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ARTS AND HUMANITIES

Humanities Oral Presentations

Name: Michael Khayan Lontscharitsch
Title: *Policies of Exclusion in Post-War Suburbia, University Center 215/216*
Faculty Advisor: Professor Nicole Rudolph
Abstract: How did policies initiated in both the private and public sectors lead to post-war suburbs remaining homogeneous in certain ways? Original proponents of mass suburban housing praised its crucial role in the American Dream, as it acculturated Americans to the middle class through home ownership. Federal policies and alleged consumer preferences may have distorted this path to the American Dream for certain social groups. By barring individuals based on race or socioeconomic class from the resources that can help them and their families grow, private and public policies may have turned suburbia into less a means of achieving the American Dream and more of a barrier that keeps people from attaining it.

The promotion of home ownership instead of renting is the key issue that aggravated some of suburbia's most prominent problems. Concerns about property values, a direct result of home ownership, kept suburbs segregated. The permanence of home ownership in suburbia also contradicted the transitory nature that proponents had praised. Rather than maintaining a focus on young families and children, a population that has more varied age groups would lead to a distortion in this focus.

Though home ownership was the tip of the iceberg, there were plenty of other examples of exclusionary policies. Original contracts from Levittown explicitly kept non-Caucasians from residence, the Federal Housing Authority dictated financing eligibility on both large and small scales of housing developments, and Home Owner Associations would use lawsuits as a means of achieving their ends.

Considering the huge role that these suburban developments were alleged to play in the achieving of the American Dream, their exclusion of some Americans is concerning. With no other apparent way to climb out of the working class, these findings elicit a reflection on today's suburban environment, to see what policy recommendations are relevant based on this history.

Name: Jennifer Lin
Title: *Reconciling Feminism within a Confucian Culture: The Core of Lu Hsiu's Legacy, University Center 215/216*
Faculty Advisor: Dr. Kirsten Ziomek, assistant professor of History
Abstract: Lu Hsiu-lien, known to the English speaking West as Annette Lu, served as the Vice President of Taiwan (the Republic of China) from 2000 to 2008. Her tenure was groundbreaking because it was the first time an opposition candidate was elected to the highest governmental office since the Kuomintang (Chinese Nationalist) takeover of the island in 1949. Lu's political achievements are particularly impressive in light of the Confucian ideology that pervades almost all aspects of East Asian culture. In spite of patriarchal norms discouraging women from pursuing higher education, Lu trained as a legal scholar at National Taiwan University, the University of Illinois, and Harvard Law School. Her time in the United States exposed her to the second wave of American feminism, which would have a tremendous effect on her political identity upon her return

to Taiwan. She became the face of the Taiwanese feminist movement during the 1970s through her writing in editorials, magazines, and books and she helped lead campaigns on behalf of battered women and domestic workers while publicizing the importance of education for women. Her advocacy for women's rights connected her to other prominent political activists and eventually to public office as part of the liberal opposition movement in Taiwan. Ultimately, Lu's success in spearheading a feminist movement in Taiwan came from her ability to synthesize feminist philosophy with traditional Confucian ideas about filial piety and motherhood rather than simply adopting Western feminism.

Name: Joseph Taglienti
Title: *The Experience of Community: Aesthetics and Revolution, University Center 215/216*
Faculty Advisor: Professor Craig A. Carson
Abstract: Kant's transcendental category of community is rendered as a pure concept of the understanding, or an "analogy of experience" through which we may consciously know our world. However, Kant also specifies, that without community, experience itself would not be possible, making community not only the ontological core of what we call "experience," but also every community of experience (unified perception) an experience of community (the co-determinant, reciprocally recognizable relations between self, world, and other). One exists singularly (as one) only because he exists plurally (with another); seen this way, the truth of existence might also be the truth of the political--or the effectuation of the political. The sovereign, who has the ability to effectuate (to make real) the political, is a fundamental presupposition for the foundation of community, for its practical dissemination throughout a people. This people, united by and mediated through the aesthetic "lovely" sovereign body (best speculated by Edmund Burke), is thereby given an understanding of space--and the radical possession of it--producing an area within which they may politicize, radicalize, and ultimately, revolutionize. The freedom taken through community allows for a common language, an aestheticized law, and in the last analysis, the remarkably collective potential within the singular presence of an "us." To effect change one needs to stand in dynamic community with another--this project seeks to unearth the ramifications of the very community which makes such a relationship possible.

