being more religiously inclined during this period and the religious subtext throughout AFTA. This influence in turn influences countless writers of today. Exploring Hemingway's timeless writing can provide insight into America of the 1920s and 1930s, and America of today.	Dr. John Fenstermaker	English

59	Ashley Dawdy	Afternoon	Impact of Morphological Evolution on the Selective Mortality of <i>Poecilia reticulata</i>	<p>Our group's research through Dr. Joseph Travis' fish ecology laboratory will demonstrate the impact that ecological factors have on evolutionary processes over time. The species analyzed throughout this project is the Trinidadian Guppy, or <i>Poecilia reticulata</i>. Guppies taken from downstream locations of rivers in Trinidad were bred for two generations and then moved from the base of a mountain to four various upstream locations. Each individual specimen can be identified from colored pigments placed at different locations underneath the skin. Photos of each population are captured monthly in Trinidad and sent to our lab for analysis. Once received, each photo is analyzed by placing landmarks at eleven different points. All photos of each gender are then overlaid in order to track morphological changes. Through analysis of morphological changes as well as the analysis of physical traits of specimens that survived the September 2015 flood in Trinidad, we are investigating relationships between environmental factors, evolutionary changes, and survival rates that can be applied to countless other species. Our group hypothesizes that the guppies that survived the flood possess evolutionary advantageous morphological traits that they obtained over time since the original F2 generation was placed upstream.</p>	Dr. Joseph Travis and Mr. Alex Landy	Biology
59	Joshua Menezes	Afternoon	Impact of Morphological Evolution on the Selective Mortality of <i>Poecilia reticulata</i>	<p>Our group's research through Dr. Joseph Travis' fish ecology laboratory will demonstrate the impact that ecological factors have on evolutionary processes over time. The species analyzed throughout this project is the Trinidadian Guppy, or <i>Poecilia reticulata</i>. Guppies taken from downstream locations of rivers in Trinidad were bred for two generations and then moved from the base of a mountain to four various upstream locations. Each individual specimen can be identified from colored pigments placed at different locations underneath the skin. Photos of each population are captured monthly in Trinidad and sent to our lab for analysis. Once received, each photo is analyzed by placing landmarks at eleven different points. All photos of each gender are then overlaid in order to track morphological changes. Through analysis of morphological changes as well as the analysis of physical traits of specimens that survived the September 2015 flood in Trinidad, we are investigating relationships between environmental factors, evolutionary changes, and survival rates that can be applied to countless other species. Our group hypothesizes that the guppies that survived the flood possess evolutionary advantageous morphological traits that they obtained over time since the original F2 generation was placed upstream.</p>	Dr. Joseph Travis and Mr. Alex Landy	Biology

60	Megan Householder	Afternoon	Investigating the Role of Anxiety Sensitivity in Post traumatic Stress	<p>Popular research studies involving responses to a trauma film are vital models in exploring an individual's susceptibility to post traumatic stress disorder and anxiety sensitivity. This paradigm can reveal how the two psychological disorders are intertwined and if they exacerbate one another. The aim of the study is to assess the rapid development of symptoms related to PTSD and AS as a result of watching a series of traumatic incidents, and to explore mitigation methods. Individuals were randomly assigned as they chose to be involved in the study. The researcher would measure physiological responses through the use of eSense electrodes placed on the fingers of the participant as they filled out questionnaires regarding anxiety levels and previous experiences of traumatic events. Recordings would also be attained as the participant watched an audiovisual presentation focusing on Cognitive Anxiety Sensitivity Treatment (CAST) and Physical Health Education Training (PHET) and finally when they watch a ten-minute video of fatal car accidents. Finally, participants would go through a ten-minute thought monitoring exercise, in which they allow their minds to wander, helping the researcher to gauge the strength of the traumatic images. After being released, the participant is also asked to keep track of how many times he or she ruminates about the trauma film during the following week. The purpose of this study is to evaluate a possible correlation between anxiety sensitivity and posttraumatic stress disorder, and how traumatic images can become persistent memories in individuals who have been exposed to a similar event.</p>	Mr. Joseph Boffa	Psychology
61	Giancarlo Pizzino	Afternoon	The Effects of Dissociation Exposure on Anxiety Sensitivity	<p>Anxiety sensitivity (AS) is defined as the fear of anxiety-related sensations. Individuals with elevated AS believe that the symptoms of anxiety will bear negative social, physical or cognitive effects on their well-being. Often cited as one of the biggest risk factors for the development of psychopathology, the cognitive component of AS in particular has been shown to correlate to the incidence of such disorders as PTSD, depression and suicide. Many AS treatment programs often employ the use of interoceptive awareness, or exposure to bodily sensations. Such exercises include hyperventilation, straw breathing, and CO2 inhalation. However, many of these treatments are predominantly associated with the physical component of AS. Previous studies have shown that fear reactivity induced through dissociative symptoms is specific to the cognitive component of AS. If one is repeatedly exposed to such dissociative symptoms (feelings of disconnectedness from their current state) it is postulated that habituation will occur, there will be a decrease in the fear response, and in turn AS cognitive concerns. The purpose of this study is to further investigate the relationship between repeated exposure to dissociative symptoms and whether or not fear habituation successfully decreases the AS cognitive concern in individuals who display such.</p>	Mr. Aaron Norr and Dr. Schmidt	Psychology

62	Edward Whitaker	Afternoon	Hospital Nurses' Attitudes and Perceived Competencies in Providing Care for Psychiatric Patients	<p>Nurses working in acute care settings are frequently required to care for patients with concurrent psychiatric and medical illnesses or patients with behavioral health concerns, but lack the knowledge and competencies to provide safe and effective care for such patients. Studies suggest that undergraduate nursing programs do not provide sufficient education and training for working with mentally ill patients and that hospital nurses have limited access to continuing education that is specifically oriented toward the care of patients experiencing medical and psychiatric comorbidity. Literature also suggests that nurses who lack competencies in caring for mentally ill patients are more likely to harbor negative attitudes toward mental illness, leading to difficulties establishing therapeutic alliances with these patients and providing safe effective care. The purpose of this study is to assess hospital nurses' attitudes toward people affected by mental illness and their perceived competencies in providing care to care for patients with psychiatric or behavioral health needs. Participants will be professional nurses employed in acute care hospitals across the State of Florida who have not received specialized training or worked in a psychiatric or substance abuse setting. Online surveys using Qualtrics will be developed and emailed out to nurses licensed by the Florida Board of Nursing. The data will be analyzed using descriptive, t-tests, and chi-square statistical methods. The findings will be used to inform educational initiatives to address attitudinal, knowledge, skills deficits and resource needs of acute care nurses providing care to patients with psychiatric comorbidities.</p>	Dr. Eileen Cormier	Nursing
63	Melissa Villalta	Afternoon	Culture Change in Nursing Homes: Addressing Regulatory Impediments	<p>The goal of the " Culture Change in Nursing Homes: Addressing Regulatory Impediments" project is to make suggestions to nursing home regulators for amending regulations and enforcement practices in these institutions. This is in an effort to improve the nursing home environment, and by extension residents' quality of life. The research assistantship position entailed summarizing published articles about the Culture Change movement, reviewing a Proposed Regulation by the Centers for Medicare and Medicaid Services, developing a timeline for significant events in the Culture Change implementation in nursing homes, and compiling a list of acronyms for organizations and policies that pertain to the movement. These tasks were a small portion of the overall project, but these findings will be utilized to demonstrate to nursing home regulators, as well as providers, that Culture Change is beneficial to residents, and it will not expose nursing homes to an increased risk of negative legal consequences.</p>	Prof. Marshall Kapp	Medicine and Law
64	David Levine	Afternoon	Analysis of Criticisms of Julius Caesar Over Time	<p>As the political climate of the world has changed over time, so has the perception of what constitutes a great leader. Julius Caesar is one of the most polarizing figures in this regard. We aim to decide if current political climate influences critics' opinions on Caesar. We believe that in times of revolution, Caesar, a monarch, is viewed negatively, whereas in democratic societies, particularly failing ones, leaders such as Caesar are admired.</p>	Prof. Jessica Clark	Classics

65	Michelle Lamm	Afternoon	Bernard Dadie: Writing a Political Identity	<p>Literature is one of many forms of art that expresses the emotional and philosophical state and perspective of the creator. Race and Ethnicity are integral parts of formulating the author's outlook and therefore can influence their work. Oppression based upon racial status has affected many and has caused literary movements around the world. Literature allows authors to make sense of their situation and express the connections between politics and identity to combat oppression. From well publicized movements like the American Black Arts Movement to the obscure, all have allowed authors to express frustration, wish for social change, and give readers a new perspective. This project concentrates on the novelist, playwright, government official, and poet Bernard B. DadiÃ©. This project will analyze DadiÃ©'s literary contributions towards the equality of Africans and the appreciation of their unique culture in CÃ©te d'Ivoire against French colonialism and racist practices. The goal of this project is to collect and organize DadiÃ©'s works and scholarly research into an accessible format for DadiÃ© scholars. Having a complete and accessible bibliography would enhance the study of the connections and contrasts between the Negritude movement in Africa, the American Black Arts Movement, and post colonial thinking in Africa, Europe, and North America. This would help further the study of the connection between literature, political action, and identity. This project will be completed within this year and the bibliography is currently being uploaded onto Zotero, an open source research tool, which is expected to become a crowd-sourced bibliography.</p>	Dr. Margaret Wright-Cleveland	Director, Office of Faculty Recognition (English)
66	Christopher Logan	Afternoon	Audience Response to Specific Narrative Elements in Television Shows	<p>My Honors in the Major thesis aims to uncover and examine relationships between the narrative makeup of contemporary television shows and audience response to them. My research employs a framework, developed as an extension of the work of narrative literary theorists like Roland Barthes and Vladimir Propp, to code individual episodes of shows by their narrative elements in terms of both their structure and content. Then, these results are compared against audience responses from the online fan board website Reddit, which are also coded using a similar method. My research offers insight as to what narrative elements audiences seem to most enjoy, what they most often respond to, and how they respond.</p>	Dr. Stephen McDowell, Dr. Summer Harlow, and Professor Shonda Stevens	Communication
67	Jillian Szaroleta	Afternoon	Dearest Alma: The Life of a Union Soldier in Civil War-Era Kentucky and Tennessee	<p>Out of muddy encampments and battlefields scattered across Kentucky and Tennessee, a non-commissioned Union officer named William Rivers Sellon sent letters to his wife and three daughters as often as he could manage, detailing everything from battlefield injuries to alcohol addiction to financial woes. This project examines a set of those letters, and focuses on Rivers' perspectives on his world torn apart by the American Civil War, and how those perspectives changed within four of the most significant years in American history. As a soldier in the conflicted states along the Union-Confederate border and, eventually, a Lieutenant Colonel in charge of an all-black regiment, Rivers' letters give unique context to the Western front and the everyday experiences of soldiers from every rank and situation, and shed light on the way Union troops understood both the South and African Americans. This project is part of an effort to digitize the collections of documents and artifacts housed at the Institute on World War II and the Human Experience at Florida State University.</p>	Dr. G. Kurt Piehler	History

68	Rachel Smith	Afternoon	Increasing the Dielectric Constant of Poly(vinylidene fluoride)	<p>Capacitors allow for the storage of energy and the release of that energy instantly, which makes them ideal for power on demand. The amount of energy a capacitor can store is dependent on the material's relative permittivity, also known as the dielectric constant. Dielectric materials play an important role due to their ability to increase charge and energy storage. Polymers have wide use as dielectric materials due to their light weight, processability, and high breakdown strength. Poly(vinylidene fluoride) (PVDF) is a polymer often used in capacitor applications because of its high breakdown strength. High permittivity and high breakdown strength are both critical for high energy storage. Currently, at the High-Performance Materials Institute, our goal is to find an optimal composite of PVDF and perovskite ceramic material in order to increase the dielectric constant of the material, while also maintaining the high breakdown strength originally found in PVDF. This research includes testing different materials and PVDF, along with differing concentrations in order to find the optimal composite. We have been working on a mixture of PVDF and Cesium Lead Bromide Perovskite in order to make a composite with superior energy storage capabilities compared to pure PVDF. After making different solution concentrations we have been placing the samples in the vacuum furnace in order to make a thin film. After peeling the film we apply electrodes and measure the capacitance, impedance, and loss tangent in order to determine the dielectric constant of the material. With the findings of this research energy storage in capacitors could largely increase.</p>	Dr. Zhibin Yu	Industrial and Manufacturing Engineering
69	Derek Stafford	Afternoon	Evaluation of Political Effectiveness	<p>This paper examines how political savviness affects legislative effectiveness. Studying the passage of bills, donations gathered, and network connections of elected officials, we consider how an individual's political savviness and impression management abilities affect the influence of officials. Drawing on power and status theory, we argue that since politics self-selects for particular astute individuals, an official's ability to maneuver political office rests in great deal upon their perceived authenticity and network abilities. Furthermore, and counter to conventional wisdom, we argue that perceived authenticity is more important than networking ability with regard to legislative influence. In this paper, we discuss the extant literature and anticipated results.</p>	Mr. Richard Devine	Entrepreneurship, Strategy, & Information Systems
70	Caitlin Marquis	Afternoon	The Windover People, 8,000 Years Ago	<p>The Windover People were a group of individuals that lived in the swamps of the central east coast of Florida approximately 8,000 years ago. In 1982, the burial site of these individuals was found in the midst of construction in Titusville, Florida and the remains of 168 individuals are now housed in Florida State University's Anthropology Department. A significant amount of research has been done on these individuals as they are amongst one of the oldest people found in North America, and are the largest excavated group of people ever found for this time era. Anthropologists work to understand those of the past to solidify our understanding of how modern cultures came to be. In my research, I am looking for differences in the robustness of the femurs and tibias between gender and age. This knowledge would give insight into assigned gender roles within their culture, and even the nutrient availability these people had living in the swampy environment of Florida 8,000 years ago. Previous studies have found that the Windover People were a hunter-gatherer society, so it is likely that the males will have thicker bones. I expect to find the highest level of robustness in the middle-aged group of males as opposed to the younger and older groups, as they probably did the most hunting of the three age groups.</p>	Dr. Geoffrey Thomas	Anthropology

71	Katherine Kincaid	Afternoon	Brazilian Portuguese Diction for Singers: Songs and Composers	<p>This past fall semester, I began assisting Dr. Marcia Porter with her work on her book for Brazilian Portuguese Diction for Singers. There are many different dialects and pronunciations of Portuguese in Brazil, and there is currently very little information available on the correct diction for singing. One of my primary tasks has been to research influential composers in Brazilian history and summarize my findings in short biographies. I have also summarized articles pertaining to the subject and have entered texts from Brazilian poems into a template that will include translations and transliterations of the texts using the International Phonetic Alphabet. I have listened to numerous recordings of Brazilian songs and pieces, and have started learning a Brazilian song to sing.</p>	Dr. Marcia Porter	Vocal
72	Tyler Pilet	Afternoon	A Thermo-Economic Analysis of the Off-Grid Zero Emissions Building (OGZEB)	<p>Energy has become a costly resource in the modern world; as such, there is a push to innovate renewable power sources which lessen dependence on the power grid and move off of the grid. Moving off of the grid provides the opportunity for homeowners to reside wherever they may see fit. The Off-Grid Zero Emission Building (OGZEB) is an experiment to pioneer alternative, renewable energy sources for consumer usage. Being a zero-emissions building, the OGZEB is able to produce its own electricity, fuel, heating, and cooling regardless of its physical location. One of the main limitations with experimental technology is the cost and unknown benefits associated with it. This cost is characterized through a thermo-economic analysis which examines the potentials savings compared to the sunk costs, maintenance, and potential payback period of materials. These costs can then be examined to determine which components should be expanded upon or removed for the sake of keeping building and maintenance costs low so that sustainable housing can one day be greatly expanded to the public.</p>	Mr. Sam Yang and Dr. Juan Ordonez	Mechanical Engineering
73	Paulina Sicius	Afternoon	The impact of the coffee leaf rust disease on coffee farmers in Latin America	<p>Coffee is the most important agricultural product in international trade, therefore, the spread of the coffee leaf rust disease is of economic, social, environmental significance. To understand these effects, I first had to understand the economics of coffee growing by collecting and analyzing data on the production costs of coffee, something that there is little to no information about. Additionally, it was important to understand how knowledge systems worked to circulate information to farmers. To do this, I read and translated all the information by ICAFE, Costa Rica's primary coffee organization. We found that coffee production costs are extremely high, and for the most part above the coffee sea level. These costs were magnified with the coffee leaf rust disease. In terms of the knowledge systems in Costa Rica, we found that information is mostly controlled by a single organization that promotes primarily chemical forms of fungus control. The effort in collecting the costs of production of coffee is to make the data widely known to those involved in the coffee economy and the general public. In Costa Rica, we have found very little circulation of information. By making this realization, we can start an effort to make more extensive information about controlling the leaf-rust disease more widespread.</p>	Dr. Stephanie Pau	Geography
74	Alaina Tenewitz	Afternoon	Nonprofit mission conceptions	<p>Missions are central components of a nonprofit organization and establish the public purposes pursued. Formal mission statements may be inadequate for providing a true picture of a nonprofit's mission, requiring a new understanding of mission. This project tests a new theory that individuals in nonprofits have different understandings of the organizations mission.</p>	Dr. David Berlan	Public Administration

75	Jillian Rankin	Afternoon	Biological Selenium Removal and Recovery	<p>Selenium oxyanions, including selenate and selenite, are common environmental contaminants resulting from agricultural use of pesticides, fertilizers, and other chemicals. These compounds eventually travel to water sources, posing a threat to both wildlife and people. Certain bacteria have the ability to process these compounds and reduce selenium to its elemental state, removing the contaminants and replacing them with Se(0) nanoparticles. The nanoparticles formed can then be used for industrial purposes. However, nanoparticle recovery faces several challenges that prevent this biological selenium reduction process from being used on a large scale. These hindrances include intracellular nanoparticle production and nanoparticle purification. We propose that these challenges can be reduced by using one or more filtration methods along with a biocathode chamber in which bacterial specimens reduce selenium oxyanions.</p>	Dr. Youneng Tang	Civil and Environmental Engineering
76	Cindy Rodriguez	Afternoon	Line of Doughnut Mutant Zebrafish Shows Scarce Number of Photoreceptors	<p>Photoreceptor cells located in the retina, the light sensitive layer at the back of the eye, mediate vision. In vertebrates there are two categories of photoreceptors: rods and cones. Rods, the predominate photoreceptor, function in low intensity light, while cones function in high intensity light and are responsible for color vision. Zebrafish (<i>Danio rerio</i>) are widely used as a genetic model organism for retinal function. The doughnut mutation of zebrafish is known to follow Mendelian heterozygosity for the recessive trait responsible for visual blindness. In this study, one quarter of the line of doughnut mutant zebrafish population is expected to have deficient photoreceptors. To quantify this observation, a visual acuity measurement for the optokinetic reflex in zebrafish larvae was utilized. This observation was supplemented with immunolabeling for cones and rods, a biochemical process enabling the detection of antigens by using antibodies containing a florescent tag. By understanding the genotypic frequencies for mutations causing photoreceptor deficiency, the underlining gene causing the deficiency can be identified.</p>	Dr. James Fadool	Neuroscience
77	Federico Rey Simon	Afternoon	AMPs: The Future of Antibiotics	<p>Antimicrobial resistance is a well-known phenomenon reflecting a serious limitation of antimicrobial drugs. As current drugs, like antibiotics, become less effective, it is important to consider a new approach to antimicrobials. Natural occurring peptides (amino acid chains) from the body are shown to have some direct antimicrobial activities. These antimicrobial peptides (AMPs) are less susceptible to resistance and can greatly impact the future of antimicrobial drugs; the goal of the research experiment is to understand how certain peptides interact with a lipid membrane. This is similar to how antibiotics interact with the cell and prevent infections. Ultimately, the peptide composition and combination that is best will be determined to help develop the most effective antimicrobial drug.</p>	Dr. Likai Song, Ms. Pavanjeet Kaur and Ms. Zahra Hayati	National High Magnetic Field Laboratory

78	Shamik Shah	Afternoon	Cas9 characteristics	<p>RNA-protein, RNA-RNA, and Protein-Protein interactions occur during gene regulation. Our primary focus is on the interactions of RNA-protein. Gel electrophoresis and crystallography these interactions at the molecular level. Ribosomal RNA in animals is changed and folded by small enzymes called nucleolar ribonucleic particles (snoRNP). These contain both protein and RNA unlike common enzymes that contain either one or the other. The goal is to analyze this enzyme because it has the characteristic of RNA resulting in specific interactions with target RNA, while the protein can catalyze the reaction. These enzymes can change how the molecular level of gene regulation is interpreted. The goal in the Li Lab is to currently find Protospacer Adjacent Motif (PAM) sequence of the cas9 protein which is a type of snoRNP. The lab wants a specific sequence which, if the snoRNP complex is active the right sequence will be cut by the BAMH1 restriction enzyme. We insert these plasmids into cultured cells and then react it with BAMH1 which is a powerful restriction enzyme to see where the cut was made. This is the way to detect the PAM sequence as well as magnify the image through large crystals. Once the PAM sequence is perfected, it can open doors to many other discoveries in gene regulation and genetic modification. This can include cutting specific mutation sites on DNA strands, further knowledge into gene expression and regulation, transcription and translation clarity, and much more.</p>	Mr. Travis Hand	Molecular Biophysics
79	Scarlett Roy	Afternoon	Drosophila Z-Discs	<p>The Z-disc serves as an anchoring mechanism for actin filaments in the sarcomere, the basic unit of skeletal and cardiac muscular cells, which allows for muscular contractions. It is known to both be electron and protein dense, and is responsible for signaling to and maintaining the sarcomere. However, there are many proteins in the Z-disc that remain unknown, and it is hypothesized by some scientists that unknown proteins may be linked to the development of certain muscular diseases, such as Duchenne Muscular Dystrophy. Considering that invertebrate Z-discs are similar to those of vertebrates, drosophila Z-discs will be studied. It is assumed that a major protein finding in the drosophila Z-disc could be applied to vertebrate Z-discs. Invertebrate Z-discs will be isolated from wild-type drosophila through dissection, centrifugation, gel electrophoresis, and will eventually be analyzed through mass-spectrometry in the hopes of discovering previously unknown proteins.</p>	Dr. Corinne Summerill and Dr. Kenneth Taylor	Biology
80	Valerie Segebre	Afternoon	Language Divergence between Common Sense and Contextual Sentence Processing	<p>The purpose of the research was to see how participants integrate new information in the prediction of sentence structures since previous research experiments have shown that sentence structure is learned a huge part by the acquisition of common sense. The goal of the first experiment was to see if clues on the initial sentences heard helped participants anticipate future sentence structures. The goal of the second experiment was to see if clues from a story were enough to help participants anticipate the action of sentences and override the common sense answer. The results showed that initially participants showed more eye tracking movement to the common sense answer but as they start realizing that the common sense answer wasn't the answer they quickly switched strategies and looked at other pictures for a longer time than the common sense answer. (Yazbec) Works Cited Yazbec, Angele, Michael Kaschak, and Arielle Borovsky. " Investigating Semantic Conflict between Global Knowledge and Local Context in Real-Time Sentence Processing." Web. 26 Jan. 2016.</p>	Ms. Angele Yazbec Dr. Michael Kaschak	Psychology

81	Abigail Smith	Afternoon	Gender, Race, and Talent Perceptions within STEM Fields	<p>In 2014, approximately only 24 percent of women and 12 percent of minorities, including African-American and Latino workers, made up the country's science and engineering workers (Allie Bidwell, USNews). Due to societal beliefs that fields within science, technology, engineering, and mathematics (STEM) are challenging and require innate brilliance rather than developed knowledge, many women and minorities have avoided careers within the STEM fields. In this study, the purpose of this research is to understand the relationship between an individual's perceived ability within these subjects, their race gender, and their decisions regarding college majors or future career choices. Past research has shown that there may be different perceived abilities under challenge within the STEM fields between different races and genders. Using quantitative data from the Educational Longitudinal Study of 2002 2012, qualitative interviews with Florida State University seniors, and logistic regression, the results have shown that when observing gender and race separately, there is found to be a strong correlation with an individual's " talent perceptions" within a STEM field and their decision to pursue a mathematical career. This study will help us understand more about the existence of talent perception and perceived ability in mathematics during both high school and postsecondary years.</p>	Ms. Samantha Nix and Dr. Lara Perez-Felkner	Education
82	Erin Wadhams	Afternoon	Age and Experience: The Effect of Virginity on Mating Success	<p>In previous experiments, <i>Poecilia latipinna</i> mating behavior has been observed in conjunction with other variables in order to determine how different mating strategies affect polymorphism of the offspring and life history. This experiment will determine whether the age and mating experience of the males affect the results of those experiments. In the experiment, twelve families of ten fish were raised in separate tanks. Each week after their birth, one fish was removed and food increased by 5 times the number of fish left in the tank until there were only five fish left. From there, the fish were observed until they reached maturity, and from the remaining five, two males were kept and the rest removed in order to control for age. One of the brothers was kept a virgin, while the other was mated with a female in a " test tank" covered in black paper on all sides except the front and his mating behavior observed and recorded. Then, one week later, both males were mated with a female in the " test tank" and their mating behavior observed and compared for effects of experience on their success in mating. No results have been determined yet, as the experiment is still in progress.As there are no results, no conclusions can be drawn.</p>	Dr. Kimberly Hughes and Ms. Liz Lange	Biology