Name: Jessica Wells
Title: *Normalizing the Salem Witch Trials, University Center 215/216*
Faculty Advisor: Professor, Michael Christofferson
Abstract: This presentation will aim to show that Salem Massachusetts in 1692 is no different from any other town in the area at that time. This presentation will state other historians' views on Salem and why the witchcraft epidemic happened in Salem. It will also show historians like Paul Boyer and Stephen Nissenbaum's argument of religious issues as well as social and political differences of the town. The author then will go on two show two case study towns, Andover and Durham Massachusetts. The author will show how both towns experienced issues similar to Salem within the time period of the witch trials. Through these two case studies the author will prove that Salem was not the

exception of the time period, but was completely normal for the time with the issues observed.

Arts and Humanities Poster Presentations
Name: Francesco Adriatico
Title: *United Brands of America,* Atrium*
Faculty Advisor: Professor Dale Flashner
Abstract: The class assignment was to create a postage stamp promoting the "Made in America" movement. To do so, I've been researching the Made in America Movement, the brands that are produced in the United States, and where in the country they are produced. During my research I found out that many popular brands are actually completely made in America, so I thought to create a piece of design that would include multiple brands and put together the most famous with the lesser known ones, in order to demonstrate how products made in America can become successful in all the world and how representative of America they can be.

Name: Eric Askedall
Title: *Let Freedom Rock,* Atrium*
Faculty Advisor: Professor Dale Flashner
Abstract: My objective was to create a postage stamp that is focused on the "Made in America" movement, which is dedicated to encourage consumers to buy American made products and most importantly bring American jobs home. Since 1902 Gibson has been an American manufacturer of guitars and other instruments. I created a stamp that shows a Gibson guitar being shined to create that American workmanship feel. I thought it would create an edgy feel to change our iconic quote from "let freedom ring" to "let freedom rock". Gibson has always been known for high quality manufactured instruments and will continue to do so in America.

Name: Rachel Cipriano
Title: *Sweet Land of Liberty,* Atrium*
Faculty Advisor: Professor Dale Flashner
Abstract: When challenged with the idea of creating a "Made in America" postage stamp, I decided to focus on one product, that product being Jelly Belly beans. Jelly Belly™s are a common candy found all over the United States. I decided to create the contour of the United States and fill it with the Jelly Belly™s via original photography. By doing this I am admiring one of the many all American made products as well as spreading awareness of the importance of buying American. When choosing the title "Sweet Land of Liberty", I decided to use a common American slogan that emphasis that this candy is a proud product of America.

Name: Dominic DiGangi
Title: *American Built,* Atrium*
Faculty Advisor: Professor Dale Flashner
Abstract: Made in America production is not only important to the quality of goods we receive, or our effect on the environment; it keeps jobs and money in this country. In my postage stamp project, I wanted to show that buying American made products will bring

back manufacturing and production into this country. By making up the American flag with a variety of tools, I will show the diversity of industry and the advantages of having this product made in our country.

Name: Nicholas Doran
Title: *Mixed and Made,* Atrium*
Faculty Advisor: Professor Dale Flashner
Abstract: When it comes to products being made in America, the immediate thought is monetary. Many people try to think of ways to keep jobs in America while still lining their pockets and they forget about safety. Keeping products in America ensures standards and regulations. I was given the task to create a postage stamp to promote made in America. I did this by photographing a child holding a paintbrush standing over an open can of Benjamin Moore paint. I collaborated this image with paint splatter and created the message of "Mixed and Made" while doing it safely in America.