83	Julie Sharff	Afternoon	Criminalization of Homosexuality in 19th Century Great Britain	<p>Understanding of the illegality of homosexuality in the early part of the 19th century in Great Britain through Newspaper reports and criminal charges. This contributes to the research of Professor Charles Upchurch of the History Department as he writes his second book. As homosexuality is more accepted in our society it is important to understand the beginning of reforms made in the legal system that move towards or deviate from this progress. By looking through the Times Digital Archive 1785-1985, looking for three key words Sodomy (or fodomy), Unnatural Crime, and Abominable Crime between the years 1785-1805 one can see numerous instances of men charged or even given capital punishment for homosexuality. Later implementing the same method in the British Newspaper Archive can confirm cases that appear relevant based on the articles found in the Times Archive, using the same key words and specific names. This resulted in an understanding of inaccuracies in the databases for finding reliable or conclusive evidence. However, it did prove that not only was homosexuality reported on often there were common legal procedures and punishments for such " crimes." By looking through primary source articles about the illegality of homosexuality during the 19th century, this was able to show social taboos associated with class and sexuality. Additionally, it provided a point to question why homosexuality was a larger social issue for men than women in a traditional patriarchal society.</p>	Dr. Charles Upchurch	History
84	Anthony Zeng	Afternoon	The Gamification of Cognitive Training: Older Adults' Perceptions of and Attitudes toward Digital Game-Based Interventions	<p>Mobile cognitive application games have become increasingly more popular. Advertised as brain training games, some of these applications claim to improve cognitive ability (e.g. reaction time). This claim has become controversial because the effectiveness of the game-based training games has not been measured. This study evaluated the perceptions and attitudes of older adults (ages 65+) as they played through some of these cognitive games. The participants played games (experimental or control games) on a tablet they took home for one month. Their attitudes and perceptions of the games were recorded in a daily journal. Their beliefs about whether or not the games improved their cognitive ability were based on if the game was challenging and entertaining to them. The journals showed clear differences in attitude towards the different types of games. Older adults are more drawn to familiar games (puzzle games) compared to digital brain training games that have demonstrated some success in the literature. Game enjoyment was closely related to the motivation to play the games every day. The more interactive the game, the more likely the participant would continue to play. Participants were thus more likely to believe that the game would improve their cognitive ability if the game was more challenging. Future improvements to this study would be an increase in the take home duration and more options for games.</p>	Dr. Walter Boot	Psychology

85	Eliezer Penias	Afternoon	Technology: Assisting or Distracting	<p>The purpose of this research project was to determine how students felt about technology use in the classroom. Conducted at Florida State University, our main objective was to make a summarizing statement following the majority opinion at the university, in regards to computer, tablet, and cellphone use in a classroom setting. After researching articles on the subject, we found that certain applications, such as Facebook, did in fact prove to be a major distraction to students. In addition, research found that students constantly checked these applications throughout class out of sheer habit. After gaining more knowledge on the subject, it was time to conduct our own research. With the aid of Facebook and FSU Qualtrics, we were successfully able to send off virtual surveys to peers throughout the university. With 116 responses to our survey, we found that although the majority of students did use their technological devices to check social media during class, an equally large percent of students used those devices to take notes during class. We originally did not intend to get such a high number of responses to our survey, nor did we expect that many students to take notes on their computer in class. However, based on our research we found that although a large amount of students do find technology to be a distraction in the classroom, a majority of students would prefer that we keep technology in the classroom due to the benefits that it provides to the student.</p>	Ms. Jisue Lee	Information Studies
86	Chandler Yap	Afternoon	Childhood abuse, religious involvement, and substance abuse in lifetime in Latino-American men.	<p>Childhood abuse and subsequent substance abuse are significant behavioral health problems. Few studies, however, have examined whether this early trauma exacerbates adulthood substance abuse, viewed as a negative coping strategy, among Latino men, the largest male minority population in the United States. Further, little is known about whether cultural and behavioral resource factors could moderate any traumatic impact. We investigated these associations among Latino men (N=1,127) in a nationally representative sample, using three-step logistic regression analysis and controlling for known demographic and acculturation predictors. The results identified elevated rates of past year (4.6%) and lifetime (16.9%) substance abuse. Childhood physical abuse, but not sexual abuse, predicted lifetime substance abuse. Frequent religious service attendance was inversely associated with substance abuse; whereas religious coping, age, being US-born, higher acculturative stress, and perceived discrimination were positively related with substance abuse. Findings may contribute to the design of culturally sensitive behavioral health care.</p>	Dr. Amy Ai	Social Work
87	Mesopotamia Nowotarski	Afternoon	Solar Panels	<p>A novel dye in dye-sensitized solar cells (DSSCs) consisting of Ruthenium-phthalocyanine-peryleneimide (RuPc-PI) has been integrated into the TiO₂ electrode through sensitization. In comparison with previously studied DSSC devices made with either RuPc or PI dye, the power conversion of efficiency of our dyad system is much higher with an internal efficiency of 29% and an external efficiency of 1.2%. The incident-photon-to-current-efficiency (IPCE) of this dyad solar cell exhibits a maximum current where the individual dye has strong optical absorption. The high power conversion efficiency obtained in this dyad system due to the co-sensitization of two dyes ultimately facilitated better charge carrier separations.</p>	Dr. Harold Kroto and Dr. Steve Acquah	Chemistry

88	Hannah Madison	Afternoon	Criminology's Contribution to the Overall Human Rights Movement	<p>This research covers how criminology as a subject has contributed to the overall discussion and solution to various problems in human-rights related fields such as terrorism, trafficking, torture, genocide, state crimes, and theoretical views on criminology. Articles in the database created were collected from criminology journals which Florida State University has subscribed to. The collection of data on each article includes subject, author, date published, and the journal in which the article was published. Once complete, the database will contain a map to what human rights topics are being discussed in the criminology field, who is writing on the subjects, what specific journals tend to publish, the time period which a subject is being studied, and a general overview of the human rights movement in the scope of criminology. Prior to collecting the hundreds of articles within the database that has been created, Dr. Maier-Katkin hypothesized that criminology did little in relation to progress in the human rights movement. The research conducted is meant to affirm or deny the hypothesis and go further to generalize exactly how criminology has contributed to human rights as a subject. After reading and sorting through the articles collected, the researchers found that the hypothesis was mostly incorrect- there was much more research pertaining to the human rights movement in criminology journals than expected. There is, however, plenty of room for further research and theoretical examination. The database contains a significant overview of criminological research within human rights topics from 2000 until the present.</p>	Dr. Daniel Maier-Katkin	Criminology
89	Michelle White	Afternoon	Assessing Reverence in Contexts: A Positive Emotion Related to Psychological Functioning	<p>Deeply rooted in Western and Eastern civilization, reverence is a cardinal virtue that embraces meaning and purpose in life. It is also a self-transcending positive emotion, associated with specific worldviews that may determine the context in which an individual senses it. To date, few psychological studies have addressed this concept. To address the gap, we drew two different study samples to validate a contextualized Sense of Reverence scale (SOR). Capitalizing on the cardiac data of older patients, Study I extended the validation of the twofold scale, reverence in religious and secular contexts (R- and S-reverence), by correlating it with measures of general religiousness and positive attitudes. Study II confirmed the structure and further validated the scale in healthy Canadian and U.S. students. Using structural equation modeling, Study II evaluated differential associations of R- and S- reverence. S-reverence was related to spiritual support from nontraditional sources, a belief in death as a natural end, and psychological functioning connected with growth, as indicated by openness, creativity, and personal growth. R-reverence was associated with spiritual support from traditional sources, a belief in a rewarding afterlife, and psychological functioning connected with adjustment, as indicated by agreeableness, conscientiousness, and personal adjustment. Both forms of reverence were positively related to self-transcendence.</p>	Dr. Amy Ai	Social Work

90	Chelsea Pena	Afternoon	Entrepreneurship in Africa: Identifying the Frontier of Impactful Research	<p>Social enterprises throughout Africa are generally used to promote the country's development as well as an attempt to diminish poverty. Despite steady growth in gross domestic product (GDP) and an increase in social enterprise rates, overall GDP by country remains among the lowest in Africa relative to other regions of the world. Due to this fact, scholarly interest in African social enterprises has emerged; however, there hasn't been any literature reviewing this topic in nearly 15 years. In recognition of this void, this review aims to systematically summarize the current state of the literature regarding entrepreneurship in Africa. The qualitative data collected in this research comprised of 122 articles sectioning the literature into three broad schemes: The African Entrepreneur, The Entrepreneurial Firm, and Macro Socio-Economic Conditions. Within this framework, the review examines entrepreneurial attributes with regard to ethnicity, gender, age, education, and work behavior. Data was collected by reading and systematically categorizing all the information and findings from the top journals. In an effort to facilitate future work, this research highlights knowledge gaps concerning the atheoretical nature of most of research previously examined. This review concludes by considering what needs to be done to improve the quality of studies aimed at better understanding the attributes, antecedents, and outcomes relevant to social enterprises in Africa.</p>	Mr. Richard Devine	Business
91	Joshua Messier	Afternoon	Pure Blue Light-Emitting Organometal Halide Perovskite Nanomaterial for Application in LEDs	<p>Recently, a new light has been shining on the research of organic-inorganic hybrid perovskite nanomaterials, given their efficient photoluminescence and interesting photophysical properties. A class of direct bandgap semiconductors known as organometal halide perovskites have received much attention for their low cost and high performance applications in optoelectronic devices, with emphasis on photovoltaics and light emitting diodes (LEDs). These nanoscale crystals are classified as perovskites due to their ABX₃ chemical formula, where " A" and " B" are organic and inorganic cations, respectively, and " X" is a halide anion. Since these solution processed nanomaterials have the ability to be " color tuned" , the perovskites can be emissive throughout the visible to near-infrared regions. In our previous works, it was realized that tuning the color of these perovskite nanomaterials could be achieved by altering their organic cations, which may produce a number of altered crystal structures that will emit a desired range of light. The main purpose of this research project is to optimize the synthesis of a two dimensional (2D), pure blue light-emitting perovskite nanomaterial known as Methylammonium lead bromide-chloride, as well as to characterize the chemical and photophysical properties of its structure in order to engineer efficient and highly emissive nanomaterials for the fabrication of light-emitting devices.</p>	Dr. Biwu Ma and Dr. Zhao Yuan	Chemical & Biomedical Engineering

92	Melissa Newsome	Afternoon	A Comparison of Lipids, popc and pcpg, With the Peptide MPER Using Isothermal Titration Calorimetry	<p>Biophysics is a field that aims to study life at every level from molecular to environmental. Molecular interaction and binding between cell components is a key to better understanding how cells work. Isothermal titration calorimetry (ITC) is a method of experimentation used to find a direct measurement of the heat generated or absorbed when molecules interact. These experiments can test many types of interactions, such as a protein and small molecule, a protein and another protein, a protein and DNA, and many other combinations. In this experiment, the interaction between a peptide, MPER, is tested with two types of lipids, popc and pcpg. Both lipids have different compositions, so they have a different reaction to MPER. The goal is to compare the results of both lipids to see the difference in the binding to MPER. Small injections of the lipid are made into the peptide over time, and the amount of bonding can be seen with the heat emission and absorption, so the exothermic and endothermic reactions let scientists compare the amount of bonding that is occurring for each injection. The presence of cholesterol in pcpg, in comparison to no cholesterol in popc, should lead to a significant difference in the bonding pattern. This is an ongoing project to observe the interactions between different peptide and lipid combinations.</p>	Dr. Likai Song and Mrs. Zahra Hayati	Biophysics
93	Alexa Serino	Afternoon	Mating Competition: Dating Service Study	<p>The purpose of this experiment was to observe the effects of mating competition in females. This was done by telling participants they were taking part in the testing of a new dating service at FSU. The participants would rate the attractiveness of people based on their " dating profile" pictures. Half of the participants were told there were a lot more women on the dating site and others were told there were much more men. If more women were believed to be on the dating site, the competition for mates was higher. It was hypothesized that when women perceive the competition for mates to be intense, they will desire a thinner body than when they perceive low mate competition. The desire for a thinner body was measured through a survey of the participant before and after the participant felt the competition.</p>	Ms. Tania Reynolds and Dr. Baumeister	Psychology
94	Margaret May	Afternoon	Playing in the Middle Ages	<p>The purpose of this project is to conduct an in-depth study of the presence of the medieval in gaming, RPGs or role-playing games in particular. To study various aspects of the medieval, we played multiple games that were marketed as medieval RPGs including Long Live the Queen, Knights and Merchants, and most notably the latest installment of Crusader Kings, Crusader Kings II. All of the games were played on a Mac OS platform over the course of several weeks. Answers were sought to questions such as which aspects of medieval culture were being appropriated and how might they be edited and repackaged to fit consumer demands and expectations. How are groups such as women and people of color represented and what do these portrayals say about the willingness of game developers and companies such as Paradox Interactive to bend historical accuracy in order to reinforce medieval stereotypes. Once answers to these questions are understood, these games might be used in a classroom setting to provide a more interactive and superior conduit for understanding and learning about the medieval.</p>	Dr. Lynn Jones	Art History

95	Daniel Prewett	Afternoon	Sports Consumption and Overall Well-being	<p>There has been extensive research completed in regards to sports participation and its correlation with well-being and happiness, but one deficit area of research is whether the consumption of sports media (i.e. watching sports through television and watching sporting events in-person) can affect the overall well-being and happiness of an individual. 304 Undergraduate and Graduate students at Florida State University were asked to participate in a six to nine week study, during which they were pseudo-randomly signaled via text message and asked to fill out an online survey describing the current activity engaged in and their current state of well-being. Participants were signaled two to three times per week during various activities to accurately compare the differences in their well-being. We are currently running a correlation in order to analyze the data. It is expected that individuals with higher sports participation but more specifically higher sport consumption will have a greater degree of well-being compared to those who do not participate and consume to the same degree. This will show a positive correlation between sports media consumption and overall well-being and happiness.</p> <p>By showing the above positive correlation, individuals will be able to potentially affect their happiness and well-being by making informed lifestyle and sport consumption choices. Future research could also focus on the disparity between outcomes of sports consumption and whether or not it increases the overall well-being of an individual.</p>	Ms. Jamie Kim	Sports Management
96	Sarah Joyce	Afternoon	Students, Schools, and Social Media	<p>The advent of social media has changed the way adolescents make connections with each other. Today, students are broadening their social circles and connecting with strangers, friends of friends, and acquaintances on social media. Despite not spending much time together face to face, these relations are considered to be friendships. As a result of viewing each others' lives on social media, adolescents feel as if they know one another personally. However, few studies on this topic have been done. Additionally, due to the ever-changing nature of social media, much of the early research published is already out of date. This study is being conducted to determine if social media facilitates relationships in schools and contributes to a sense of belonging, or if connections made through social media promote separation. A survey will be administered to a class of freshmen at the Florida State University School in Tallahassee, Florida. Following the survey, the class will be split into three groups and semi-structured interviews will be carried out. The goal is to outline students' social networks and discover what social media platforms they use to communicate with the various branches of these networks. As well as analyzing the number of " friends" or " followers" the students have on each site and seeing how this relates to the student's perception of their social network.</p>	Dr. Stacey Rutledge	Education
97	Tatiana Gonzalez	Afternoon	Role of the Autonomic Nervous System in the Speech Production of Individuals with Parkinson disease	<p>In acknowledging and testing the relationship between the speech-related autonomic arousal and the mechanisms of speech, varying from congruent to incongruent sentences, this research will attempt to describe how speech production of an individual is affected by Parkinson's Disease. The autonomic response is compared between young adult individuals, old adult individuals and old adult individuals who have PD. The participants are asked to place electrodes around various facial features, including the facial bone, zygomatic bone, and others, in order to produce a wave function displaying their autonomic reaction. They are also requested to read congruent and incongruent sentences, while their bpv, eda, and other autonomic measured were obtained. The results so far are inconclusive, for the reason that the research data is still being collected.</p>	Dr. Megan MacPherson	School of Communication Science and Disorders

98	Emily Jones	Afternoon	Archaic Shells	<p>The research for this project concerns the analysis of various gastropods found along the Cumberland River in Tennessee. It is being overseen by Dr. Peres of the Florida State University anthropology department. These gastropods are samples of shell middens, piles of human waste, which date back to the Archaic period. Several of these species are currently extinct; however, Native Americans in the area used them and many of the samples are found to have been modified. This project is a continuation of the research Dr. Peres led at the University of Middle Tennessee. The samples that were not analyzed were brought to the archaeology lab at Florida State. The gastropods were sorted by species and counted. The data collected is currently being recorded and compared to the results of another sample that was previously taken. This research seeks to answer the question of whether or not the samples analyzed are an accurate picture of the abundance of each species found in the shell middens. The current projection states that the samples collected and analyzed will not accurately represent the amount of species that existed in this environment.</p>	Dr. Tanya Peres	Anthropology
99	Brystin Ivey and Gemma Sunnergren	Afternoon	Through the Lens of David Douglas Duncan: Picturing Iran and South Asia in 1951	<p>As UROP assistants, we are working on part of a larger collaborative project (with Dr. Defne Bilir), to compare the photojournalistic discourses in David Douglas Duncan's images and Life magazine's coverage of Asia (particularly South and Southeast Asia) and Iran, in 1951. Methodology used in this study is Critical Discourse Analysis. Within our methodology, we use van Leeuwen's socio-semantic network on the Social Actors and Visual Representation of Social Actors. By employing Critical Discourse Analysis, this paper looks at the text and visual modes to explain whether ideological position of Duncan and Life is separate and distinct in their representations, and if so, to what extent. The primary interest in this study is to reveal whether their representations perpetuate the Cold War narratives and images of otherness based on the anti-communist ideology that became an integral part of the post-war American foreign policy. This paper is currently in progress.</p>	Dr. Defne Bilir	Communications
100	Caitlin Kelly	Afternoon	Distinctive Symptoms of Suicide by Cop	<p>This project operates on the theory that Suicide by Cop (SbC) is its own distinctive form of suicide. Individuals who engage in this behavior are not simply homicidal" rather, they are unable to end their own lives and therefore initiate the use of deadly force by police officers as a method of suicide. We are currently in the preliminary stages of studying the features of subjects who commit SbC. For methods, we analyzed a sample of police reports (n=76) for themes among SbC victims. We used the program NVivo to create nodes of these themes and coded references for attributes such as " Subject Occupation." We then conducted a frequency count to determine the most common factors recurring among suicide by cop victims. While this study has not yet reached the stage of yielding results, the long-term goal is to uncover the pattern of characteristics among people who engage in this behavior. The implications are that individuals who choose suicide by cop as their method of suicide will harbor their own unique set of symptoms as opposed to people who choose alternative methods of suicide. Preliminary analyses show that the majority of incidents will be initiated by a domestic argument. There will likely be a significant percentage of unemployed Caucasian males in their thirties. Additionally, analyses show that the most of these subjects will elicit deadly force from law enforcement by displaying threatening behavior" typically by brandishing a gun" and will tend to express an inability to take their own lives.</p>	Mr. Matthew Podlogar	Psychology

101	Grace Montgomery	Afternoon	Brazilian Portuguese Diction for Singers	<p>Brazilian classical music and scholarly Portuguese diction has a rich history of linguistic evolution and in recent years there has been a lack of in depth understanding. Dr. Marcia Porter's book, Brazilian Portuguese Diction for Singers, seeks to aid English speakers to learn proper diction for classical singing in Brazilian Portuguese through the use of the International Phonetic Alphabet (IPA) and a deeper understanding of its history. The IPA is the alphabetic system of phonetic notation that is a standardized representation of the sounds of oral language. This enables all languages to be written out phonetically in a universal system that everyone can understand. The methodology of this project included a compilation of recent articles on Brazilian Portuguese diction, history, and singing that were analyzed and translated to English, in order to gain proper appreciation and understanding of Brazilian classical music. The FSU Music Library and online music databases, such as Grove Music Library and Naxos Music Library were used to compile resources (songs, biographies, articles, books) on each composer. The results of the project have aided in the collection and analysis of information for Dr. Porter's book because it illuminated on the shortcomings of recent education in proper diction. The findings are imperative because they make up for the lack of resources for vocal performers to learn Brazilian Portuguese Diction, and an even greater lack of education on Brazilian Classical music and its most reputable composers in the United States.</p>	Dr. Marcia Porter	Music
102	Evan Dacey	Afternoon	stress and relief of firefighters	<p>This study intends to identify the causes of stress experienced by fire fighters. It is well known that firefighting can be dangerous and stressful for the men and women willing to answer the call. We hope that through this study we can better understand how stress impacts the lives of firefighters.</p>	Mr. Ki Woong Cho	sociology
103	Miles Currie	Afternoon	Analyses in Support of the WFIRST Supernova Survey	<p>The proposed Wide-Field Infrared Survey Telescope (WFIRST) supernova survey will measure precision distances continuously in redshift to 1.7 with excellent systematics control. However, the Science Definition Team report presented a idealized version of the survey, and we now work to add realism. Using SNe from HST programs, we investigate the expected contamination from the host-galaxy light to estimate required exposure times. We also present estimates of purity and completeness, generated by degrading well-measured nearby SN spectra to WFIRST resolution and signal-to-noise. We conclude with a more accurate prediction of the cosmological constraints possible with WFIRST SNe.</p>	Dr. David Rubin	Astrophysics

104	Allison Philips	Afternoon	Keeping Them Off the Streets: A Media Analysis of Urban Youth Agriculture	<p>Language plays a powerful role in shaping society's perceptions and stereotypes, and while the media often chooses their language solely with the idea of gaining audience attention, their choices also affect society's discourse about certain populations. This research focuses on examining the language the media uses to discuss youth agriculture projects, particularly those involving African-American male participants, to discern the ways media perception of these projects supports or disrupts pre-existing racial prejudices and structures. In this research, we analyzed varying media articles discussing an urban agriculture project in Tallahassee and noted two general patterns of language: one which emphasized the power of the agriculture projects to " save" African-American youth from the school-to-prison pipeline, and one which focused on the mutually beneficial partnership between the youth and their community. We intend to broaden our research by comparing and analyzing media coverage surrounding a larger scope of urban youth agriculture projects, with the hypothesis of finding a similar pattern of language throughout the country. We then wish to explore, through the use of focus groups, how these media patterns affect the ways African-American youth involved in agriculture projects view their engagement and their identities. Through this research, we hope to shed light on the ways that the language media uses to talk about urban youth agriculture perpetuates racial stereotyping regarding the African-American discourse. In doing so, we aspire to bring attention to the way the media talks about African-American youth and influence future media articles to work to disrupt racialized oppressive structures.</p>	Dr. George Boggs	Education
105	Dounia Elsidawi	Afternoon	Are Trinidad and Guyana Poecilia picta Distinctive Species?	<p>Poecilia picta are known to inhabit two geographical locations, one in Trinidad and the other in Guyana. From the geographical isolation one would think that these two populations would be seen as different species, however that is not the case. Very little is known about these fish "" their behavior, mating habits, ect. One way to support the hypothesis that they are different species is to hybridize them "" that is, put a virgin female from one population with two males and vice versa. By observing changes in behavior (male-male and male-female interaction), as well as the fitness of their offspring, we hope to support the idea that because these populations have been geographically isolated they are also reproductively isolated. Reproductive isolation means that they cannot mate with each other either because their behavior has diverged and females don't respond to males, or that it is impossible to create a viable zygote from the two populations. The number of offspring that survive will tell if the two populations are different. It is predicted that fitness in both the F1 and F2 hybrid generations will decrease "" that is, offspring count will reduce over time. Courtship behavior between females and males is predicted to be similar, however there will be a difference in male-male behavior.</p>	Dr. Kimberly Hughes and Ms. Jennifer Valvo	Biology