Name: Alaina Hemlall
Title: *Milled to Preserve,* Atrium*
Faculty Advisor: Professor Dale Flashner
Abstract: The purpose of this project is to make a postage stamp that promotes the idea of "Made in America". The production of goods and merchandise has a huge impact on the environment. Many other countries do not have environmental regulations resulting in a great deal of waste and pollution. Buying American-made products will have a positive impact on our environment and limit a waste of resources; specifically because we have regulations and advancing technology in place. I chose to showcase King Arthur Flour on my stamp because their flour is milled on American soil and promotes the well being of the country. I also used my original monotype print to illustrate an idealized and beautiful countryside scene. That type of landscape is something that we should strive to maintain and preserve.

Name: Rosetta Isnardi
Title: *Eastern and Western Music during the 1600s,* B28
Faculty Advisor: Dr. Professor Devin Thornburg, Professor Sidney M. Boquiren
Abstract: What can be drawn from comparing the music of two independently developed cultures? Certain aspects of music indicate the culture it comes from, including tone, rhythm, counterpoint, performance practices and the use of music itself. Every culture throughout history has had its own rules for music making. During the 1600s, the Baroque style was contemporary in Europe. At the same time, folk music was being traditionalized in the height of the Tokugawa period in Japan. Because of national laws in Japan, foreigners were not allowed to visit the majority of the land; these two cultures had virtually no contact with each other, so their musical ideas were able to develop independently. Both cultures were rich in art and music and had standards set for their culturally recognized artistic productions. Between these vastly different cultures that existed at the same period in history, are there any elements of music that are fundamental or culturally neutral?

To explore this concept, I plan on using academic journals, theory manuals and music history textbooks. I will also analyze musical scores and recordings of

performances played with period-appropriate practices. One of the specific musical elements I would focus on is tonality. For example, certain musical keys have respective meanings that the composers bel ieved would create an underlying mood in Baroque Europe, but these values are not necessarily shared in Japan. I plan on focusing on documents in the field of ethnomusicology to draw the majority of my conclusions about the use, theoretical qualities and common practices involved with the music of these two places. Because music stems from the culture which creates it, a general knowledge of the political, social and economic situation of the area will be included.

Name: Esther Leslie
Title: *Brand of the Free,* Atrium*
Faculty Advisor: Professor Dale Flashner
Abstract: To fulfill the project, which was to design a postage stamp to get people to buy American, I decided to use the concept of the iconic V-J kiss in Times Square. I choose to use this concept because it is a prominent and triumphant part of American history. In creating the kiss in Times Square, I wanted to combine the aspect of human touch with photography hence I drew the background, which also helped to keep the concept of the V-J, while keeping the focus on the two individuals.

In recreating the stamp, I used my own photography and placed the individuals in American Apparel designs to give it a contemporary feel. The title of the stamp is Brand of the Free as it compiled the fact that the American Apparel brand has regulations to deter child labor, and environmental issues while playing off the American anthem.

Name: Griffin Lord
Title: *Let Kids Be Kids!,* Atrium*
Faculty Advisor: Professor Dale Flashner
Abstract: My graphic design class was assigned to create a postage stamp that encourages citizens to buy products made in America rather than ones made overseas. To fulfill the assignment, I chose to negatively emphasize the inhumane use of child labor by foreign factories in an attempt to both raise awareness of child labor and garner sympathy towards children who often have no other choice but to work in factories, many of which are usually unsafe and filled with many kinds of abuse and neglect. For my stamp, I took original photographs of two children, one sitting at a classroom desk and enthusiastically learning, and one stressfully working in a factory. I composed each of the kids next to each other in Photoshop to compare the disparities in these children's lives, and I put a headline at the top imploring people to "Let kids be kids!" and buy American made products rather than foreign made ones that may be manufactured with the help of child labor.

Name: Timothy Moore
Title: *Few jobs for good men,* Atrium*
Faculty Advisor: Professor Dale Flashner
Abstract: The project I am researching for is ultimately about the made in America movement. To do so we have to create a stamp that depicts a message clearly and effectively about the movement, While the made in America movement particularly focuses on products and items made in our country it also focuses on the adverse effects

of buying non-American items. Outsourcing hurts every last person in America, leaving less money and jobs for the all, from the destitute homeless persons to the venerable Marine.