106	Alexandra Basili	Afternoon	Kudzu Bug Wing Loading Along an Invasion Gradient	<p>Spatial sorting is the accumulation of certain locomotive genes at the edge of an expanding population. The accumulation of genes occurs as the fastest moving organisms collect at the frontline of the expansion and breed with similar individuals (assortative mating). In expanding populations spatial sorting contributes to evolution as it promotes the breeding of individuals with similar genotypes that would not occur as regularly in random mating. Invasive species provide the opportunity to analyze spatial sorting as their population growth is very rapid. We took observations of <i>Megacopta cribraria</i>, or the Kudzu bug, collected from different locations amongst its North American invasion to test the hypothesis that the wing loading at the front of the invasion would be greater than the rest of the population due to spatial sorting. The dried body mass of the <i>M. cribraria</i> samples was measured. We found a significant difference in dried body mass between the different locations in the invasion. The wing loading for the <i>M. cribraria</i> samples is still being collected. It is clear from the data collected at this point that there is a difference between the populations located at different points amongst the invasion. We discuss if wing loading is the only important factor in the expansion of the Kudzu bug invasion and what our results mean for the process of spatial sorting in species population expansion.</p>	Dr. Nora Underwood and Mr. Andrew Merwin	Biology
107	Betoul Azzeh	Afternoon	Wrong Way Crash Study	<p>Although wrong way crashes (WWCs) do not occur as often as other types of highway accidents, they are more likely to result in severe damage and or fatality than other vehicular accidents. Task 1 examined the characteristics of wrong-way drivers and their decision-making processes over a period of five years. The findings of wrong-way crashes identified that two main factors associated with increased WWC risk are age and drug alcohol impairment. Task 2 utilized a driving simulator and laboratory-based decision task to understand and identify countermeasures to prevent future wrong-way entries and crashes. Since older adults (65+), typically make wrong-way decisions in the daytime, their driving behavior in the simulator was investigated during the daytime, whereas, younger adults were investigated in the nighttime, since this is when most wrong-way decisions occur in this age group. Younger adults completed an auditory continuous memory task while driving in the simulator, while wearing Fatal Vision Alcohol Impairment Goggles to simulate the mental load that may present in those under the influence of drugs or alcohol. The goal was to understand the best cues to employ to drivers of all ages about correct and incorrect interstate entry and exit points so that the safest driving decisions could be made. The simulator explored factors such as speed, braking behavior, and lane deviation to detect driver confusion. The lab-based decision task involved quickly flashing photos of interstate entrance and exit ramps and was conducted to understand the best countermeasures to quickly notify drivers of correct or incorrect entryways. The results of the study indicated that the most effective countermeasures in diffusing wrong-way confusion among drivers was the visibility of Wrong Way (R5-1a) signs, and the presence of other vehicles on the road. Evidence shows that an increased number and greater diversity of countermeasures at entrance and exit ramps may help in reducing wrong-way crashes.</p>	Dr. Neil Charness and Dr. Walter Boot	Psychology

108	Will Ballentine	Afternoon	Meiofauna and Sediment: How Community Structure, Abundance, and Sediment Composition Vary Across Adjacent Habitats.	Meiofauna are the unnoticed and often unappreciated class of organisms that live on and between individual sediment granules. Large population sizes and fast reproduction rates allow them to be integral members of the food chain, and essential to benthic decomposition. Because they are roughly the same size as the surrounding sediment granules, it is no surprise that sediment composition plays a great role in meiofauna community structure and abundance. The focus of this project is to measure abiotic factors and catalog community data in order to better understand how population structure varies both within and between geographically adjacent, but ecologically different habitats. Sediment characteristics are being analyzed via fractionation and percent organics. Population data is being gathered by sorting through sediment and counting and categorizing individual specimens. Finally, the secondary goal of this study is to establish a baseline for long term community monitoring. Given their role as decomposers and their sensitivity to anthropogenic inputs, meiofauna can act as bioindicators for many habitats. Studying the shifts in these communities over time and under increasing anthropogenic impacts may yield useful information about the larger ecosystem.	Dr. Janie Wulff	Biology
109	Deniece Wade	Afternoon	The Effect of Competition on Protist Consumption of Bacteria	Predators experience competition for prey even on the microscopic scale. Natural selection due to competition could cause evolution in favor of traits that increase the efficiency of individuals in obtaining their prey. Does competition between protist predators result in evolution of predation rate on bacteria? We set up and maintained competition experiments in the lab and, after a selection period, separated the protist species. We then used flow cytometry to analyze the rates of predation both before and after the competition period. At this point, we have run pilot samples and determined that it is possible to calculate the consumption rate of the protists using flow cytometry cell counts. After we run and analyze flow cytometry data for our experimental samples, we expect to be able to determine if and to what extent competition between two protist species resulted in evolution of their consumption rates.	Ms. Abigail Pastore and Dr. Thomas Miller	Biology
110	Kamila Toska	Afternoon	Business-Nonprofit Partnerships & Consumer Behavior	This research project explores the relationship between businesses and nonprofit organizations, within the context of partnership or alliance. The project then goes on to explore the accessibility of this information to everyday consumers, and evaluate whether consumers have a shift in behavior when responsible business practices or nonprofits partnerships are recognized. The project hopes to use existing literature from the global discussion of corporate social responsibility to introduce new business formations and to give examples of existing business-nonprofits partnerships. This includes discussion of traditional donation-based corporate social responsibility, the emergence of the benefit corporation and social enterprise, and case studies of successful alliances between the private and nonprofit sectors. The evaluation of consumer behavior is then carried out by conducting a survey of consumers in the population and running statistical analysis on the resulting data to report on any significant relationships that arise. It is the hope of this project to set the stage for a conversation about the future of both the responsible business and responsible consumerism movement. This project could have applications beyond this initial work, to businesses and nonprofits or non-governmental organizations around the world. It is important that businesses know how to appeal to modern consumers, that nonprofit organizations know how to leverage their causes, and that consumers know what they are supporting with their spending dollars.	Dr. Bruce Lamont	Business (Entrepreneurship & Strategy)

111	Matthew Hendrick	Afternoon	The Relationship between Context, Cognates, and Percentage of Errors on Vocabulary Performance of Spanish-English speaking Kindergarteners	<p>Many students in the United States are dual language learners (DLLs), with the large majority being from Spanish-English speaking backgrounds. However, there are many factors that contribute to high variability in language development of Spanish-English DLLs, such as varied amounts and lengths of exposure to each language. Although research has shown that vocabulary is an important component of language development and early measures often predict later academic performance, there is currently no gold standard for measuring vocabulary knowledge of DLLs. Most standardized vocabulary tests were normed with monolinguals and do not account for the variability or the interplay between languages that DLLs experience. Additional research analyzing measures of vocabulary for Spanish-English DLLs is necessary in order to help educators distinguish language learning differences from underlying learning disabilities. This project analyzes items on a standardized receptive Spanish vocabulary measure in an attempt to identify features that may influence performance on particular items.</p> <p>Twenty-six kindergarten Spanish-English DLLs from the Midwestern United States were administered the first half of items from the Test de Vocabulario en Imagenes Peabody (TVIP) via computer. The percentage of error for each item was calculated, and each item was scored for features such as context (i.e. home or school) and degree of phonological similarity to its English equivalent (i.e. cognate status). Preliminary results showed no significant relationship between context or cognate status and percentage of error. Further exploration should analyze additional word features such as frequency in both languages.</p>	Dr. Carla Wood and MS. Rachel Hoge	Communication & Information
112	Sarah Morell	Afternoon	REBOOT laboratory	<p>REBOOT lab was created in an effort to utilize our cultures mass production of waste in a practical sense. REBOOT projects cast a critical eye on technoculture and the logical consequences of the ways in which we produce, consume, and then discard technology. This throw away culture that has persisted for so long augments the idea that human beings disregard their impact on the environment in an effort to make their lives easier. The notion that technology doesn't have to be so dispensable counters humanities hubris all while it aiding the environment. REBOOT lab uses hands on practices that either empower individuals through the repair of discarded technology or convert waste into useful materials. This is done by utilizing various tools to find novel and creative ways to repair objects that would otherwise be thrown away, an overall politically empowering act. Another way our labs goal will be achieved is through converting would-be waste into useful materials, which will be done by melting plastics and using the variety of machinery and tools at our disposal. REBOOT lab overall hopes to provoke discussions that will lead to action and will in turn implement practices that can result in alternative and sustainable futures.</p>	Prof. Rob Duarte	Art

113	Shannon Conley	Afternoon	Looks can be deceiving: Importance of internal structure in sponge identification	<p>Many Porifera are virtually identical when identification relies solely on external methods, however, further examination of each sponges' internal skeleton can quickly separate different species based on the structure and sizes of their spicules. This identification through the underlying structure of a sponge can help clarify order and species distinctions in order to aid in future studies of ecological interactions, medicine, and general knowledge of sponges. In order to exemplify this, two species of sponges, which are visually identical and commonly found in the same areas, <i>Lissodendoryx sigmata</i> and <i>Tedania ignis</i>, were compared visually and then internally. In order to view the internal structure of the sponges, the tissue was first dissolved away with bleach and then the remaining silica spicules were put onto a slide, examined and measured using a compound microscope to determine the species. Through this analysis of sponge spicules, it is shown that although the <i>Lissodendoryx sigmata</i> and <i>Tedania ignis</i> are visually similar on their exterior, their inner structures are notably different, making them easy to distinguish based on skeletal components. These results suggest that sponges should not simply be examined from a visual format but should also be identified using their inner structure in order to remove possible mistakes in identification of different species. With the correct identification of Porifera through the examination of internal structure, ecological, medical, and general research that use sponges can make sure that identification errors do not occur in their studies.</p>	Ms. Kathleen Kaiser	Biology
114	Catherine Cuva	Afternoon	Lexical Diversity in Written Language: Does Number of Different Words Grow?	<p>Language sample analysis helps speech-language pathologists monitor and identify trends in children's language development. Number of different words (NDW) is one measure commonly used in language sample analysis. NDW can be a measure of lexical diversity, or the variety of vocabulary a child produces. There is conflicting evidence surrounding the growth trend of number of different words in elementary aged students (Mills, Watkins, & Washington, 2013; Nelson & Van Meter, 2007). The purpose of this study is to determine if there is a relationship between grade level and average number of different words produced in written language samples constrained to 50 words . Written language samples from randomly selected, independent 1st-5th grade students were obtained from a larger study (Taylor, Hart, Mikolajewski, & Schatschneider, 2013). Language samples were constrained to 50 words to prevent the relationship between NDW and transcript length from confounding results. I compared means and standard deviations of NDW across children by grade for grades 1-5. I found the mean number of different words doesn't consistently increase with grade level. Number of different words was the least stable at grade three and the most stable at grades 1 and 5. Findings indicate the progression of number of different words from 1st-5th grade in written language samples constrained to 50 words may be impacted by other factors. ""</p>	Ms. Kristina Bustamante	School of Communication Sciences and Disorders
115	Carolyn Dang and Taylor Tischhauser	Afternoon	Determining pKa of Ser70 and Lys73 in Wild Type β -Lactamase and the Catalytically Inactive E166A Mutant via Free Energy Simulations	<p>The pKa values of ionizable residues in the active site can be essential to the protein function. In this study, we will employ computer simulation techniques to understand how the pKa values are influenced by protein electrostatic environments, specifically how they can be shifted to facilitate the formation of low-barrier hydrogen bonds. The specific goal of this research is to perform molecular dynamics simulations on protonation and deprotonation transitions of a pair of Lysine and Serine residues in our target enzyme.</p>	Dr. Wei Yang and Ms. Karen Corbett	Chemistry

116	Cara Estes	Afternoon	Reef Fish Analysis between the East and West of Cape San Blas	<p>Fishery scientists from the National Oceanic and Atmospheric Administration (NOAA) Fisheries Lab in Panama City, FL have suggested that Cape San Blas in the Florida Panhandle is a zoogeographic boundary for some species of fish. Over the last decade, these researchers have been analyzing video data on each side of the Cape for population counts on reef fishes and some of their observations have help lead to this study (DeVries et al. 2009). These researchers have noted that the occurrence or abundance of some reef species varies greatly east and west of the Cape. This study was undertaken to determine whether the distributions of reef fishes are affected by the geographic breaking point at the Cape. A large portion (compared to many other oceans) of the Gulf of Mexico consists of live-bottom reef (Thompson et. al 1999), and the fish in these reefs are essential to fisheries and ecosystems. The depth profile of the continental shelf differs greatly on each side of the Cape and could likely be a factor explaining some zoogeographic differences. Analyzing these fish will benefit scientists studying these reef fish in the Gulf of Mexico and lead to the understanding of the complex interactions among these fish and their habitat due to different environmental factors. As well as assist in the regulation of commercial and recreational fisheries to not only benefit the fish populations but also to benefit fishing industries and ecotourism as well.</p>	Dr. Chip Cotton, Dr. Joseph Travis and Dr. Chris Uejio	Biology
117	Paul Eugenio	Afternoon	A Search for Electroweak Production of Supersymmetric Particles using a Final State of 2 Photons, 1 Electron, and Missing Transverse Energy	<p>A search for new physics using data collected by the Compact Muon Solenoid (CMS) detector at the Large Hadron Collider (LHC). The new physics of interest is Supersymmetry (SUSY), an extension to the Standard Model of Particle Physics; in particular, a brand of SUSY in which R-parity is conserved. In R-parity conserving SUSY, Supersymmetric particles are forbidden from decaying into a final state composed entirely of Standard Model Particles. The result of which is that the lightest supersymmetric particle (Lsp) is stable, massive, weakly interacting, and would escape from the detector undetected. This makes the Lsp an excellent candidate for Dark Matter. The resulting imbalance in momentum left by the escaping particle can be measured. This imbalance, known as Missing Transverse Energy (MET), is a key search signature used in this analysis. Unique to this analysis is the requirement of an electron. The question being: How does this extra requirement affect the analysis? This will be compared against the case requiring only two photons plus MET. The goal of this research is either evidence of SUSY or (in the absence of evidence) set a cross-section limit.</p>	Prof. Andrew Askew	Physics
118	Elizabeth Farr	Afternoon	Acoustic and Physiologic Correlates of Singing Register Transition Among Classically Trained Female Singers: Single Note Data	<p>Maintaining vocal stability while shifting between the vocal registers of chest and mixed voice is a challenging task for classically trained singers. Several researchers have completed studies of the register transitions by classically trained singers. The purpose of this study is to better understand the acoustic and physiologic correlates of the vocal tract and larynx activities during a register transition on a single note sung by classically trained female singers. In particular, this study will include evaluation of the Fast Fourier Transform (FFT) from the audio signal data and the EGG cycles around a register transition during singing in the chest and mixed registers. Sixteen classically trained female singers were recorded singing a single note within their register transition as determined from a previous recording of an octave scale that included the primo passaggio. The microphone signal from the singing sample was used to find measurements of frequency and amplitude, and electroglottograph (EGG) electrodes were placed on the thyroid to measure closing quotient (CQEGG) data. The independent variables include the singing training level of each participant. The dependent variables will be the CQEGG and the FFT measurements.</p>	Dr. Richard Morris	Communication Science and Disorders

119	Akram Farran	Afternoon	Does hypoxia signal transduction involve targeted ROS-mediated oxidative base modification (8-oxoG) at G4 DNA elements in maize?	<p>Signal transduction pathways in plants are crucial for responding to environmental and endogenous stresses, such as hypoxia. A recent study implicated G-quadruplex (G4) DNA elements in the regulation of hypoxia and energy crisis pathway genes in maize (Andorf et al., 2014, J Genet Genomics 4: 627). In that study, a model was proposed involving G4 DNA elements as key components in modulating stress response signals leading to altered gene expression patterns. Whether or how G4 DNA functions to control genes in maize is unknown, despite their conspicuous presence in and around genes. In mammalian cells, hypoxia-induced ROS causes DNA damage, but is also associated with site-specific oxidative base modification to produce 8-oxoguanine, 8-oxoG (Al-Mehdi et al., 2012). The 8-oxoG was found to accumulate during hypoxia in the promoters of mammalian hypoxia-induced genes. Interestingly, G4s displayed a sevenfold enrichment for 8-oxoG in a recent genome-wide study (Pastukh et al., 2015, Am J Physiol Lung Cell Mol Physiol, 1, 309: 1367). From these and related studies, M. Gillespie and colleagues (U South Alabama College of Medicine, Mobile, AL) suggest that "the BER pathway links hypoxia-induced introduction of oxidative DNA modifications in promoters of hypoxia-inducible genes to transcriptional activation" (Pastukh et al., 2015). To test the hypothesis that a similar phenomena may occur at maize G4s, we are investigating 8-oxoG dynamics in response to flood-induced hypoxia in maize seedlings. These studies may provide mechanistic insight for understanding how the maize genome responds to abiotic stresses such as hypoxia, with major implications for crop improvement strategies.</p>	Dr. Hank W. Bass	Biology
120	Haysan Garcia	Afternoon	Teaching Consultation Skills Using a Mixed Reality Simulator	<p>As early as the 1970's there has been a comprehensive model for school-based consultation. Over the years there have been various researchers that have sided with the notion that consultation by school psychologists was weak and unstructured, with no specific goals or techniques. Psychologists such as Hazel, and Lineman have concerns that early stage consultation students in graduate school are not receiving the proper consultation training. After searching for better consultation training methods, Newell proposed an idea that future consultants would benefit from. She suggested using a computer based-simulation model to meet consultation based training needs. Newell's ideas lead to the path of the current study. The project involves using a mixed reality simulator in teaching consultation to psychology students their first year of graduate school. Using TeachLive.org, originally for teaching purposes, to improve consultation skills. The purpose of the study is to provide program evaluation data from a technology-enriched learning methodology, used by pre-service school based consultants.</p>	Dr. Kathleen Krach	Education
121	Jamie Anne Mortel	Afternoon	Extending Long-Term Memory Using Multiple Training of Learning That Food is Inedible (LFI) Paradigm	<p>The relatively simple nervous system of the diurnal marine mollusk <i>Aplysia californica</i> proves as an effective model system for studies on memory formation. The most well-studied learning paradigms for <i>Aplysia</i> focus on defensive withdrawal reflexes using non-associative sensitization and habituation, and classical conditioning of withdrawal reflexes. The learning that food is inedible (LFI) paradigm has been used in <i>Aplysia</i> to examine memory from an associative operant learning perspective. The animal is presented netted seaweed that cannot be swallowed, which leads to an association formed between failure of swallowing attempts and the specific seaweed. It is known that a single 25 minute training session of LFI leads to 24 hour memory. Previous studies have reported that adding an additional training session after an initial session may be able to extend memory. Using multiple training sessions of LFI separated by 30 minutes, this project aims to investigate long-term memory at 48 hours and 72 hours.</p>	Ms. Harini Krishnan and Mr. Eric Noakes	Biology

122	Lara Zygala	Afternoon	Precision Photons in the CMS Detector: Using Electromagnetic Showers to Study the ECAL	<p>Photons in data collected from the Compact Muon Solenoid (CMS) Experiment at the Large Hadron collider are analyzed. The data that was selected contains Z-gamma events that have a photon radiated in the final state. The event selection was specifically targeting events that have real and pure photons which was achieved by using a very specific set of kinematic cuts in the event selection process. The electromagnetic showers that occur from these events interact with the material of the Electromagnetic Calorimeter (ECAL). Studying the tomography of the shapes of these showers demonstrates how the showers interact with the ECAL and how the information obtained from the ECAL is reconstructed. The analysis on how these showers interact with the ECAL is both new and of great importance to any search for new physics.</p>	Dr. Andrew Askew	Physics
123	Brianna Griffin	Afternoon	Producing Reporter Gene Constructs for Investigating the Role of G-Quadruplex (G4) DNA elements in Gene Regulation	<p>Genes are known to be regulated by transcription factors that bind to specific cis-acting regulatory elements in and around the genes. Individual genes typically have unique combinations of cis-elements that collectively govern their expression patterns. Co-regulated genes often have nearby copies of the same element. An interesting potential cis-element that has been receiving a lot of attention recently has been the G-quadruplex. G-quadruplex (G4) DNA refers to small, non-duplex, 4-stranded structures that fold up within or across strands of DNA. These structures can be predicted from sequence motifs recognized computationally in genomic sequence. G4 DNA motif distribution analyses show they are prevalent in the genomes of plants, animals and bacteria. In humans G4 DNA is implicated in cancer-related gene regulation. In plants, relatively little is known so far. We recently identified thousands of G4 motifs in stress-response genes of maize, a model genetic plant and major world crop species for feed, food, and biofuel (Andorf et al., 2015 J Genetics Genomics 41:627-647). To further explore the functionality of maize G4 elements, we have begun to make reporter gene constructs with and without maize G4s, using motifs from several important stress responsive genes, including hexokinase4 (hex4), shrunken1 (sh1, sucrose synthase) and hypoxia-inducible related to AP2-2 (hrap2, a transcription factor). An expression vector, pcDNA3.1, with a lacZ reporter gene will be used to assay the effects of maize G-4 elements in the antisense 5' UTR position in E. coli. These constructs will be first tested in bacteria and then in eukaryotic cells, including yeast, plants and animals. Understanding how maize G4s work could shed light on how plant genes respond to stress, with implications for crop improvement strategies.</p>	Dr. Hank W. Bass	Biological Sciences

124	Joseph Guivens	Afternoon	Childhood Abuse, PTSD, and Substance Abuse in Latino Americans Nationwide	<p>Childhood abuse and subsequent substance abuse are significant behavioral health problems. Emerging evidence suggests the considerable need for more investigation of substance abuse among Latino Americans, who constitute the largest minority population in the United States.</p> <p>Our recent analysis found higher prevalence of being abused during childhood among adult Latino American men and women, respectively, which in turn contributed to posttraumatic stress symptoms (PTSS). We also found that early trauma predicted PTSS. It remains unclear whether this early trauma exacerbates adulthood substance abuse, mediated through PTSS, of Latino Americans in life time and in the past year. Accordingly, the present study investigated these associations in this population nationwide. Methods: This research utilized data from the National Latino and Asian American Study (NLAAS), which is the first nationally representative study on the mental health disorders of Asian and Latino Americans (Alegría et al., 2004). Mental health diagnoses in the NLAAS were based on the World Health Organization Composite International Diagnostic Interview (Kessler et al., 1998), similar to the criteria listed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, American Psychiatric Association, 1994). The NLAAS used stratified area probability sampling design. To compensate for sampling bias for the total sample of the NLAAS, Bayesian methods were employed to produce weighted estimates in the NLAAS (e.g., interval estimates from other CPES studies; Heeringa et al., 2004). Our sample included 2,554 Latino Americans aged 18 years or older and residing in the United States. We conducted the Confirmatory Factor Analysis (CFA) to investigate model fit. Path analyses with structural equation modeling (SEM) were also used to estimate the relationship between childhood abuse and substance abuse, with mediating pathway through PTSD. Control variables for socio-demographics and acculturation-related factors were included. Results: Goodness of fit tests suggested that the model was well fitted (CFI = .99, TLI = .98, RMSEA = .02, and SRMR = .01). While childhood physical abuse had a significant direct effect on substance abuse among Latino adults ($\beta = .07, p < .01$), childhood sexual abuse had no direct effect on substance abuse, even after controlling for socio-demographics and acculturation-related variables. Finally, SEM analyses revealed that the full mediation effects of PTSD on both associations between childhood physical abuse and substance abuse and between childhood sexual abuse and substance abuse. More specifically, childhood physical and sexual abuse were associated with higher levels of PTSD ($\beta = .12, \beta = .14, p < .001$, respectively), which in turn led to higher levels of substance abuse ($\beta = .05, p < .05$). Conclusions: This study contributes to the existing body of knowledge by providing the information about the relationship between childhood maltreatment and later traumatic symptom and substance abuse. Additionally, the current study suggests the necessity of culturally sensitive investigation on the mechanism of pathways from childhood abuse to substance abuse among Latino adults in the US.</p>	Dr. Amy Ai	Social Work
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125	Alexa Hatcher	Afternoon	Role of Hsp110 in Mutated Huntingtin Inclusion Body Formation	<p>Huntington's disease (HD) is a heritable, genetic neurodegenerative disorder caused by a polyglutamine (polyQ) expansion in the Huntingtin gene (HTT). While everyone has the HTT gene, only polyQ expansions greater than 40 ultimately cause HD. The expansion of this gene results in terminal misfolding of the Huntingtin protein (Htt) which causes it to form toxic protein aggregates. However, cells employ protein quality control systems to prevent eliminate stresses caused by toxic proteins. One such pathway is the sequestration of toxic protein aggregates into cytoprotective structures called inclusion bodies (IBs). Although IB formation is well established, many of the components required for their formation remain unknown. The mutant HTT model we use contains a 103 polyQ expansion, Htt103QP, and this has been shown to form IBs in yeast. In yeast, Sse1, homolog of Hsp110, is a chaperone protein that aids in the unfolding, refolding, and or degradation of proteins in order to maintain proteostasis. We have found that Sse1 is required for Htt103QP IB formation. sse1^Δ exhibits an IB defect resulting in cytotoxicity and slow growth phenotype. Furthermore, we have found that Sse1 is necessary for efficient lysosomal degradation of Htt103QP.</p>	Dr. Yanchang Wang and Mr. Ryan Higgins	Biomedical Sciences
126	Margaret Hollis	Afternoon	Categorizing various types of flow in a 45-year 4 times daily global weather data set	<p>The purpose of this study is to identify and analyze various types of atmospheric flow using data from a global weather data set spanning 45 years, with measurements taken 4 times daily, by utilizing various computer languages and graphical outputs, including Fortran and GrADS.</p>	Dr. Jon Ahlquist	Earth, Ocean, and Atmospheric Sciences
127	William Howe	Afternoon	A genetic suppressor screen identifies RNA-binding protein SSD1 as a regulator of proteasome subunit levels	<p>The 26S proteasome is the largest and most complicated cellular peptidase complex, and is responsible for the majority of regulated and quality control proteolysis in eukaryotes. The abundance of proteasomes is dynamically altered in healthy cells to match the cellular proteolytic load. However, sustained perturbations to this homeostasis frequently occur in human disease, and disruption of protein turnover promotes or exacerbates numerous human cancers and neurodegenerative disorders. Despite this, very little is known about how the abundance of the proteasome is controlled in vivo. To address this knowledge deficit, we conducted a genetic screen in <i>Saccharomyces cerevisiae</i> to identify novel genes or pathways regulating proteasome abundance. We isolated SSD1 as a high copy suppressor of the rpt6-$\hat{1}$ proteasome mutant, which has reduced steady-state proteasome levels. Our phylogenetic analysis suggests that SSD1 is orthologous to the human DIS3L2 gene, which is implicated in Perlman syndrome, a disease characterized by congenital overgrowth and predisposition to Wilms' tumor. The SSD1 gene encodes an RNA-binding protein with links to translational control. SSD1 overexpression suppressed growth defects in a subset of proteasome mutants tested, indicating a selective mechanism of suppression. Consistent with this selective suppression, overexpression of SSD1 in both wild type and rpt6-$\hat{1}$ yeast increased the protein levels of some, but not all, proteasome subunits, and increased the abundance of specific proteasomal assembly intermediates. Our ongoing studies test the hypothesis that Ssd1 acts as a translational enhancer for select proteasome subunit mRNAs, thereby increasing proteasome levels in vivo.</p>	Dr. Robert Tomko Jr.	Biomedical Sciences