From this I have decided to focus on a another problem deeply rooted in the issue of outsourcing, the fact that some American servicemen are returning home from overseas countries, and are being welcomed with unemployment. There is an unreasonable number of American Vets who are without work after leaving the military, and in my project I am bring attention to it.

In my stamp I will a have a portrait of a Marine in the iconic Marine formal suit, he will be standing at attention but with his hands tugging at his pockets. He will be waving a hoover flag, showing his empty pockets in reference to his lack of money, overall reacting back to the deficit of jobs.

Name: Rachel O'Brien
Title: *Americone Dream,* Atrium*
Faculty Advisor: Dale Flashner
Abstract: This project gives us a way to solve "Made in America" into a postage stamp. For my idea, I have chosen Ben & Jerry's Ice Cream. They are an American-made company based off the American dream, starting from the bottom and creating their own company. To solve this, I have created a stamp titled "The Americone Dream". I have chosen this title because it is also the name of one of Ben & Jerry's Ice Cream flavor. This also resembles buying American Products, as well as jobs created in America. The photography is all my own, using my friends as models, as well as the Ben and Jerry's Ice Cream cone as a prop.

Name: Lisa Pastore
Title: *Interdisciplinary Thinking through Art and Design Education STEAM Curriculum,* B29
Faculty Advisor: Professor Cindy Maguire
Abstract: Is STEAM a viable component of K-16 art and design education programs? There is growing interest in moving from STEM (science, technology, engineering and math) to STEAM (the inclusion of art and design in STEM), and new programs in STEAM are being developed in K-16 schools across the country. However, to date, the empirical research of this approach in art and design classrooms is only in its beginning stages. Art-based research can be defined as the systematic use of the artistic process as a primary way of understanding the ways by which students learn. My research focuses on utilizing art and design education to inspire students across multiple disciplines. Using a case study approach, I will present an art and design lesson which students ages 6 to 10 participated in during a summer art camp in New York City. As part of the lesson, they created low-tech robots that acted as random drawing machines' using analog motors, found objects, recycled materials, and markers. Through this process, students learned to create a uniquely designed robotic sculpture using elements of art and design. The random drawing machine had the capabilities to create a second piece of art in the form of an abstract drawing. Educational benefits and challenges of the program will be discussed, along with suggestions for future teaching and research. Highlights include the importance of making space for choice and tinkering in the classroom, as well as the

fostering of creativity, innovation, critical thinking, and problem solving. Results of the study also include a discussion of the successful merging of convergent and divergent thinking, a skill that is valuable across all disciplines including the arts. Visual documentation of students' works-in-process will be shared along with images of their final projects.

Name: Jamie Rose
Title: *Stacked With Pride,* Atrium*
Faculty Advisor: Professor Dale Flashner
Abstract: To fulfill my Made in America postage stamp I researched Alex and Ani, a company that focuses on different positive energies such as blessing, optimism and passion. Their bracelets empower the lives of the people who purchase them. The more I researched this company, I came to conclusion that Alex and Ani incorporates love, environmentally friendly materials and charity into all of their products. My stamp, "Stacked with Pride" focuses on many bangles stacked on an arm to show a variety of charms. All of these bracelets include a charm that says Made with Love and an image of the American Flag. Alex and Ani is a growing company that continues to show American love and pride.

Name: Kelly Serrao
Title: *Stitched With Pride,* Atrium*
Faculty Advisor: Professor Dale Flashner
Abstract: The purpose of this project was to create a postage stamp based around the topic of "Made in America". There were many ideas that came to mind, but what really stuck out to me was to highlight a product that is solely made in America, by Americans. The company I chose to focus on is a non-profit called *Love Your Melon Foundation*. This non-profit creates hats and t-shirts that are made in America with American materials. The mission of the non-profit is to put a hat on every child who is battling cancer. For every *Love Your Melon* product that is bought, a hat is donated to a child with cancer. I chose to recreate the iconic image of Betsy Ross sewing the American flag. I have modernized this portrait by putting a girl in contemporary clothing and wearing a *Love Your Melon* hat.