128	Katriana Johnson-Dubytz	Afternoon	3D Printing in a Behavioral Neuroscience Laboratory	<p>Laboratories are typically completely dependent on research tools available on the market and are limited by what is being commercially designed and produced. This is often problematic as research involves precision that is not always accommodated for by pre-existing instruments. We are attempting to see if 3D printing grants more autonomy to laboratories. In the Hammock Social Neuroscience lab, we study the genes and neural circuits of social behavior throughout development, using rodents as a model system. The process of 3D printing in the lab involves identifying needs, designing 3D objects in a digital program, printing and testing prototypes, and refining designs as necessary. Newborn rodents grow rapidly, requiring numerous research tools of different sizes proportional to the growth of the rodents. They are also difficult to handle by hand without introducing variability in measurements. 3D printing gives us the ability to create customized lab tools to help control variability in sample measurements, which we can digitally scale to whatever size is needed. This allows us to efficiently create the instruments needed to accommodate rapid growth. We have printed a variety of objects varying from quick fixes around the lab, such as scalpel handles, to cost-effective alternatives to expensive lab equipment, such as a 3-axis micromanipulator. Our research finds 3D printing to be an economical alternative to other customization processes, and provides immediacy and flexibility in designing and producing products. As we gain access to more elaborate equipment with capability for more precision, our prints will reflect the same complexity</p>	Dr. Elizabeth Hammock	Psychology
130	Adam Kobert	Afternoon	Multi-scale Quantum Mechanics Simulation of Solid State Nuclear Magnetic Resonance Spectroscopy	<p>Being able to use simulations to predict outcomes of specific interactions on the atomic scale without the need for experimental testing of each iteration will greatly advance both the research of new materials such as high capacity batteries, and the manufacturing of chemicals in industry. By finding solutions without having to perform expensive and highly time consuming tests of each iteration materials simulations will become far swifter. Accurately simulating atomic interactions of more than a few atoms or molecules at a time is extremely challenging, mostly due to the high amounts of processing power and time needed. In order to be able to accurately simulate atomic interactions of entire materials on a larger scale we have been using a method based off of the Density Functional Embedding Theory (DFET) to "embed" sections of highly accurate calculations of materials within less accurate (but less computationally intensive) calculations in order to create a highly accurate but efficient way of simulating an atomic interaction in a material. During the project I have been generating Embedding Potentials and testing solutions.</p>	Prof. Chen Huang	Department of Scientific Computing

131	Peter Kreutzer	Afternoon	The Effect of Money on Legislator Efficacy	<p>The project investigates a link between electoral success and in-office wealth in members of state legislatures. This topic is of particular interest as the results contribute to the literature on the influence of extremely wealthy individuals on policymaking. This observation cannot be determined by measuring one variable; rather, there are many factors and implications involved in this discussion. Here, the aim of the research is to determine the strength of the relationship between wealth and legislative ability. We examine this through the lens of a literature on civic motivation. The scope of the research is the Florida House of Representatives, years 2001 forward. Mandatory disclosures were used to acquire demographic information and legislator wealth and income data. Legislative ability was determined by combining the factors of bill word count, bill complexity, and bill efficacy to determine an overall legislative ability score. Only chairpersons of specific congressional committees are looked at for the purpose of this study. Committee selection was discriminatory based on longevity from congress to congress and the volume of legislative output from committee. These specifications reduce systematic variation in the sample. Committee chairs receive an amalgamation of other individual's legislation, and rewrite them at their own discretion. This reduces the random variation in legislation produced by individuals. While some variance occurs in the composition of legislation with assistance from congressional staff, this variation is equal between legislators. The research finds that legislative ability is negatively correlated with wealth and income.</p>	Mr. Kevin Fahey	Political Science
132	Annie Liu	Afternoon	I Know Where Your Cat Lives: Information Privacy and Data Experiment	<p>Social media has become an integral way of communicating in today's society. In result, a myriad of information is exchanged between the parties including images, videos, messages, etc. Most of the time the only thing being asked for in exchange is the user's agreement for the terms and conditions. The problem with agreeing to these terms and conditions is the compromise of privacy. Instagram, for example, makes most of its profits by sharing information like (but not limited to) cookies, location data, usage data, log files, etc. to other businesses like affiliates or big third party advertising partners. IKWYCL encapsulates the duo facets of social media: the fun and entertaining side of it and the status quo of multimillion dollar companies feeding off of decreased privacy. IKWYCL takes a sample of ~1 million cat images uploaded through Instagram and displays them on a world map according to the longitude and latitude coordinates embedded in the metadata. As a way to cast an even larger spotlight on this issue, IKWYCL took a detour from the feline community and is now observing more into the personal use of Instagram by celebrities and regular people. The goal is to find a pattern and make sense of the discrepancies between the collection of age, gender, amount of followers, and geotagging.</p>	Prof. Owen Mundy	Digital Media

133	Nelson Medina	Afternoon	Ghrelin Activation of Neurons in the Lateral Septum Contribute to the Control of Feeding	<p>Feeding is a complex behavior essential for sustaining life whose neural basis is worth understanding. Although a lot is known about how organisms feed to maintain homeostatic balance we still don't have a complete picture of the neural circuits that control eating behavior. The rewarding, or hedonic, aspects of food play an important role in feeding, and yet neural pathways associated with feeding and reward are just being investigated. Understanding the interactions between the hedonic and homeostatic aspects of feeding can give us a more complete model of how the brain controls feeding. In these series of experiments I focused on a previously undermined area in regards to feeding, the lateral septum (LS), because it receives input from the gut and is also interconnected with reward areas. The gut hormone Ghreline is tightly tied to feeding and its receptor has been found on cells in the LS. This made it an ideal candidate to study the role of the LS in feeding behavior. I found that rats with LS cancellations that received a sub-threshold dose of ghrelin for an effect in the ventricle showed an increase in feeding during the light cycle, and a high dose of ghrelin into the ventricle revealed a strong but non-significant trend in cell activation in the LS.</p>	Dr. Diana Williams	Psychology
134	Nat Jones	Afternoon	The Role of the Dam1 Complex in Budding Yeast	<p>In budding yeast, bipolar attachment of chromosomes is essential for sister chromatid segregation. Meaning, microtubules from each pole of the cell must attach to the centromere and generate tension in order to pass into anaphase. Mistakes in this bipolar attachment, such as syntelic attachments from only one pole of the cell and detached kinetochores, activate the Spindle Assembly Checkpoint (SAC) to delay anaphase entry. My work in the Wang lab focuses on the role of the dam1 complex in mitotic spindle formation. Through our work, we have seen that phosphorylation of the dam1 complex by ipl1 kinase prevents the silencing of the SAC (thereby preventing anaphase entry) as well as destabilizes kinetochore-microtubule interaction. My research focuses on the latter of these functions of the dam1 complex, and I am in the process of conducting experiments to generate more evidence to support this idea. These experiments include observing chromosome segregation in wild-type, 3A mutant (dam1 is unphosphorylatable), and 3D mutant (phosphomimetic) cells in differing double mutant forms. After treating these cells with nocodazole, we can observe how cells with dam1 complexes that are not capable of being phosphorylated compare to wild-type cells and phosphomimetic cells in terms of generating correct bipolar attachments.</p>	Dr. Yanchang Wang and Dr. Fengzhi Jin	Medicine
135	Grace Broach	Afternoon	Effects of Stimulation of Nucleus Magnocellularis Neurons	<p>The balance between two neurotransmitters"" glutamate (excitatory) and GABA (inhibitory)""is essential to life. This balance between excitatory and inhibitory is especially applicable in the process of neuronal death following deafness. It has been previously thought that neuronal death in the nucleus magnocellularis (NM) is due to the lack of the excitatory neurotransmitter, glutamate. However, this experiment aims to explore the possibility that this neuronal death in NM is due to the presence of the inhibitory neurotransmitter GABA. Electrical stimulation of NM via the auditory nerve will be used to record the neuronal activity in NM. After recording the activity of NM, the tissue sample will be treated with a GABA-A antagonist in order to measure the extent of the neuronal death; this GABA-A antagonist will provide staining to the neurons, which shows the level of degeneration. Following the theory that increase of GABA contributes to neuronal death, one would expect to see more neuronal death in the condition treated with the GABA-A antagonist. This would show that the GABA antagonist, which decreases GABA, results in worse health of the NM neurons, thus increasing deafness. These findings could be used to better understand the process of deafness to reduce or eliminate the effects of it. If GABA is detrimental to neuron health, then efforts could be made to balance GABA levels in order to slow down deafness.</p>	Prof. Briana Carroll and Dr. Rick Hyson	Neuroscience