Name: Christopher Stahley
Title: *Spark our economy,* Atrium*
Faculty Advisor: Professor Dale Flashner
Abstract: The project that we were given was to create a postage stamp that promoted buying products made in the United States. The first step that I was to research the topic, without research creating a design is nearly impossible. I have decided to solve this project with original photography. The photo that I will recreate was an original photo by a close family friend that depicts Americans working during World War 2.

Name: Jason Wesson
Title: *From Boom to Beyond: The Analysis of Post-Colonialism in Latin American Science Fiction,* B30
Faculty Advisor: Professor Ana Simon-Alegre
Abstract: The genre of "Magical Realism" is a literary style used by Latin American writers to present topics on the continent's colonial past, using fantastical elements in a realist setting, just like the English science fiction drama pushes the boundaries of reality. It has gone from an art form, to an identity for Latin America's roots and cultures, to now a monopolized, formulaic genre.

The beginning of my thesis will be to define Magical Realism. I will then discuss how the genre has shaped the Latin American identity in art, religion, and hierarchy. The theories that I will be using on these texts will be Magical Realism theory, Post-Colonial theory, and Gender studies. The Magical Realism theory will identify the origins of the genre and follow its evolution to the end of the 20th century. The post-colonial approach will critique the influences of colonialism and Eurocentric powers in Latin American identity and tradition. Finally, the Gender studies of these texts will realize the constant gender inequality in a patriarchal society.

The principal authors that will be studied are Alejo Carpentier, Gabriel Garcia-a Mairquez, and Ana Castillo. While Carpentier and Mairquez are considered some of the primary authors of Magical Realism, Ana Castillo functions as a writer and critic of the genre, revealing the lack of progress towards gender equality while other Magical Realist writers focus on the battle against colonial influences.

Although the genre was meant to be a progressive form of Latin American identification in contrast to the European influences, it lacks the inclusion of Latin America's women. Magical Realism has a "machismo" undertone in all of the works prior to the recent criticism, which is presented in Ana Castillo's novels. Other Latin American writers have decided to separate themselves from the genre to look forward to the continent's future, rather than the past, which connects more closely to the definition of science fiction of the U.S. and Europe.

LIFE SCIENCES AND PHYSICAL SCIENCES

Undergraduate Oral Presentations

Name: Sierra Beck, Samantha Muellers, Annie L. Benzie, David W. Parkin, Brian J. Stockman
Title: *Druggability of Adenosine/Guanosine Nucleoside Hydrolase from Trichomonas vaginalis,* Campbell Lounge 4
Faculty Advisor: Brian J. Stockman
Abstract: Trichomoniasis is the most common non-viral sexually transmitted disease. It affects about 170 million people worldwide with approximately 1 million new cases in the United States each year. The disease is often mild but it can concurrently weaken the immune system causing an increased susceptibility to HIV-1 and pelvic inflammatory disease. Current therapies introduced in the 1960s induce the infecting parasite, Trichomonas vaginalis, to create cytotoxic nitro radical anions. However, resistance to these drugs has become increasingly prevalent triggering the need for novel drug therapies. Adenosine/guanosine nucleoside hydrolase (AGNH) belongs to a class of enzymes used by several parasites, including T. vaginalis, for survival. The enzyme scavenges adenine and guanine nucleobases from the host for use in the parasiteâ€™s metabolic pathways. In order to test the druggability of AGNH, an NMR-based activity assay was developed. Although an 19F NMR-based assay was preferred, 2-fluoroadenosine was found to be an extremely poor substrate. Instead, a robust 1H NMR-based activity assay using regular adenosine turned out to be successful. The assay was then used to screen the National Institutes of Health Clinical Collection of diverse drugs and drug-like compounds with known safety profiles. A total of 573 compounds were screened in mixtures of three, and then mixtures with inhibitory activity were deconvoluted to identify the active component. Active compounds with interesting chemical structures were then obtained as solids. After structure verification using 2D 1H-13C NMR methods, IC50 values were determined using dose-dependent 1H NMR-based activity assays. A class of compounds known as flavonoids were identified as uM AGNH inhibitors. These will be further explored using a combination of activity assays and medicinal chemistry to define structure-activity relationships, as well as biological assays to test for antitrichomonal activity.