136	James Picker	Afternoon	Face Detection with a 3D Model	<p>Many modern facial detection algorithms rely on using a two-dimensional map based on the average proportionalities of the human face. In short, images are run through a detector that uses the model to predict which groupings of pixels correspond to different facial features. One limitation of this method is simply the fact that a digital image is only a two-dimensional representation of three-dimensional object. Effectively, a single two-dimensional map is not sufficient, as proportionalities can appear to be different when faces are presented from varied angles. This requires any face detection method relying on a two-dimensional reference to utilize several of these maps in order to account for the three axes about which a face can be rotated. One promising means of eliminating the bulk associated with having multiple two-dimensional reference models is the have a unified three-dimensional model. This strategy provides a virtually endless number of perspectives from a single model that can be used to predict the features of many faces instead of using multiple models to identify the features of one face. By using a combination of " by-hand" adjustments and machine learning techniques, this three-dimensional approach is being fine-tuned in order to create the highest rates of correct feature detection and the lowest rates of both false positives and missed detections.</p>	Dr. Adrian Barbu	Statistics
137	John Powell	Afternoon	Determining the Value of Private Pharmaceutical Companies Using Data from The US Patent Database	<p>Our project focuses on how to value the number of small private pharmaceutical companies that merge with larger pharmaceutical companies. In order to determine these values, we have been evaluating different data concerning the patents of each private company, these data points include taking from baselines of known value mergers and evaluating the values of each of their patents. The value of each patent can be attributed to a number of variables also being researched from the purpose of the patent, the number of downstream patent references, and the scientists involved with each.</p>	Dr. James Ang	Finance
138	Brian Ransom	Afternoon	I Know Where Your Cat Lives Advertising Campaign	<p>The goal of the main project, I Know Where Your Cat Lives, was to use humor and the medium of cats to convey serious issues in online privacy. This was achieved through the means of garnering geocoordinates from different photos from social media websites with cats in them. These pictures were then posted above the geocoordinates that the photo was tagged with "" often times the owner's home. The aim of this extension to the main project is to critique manipulation in advertising as well as online privacy, and ultimately serve to advertise the initial project in order to increase the reach of the artwork's message. For this purpose, about a dozen facebook advertisements are in the process of being made, along with a kickstarter campaign to fund their production. Since the original project uses self-referential (or "meta") humor in calling to light online privacy issues by taking advantage of flaws in online privacy itself, both the advertisements and the kickstarter campaign will utilize this style of humor as well. The main connection between the critique of advertising and the critique of online privacy is the use of overly personal demographic information by companies with reference to potential customers in order to advertise a product. For this reason, this will be a primary focus of both the ad campaign and the kickstarter intended to fund it.</p>	Prof. Owen Mundy	Art

139	Fernando Ritzinger	Afternoon	Associational resistance and the attack rate of <i>Tephritis signatipennis</i> , <i>Paroxyna dupla</i> , and <i>Tropanea wheeleri</i> on Colorado plant species.	<p>Insects cause lots of damage to plants, which is important in agriculture and in natural settings. Lots of work has focused on what plant traits give plants resistance to insect attack, such as leaf toughness or defensive chemicals. Recently, ecologists have begun testing how insects respond not just to a focal plant, but also to surrounding plants in the neighborhood. Some kinds of neighboring plants can decrease damage to a focal plant, which ecologists call 'associational resistance'. My research project focuses on testing for associational resistance - the likelihood that an important herbivore attacks a plant less frequently based on the kind of its neighboring plants. I collected data on three different species of flowers, which are attacked by flies that eat the flowers' developing seeds. By carefully collecting samples of flower heads and identifying the number and species of flies that were born out of each flower, I hope to discover how different neighbors have an impact of the attacking patterns of flies. Ultimately the goal is to apply associational effects to manipulate attacking patterns of fruit flies and potentially decrease crop damage without the need for pesticides. Additionally, this could help scientists have a better understanding of what factors help patches of flowers remain diverse in the natural environment.</p>	Prof. Brian Inouye	Biological Sciences
140	Savannah Savadel	Afternoon	Immunostaining of ZmNDPK1, a G4-DNA-binding protein, reveals nuclear and cytoplasmic localization patterns in maize tissues before and after induced hypoxia	<p>G-quadruplex (G4) DNA elements are non-duplex DNA structures that occur within chromosomes and at telomeres. G4 DNA is linked to genes associated with cancer and cell-growth in humans but is not well characterized in plants. A recently survey of the maize (<i>Zea mays</i> L.) genome for non-telomeric G4 motifs detected ~ 150,000 of them (Andorf et al., 2015 <i>J Genetics Genomics</i> 41:627-647). G4 motifs were enriched in genes associated with energy stress signaling and pathways. A nucleoside diphosphate kinase (ZmNDPK1) was recently described as the first high-affinity plant G4-binding protein (Kopylov, Bass, & Stroupe, 2015 <i>Biochem</i> 10;54(9):1743-1757). In order to see if ZmNDPK1 was located in nuclei or responsive to hypoxia, we made antisera for cell staining using epifluorescence 3D microscopy. For hypoxia treatments, seedlings were flooded overnight, followed by harvest, fixation, and sectioning for cell staining. A variety of NDPK-staining patterns in slides prepared from normal and flooded plants were observed, including diffuse cytoplasmic signals, small speckles, larger foci, and even long ribbon tube-like structures. Nuclear staining was generally weaker, but could be seen in some cell types, consistent with a possible nuclear G4-related function. The variety of staining patterns and implied dynamics are consistent with what is known in other species for this highly conserved enzyme. Given that a human NDPK homolog, NM23-H2, is implicated in cancer biology and G4-DNA binding, these studies have the potential to shed light on fundamental biological functions with broad implications for both agriculture and human biology.</p>	Dr. Hank Bass	Biology

141	Andrea Schmidt	Afternoon	Sponges and Aquaria: Constructing a Closed System in Which Sponges Can Thrive	<p>Within both the scientific and aquarium communities it is considered extremely difficult to maintain healthy sponges in a closed marine tank. This Honors in the Major project seeks to tackle difficulties with husbandry and compare sponge growth in the tank with sponges in the field. Previous research studies have utilized closed systems in laboratory settings, but most only kept sponges alive in a closed system for several weeks before they perished. This project has maintained healthy, live <i>Halichondria corrugata</i> samples for much longer than any previous study that has utilized a closed tank system. Sponge health has been assessed with comparative growth studies and regeneration experiments. This aquarium system has also been replicated in a scaled down version to determine if volume of water really does matter for long term sponge health. The constancy of the tank environment appears favorable when compared with the extreme variability of the wild. This closed system has also yielded many interesting pilot studies which can serve for a myriad of new avenues to pursue research on the mysterious poriferans.</p>	Dr. Janie Wulff	Biology
142	Raiden Thaler	Afternoon	Analyzing Potential Loggerhead Adaptability Using a Microclimate Model	<p>Sea turtles require very specific conditions to be met in order to successfully reproduce; these conditions include an appropriate depth and temperature for their eggs to incubate within beach nests. Looking specifically at Loggerhead turtles from 4 different sites in Brazil, we will use a microclimate model that takes climatic conditions from each site and uses this data to yield a gradient of sand temperatures at different depths. We will then extract temperatures for relevant depths (50 CM) and graph the temperatures as an average from 5 years of data. Once we have this present day data, we will then input projected climatic conditions and compare the resulting projected graphs to the present day graphs, in hopes of analyzing the impact climate change could have on sea turtle nesting periods. If there is indeed a significant difference in sand temperatures, it is likely sea turtles would be forced to change their nesting period in order to maintain a viable sex ratio in the hatchlings; certain temperature fluctuations lead to an unbalanced ratio, disturbing sea turtle populations. If we find that nesting earlier would preserve a balanced sex ratio, nest patrols and protection could be prioritized earlier in the year, guaranteeing to the best of our ability that a viable generation would hatch from these sites as climate change occurs.</p>	Dr. Mariana Fuentes	EOAS
143	Steven Tolbert	Afternoon	Study of electromagnetic shower topology in proton-proton collisions at $\sqrt{s}=13$ TeV	<p>With pileup becoming an ever increasing concern as the LHC moves towards higher luminosities, new methods for discerning between jets electromagnetic objects must be considered. The research conducted examines data from proton-proton collisions at $\sqrt{s}=13$ TeV with a corresponding integrated luminosity of $\sim 600 \text{ pb}^{-1}$ on the CMS detector at the LHC. The purpose of this research is to examine the topology of electromagnetic showers in order to exploit their topological features as an alternative to current isolation techniques.</p>	Dr. Andrew Askew	Physics

144	Richard Torres	Afternoon	Multi-Component Nanoparticles for Optical Biosensors'	<p>Magnetic nanoparticles (MNP) and gold nanoparticles serve separate, but equally beneficial functions for many biomedical applications. Previous research has combined these nanoparticles to further enhance their capabilities in various tasks such as tumor identification and hyperthermia therapy. The focus of this research is to synthesize and characterize a magnetic nanoparticle for use as optical biosensors based on Nanoparticle-based Surface Energy Transfer (NSET) principles. NSET describes the distance dependent optical interaction between a fluorescent dye and a metal nanoparticle. Nickel nanoparticles 6-10nm in diameter were synthesized in organic solvent and made water soluble through ligand exchange as prepared or after addition of a gold shell. Upon solubility, 5'-C6-dye-SH DNA strands of varying lengths "" 15, 30, 45 mer "" were attached to the golds surface using previously established procedures. Sample verification and NSET measurements were done through absorption and emission spectroscopy. Gold shelled NiNP's proved to be more water-soluble after ligand exchange than unshelled NiNP's. Ligands specific for nickel or nickel oxide surfaces were investigated but were unable to provide stable water solubility due to uncontrolled oxidation of the nickel surface. Gold nanoshells prevented oxidation of NiNP's and provided a stable surface for ligand exchange using known methods. Preliminary data was collected and confirmed NSET coupling and dye-quenching through dipole-induced dye excitation. Further studies are continuing to characterize the Plasmon-dye relationship and establish a usable scale for use as optical devices within Biosystems.</p>	Mr. Ryan Riskowski and Dr. Geoffrey Strouse	Chemistry & Biochemistry
145	Matthew Murray	Afternoon	A Role for the ESCRT machinery in autophagy of the proteasome	<p>Â The proteasome is a large multi-protein complex responsible for degrading damaged or unneeded proteins. Although insufficient proteasome activity has repeatedly been linked to proteinopathies such as Alzheimer's disease, Parkinson's disease, and diabetes, the abundance of proteasomes is frequently elevated in these conditions, suggesting a general loss of proteolytic capacity. Recent evidence suggests that proteasomes can misassemble or become damaged in response to genetic or environmental insults. Whether these defective complexes are recognized and cleared from the cell, as well as how cells dispose of unneeded proteasomes, remains unclear. Using nitrogen starvation-induced proteasome autophagy as a model for proteasome turnover, we performed a targeted genetic array-based screen to identify genes required for proteasome autophagy in <i>S. cerevisiae</i>. We identified a partial loss of proteasome autophagy in yeast lacking DOA4, a deubiquitinating enzyme with roles in maintaining ubiquitin homeostasis and in the endosomal sorting complex required for transport (ESCRT) pathway. Overexpression of ubiquitin in yeast lacking DOA4 did not restore proteasome autophagy, suggesting the defect was linked to DOA4 function in the ESCRT pathway rather than ubiquitin homeostasis. In agreement, a panel of ESCRT mutants displayed defects in proteasome autophagy ranging from partial to complete loss of function. Together, these findings support a model in which the ESCRT machinery is necessary for delivery of proteasomes</p>	Dr. Robert Tomko Jr. and Dr. Antonia Nemec	Biomedical Sciences

146	Abigail Thomas	Afternoon	Targeted deletion of Kv1.3 ion channel causes changes in voluntary exercise in mice	<p>Obesity is a complex and chronic disease that is on the rise. The prevalence of obesity (defined as a BMI ≥ 30) in all age categories has increased the past 25 years in the United States (Villareal et al., 2005). The centers for disease control and prevention (CDC) indicated in 2013 that more than one third of the U.S adult populations are obese, and every state had a prevalence for obesity greater than 22%. Previous studies have demonstrated that the olfactory system is in conjunction with the endocrine system, and works as an internal sensor of nutritional consumption and homeostasis (Palouzier-Paulignan et al., 2012). Thus, disrupting the hormonal signaling in the olfactory system gives rise to metabolic disorders like obesity. Exercise is beneficial for protecting against diseases like cancer, diabetes, cardiovascular problems, and depression (Noble et al. 2014). Previous studies have demonstrated that physical activity enhances cognitive functioning and spatial learning tasks in both humans and animals (Robbers 2014). Similarly, in humans, regular aerobic exercise prevents both hippocampal volume decline and brain tissue loss (Noble et al. 2014). The aim of this study was to determine the effect exercise has on body weight, the rate of glucose utilization, or the relative concentrations of brain-derived neurotrophic factors (BDNF) in an obesity prone (C57BL/6J) and an obesity resistant (Kv1.3^{-/-}) mouse line. Kv1.3^{-/-} mice lack a voltage gated potassium (K) ion channel, are thin with increased metabolism, resistant to diet-induced obesity, and are "super-smellers" in olfactory ability (Fadool et al., 2004).</p>	Dr. Debra Fadool	Biology
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