Name: Breanna Callejas
Title: *Thermal Tolerances of the Italian Wall Lizard (Podarcis sicula),* Campbell Lounge 3
Faculty Advisor: Doctor Heather Liwanag
Abstract: For ectothermic animals such as lizards, temperature has a substantial effect on both physiology and behavior. The Italian Wall Lizard (Podarcis sicula) is an introduced species of lizard that has demonstrated remarkable adaptability when introduced to new regions. Though originally from Italy, this species has since been successfully introduced to New York and California. This study examined the thermal tolerances of 28 P. sicula collected from California. Critical thermal minimum (CTmin) and critical thermal maximum (CTmax) were determined as the cold and warm temperatures, respectively, at which the lizards were no longer able to right themselves when flipped onto their backs.

These temperatures thus define the range in which the animals are able to function; in other words, this represents the range of temperatures in which the lizards are able to forage for food and escape from predators successfully. We compared the thermal tolerances of juveniles (N=14), adult females (N=7), and adult males (N=7) to determine whether temperature tolerances differ among age classes. In the future, the temperature tolerances of this population will be compared to that of a New York population, to determine whether temperature tolerances shift with adaptation to different climates.

Name: Alyssa Costa
Title: *Elongation Enables Aquatic and Terrestrial Locomotion,* Campbell Lounge *2*
Faculty Advisor: Dr. Ward
Abstract: Extreme body elongation has evolved multiple times within actinopterygian and sarcopterygian fishes. While this specialized body plan has been associated with living in highly structured habitats, many elongate fishes are also known to make terrestrial excursions. Here, we investigated how two elongate species, ropefish (Erpetoichthys calabaricus) and eel catfish (Gymnallabes typus), with different types of axial elongation move aquatically and terrestrially. Specifically, we examined how these species use vertical substrate in their environment by conducting aquatic and terrestrial locomotor trials where fish traveled through an array of cylindrical pegs spaced at different intervals. We predicted that ropefish, which have an elongate precaudal region, would spend more time contacting pegs than eel catfish, which have an elongated caudal region. Individuals completed both aquatic and terrestrial trials at two different peg-spacings. In general, both fish were found to move through the peg array similarly to limbless tetrapods. At the smaller spacing, individuals spent more time, on average, contacting a peg during a terrestrial trial than during an aquatic trial. Additionally, more of the body contacted the peg when the animal was moving terrestrially. Despite differences in their axial patterning, ropefish and eel catfish exhibited similar changes in locomotory patterns when traversing the terrestrial environment. However, these species did differ in speed and contact time; ropefish moved more slowly and contacted pegs for longer durations than eel catfish. This study provides further understanding of how elongate fishes can use axial undulation to move on land. In on-going studies, we are examining how these fishes move between environments.

Name: Anthony Limani Brian Kaufman
Title: *Pulsing Frequency Chirped Light at Large Detuning with an Injection-Locked Diode Laser,* Campbell Lounge 4
Faculty Advisor: Professor Matthew Wright
Abstract: We have developed a laser system to generate frequency-chirped light at rapid modulation speeds (~100 MHz) with a large frequency offset. Light from an external cavity diode laser with its frequency locked to an atomic resonance is passed through a lithium niobate electro-optical modulator. The phase modulator is driven by a ~6 GHz signal whose frequency is itself modulated with a 1-100 MHz signal. A second, injection locked diode laser is used to filter out all of the light except the frequency-chirped +1 order by more than 30 dB. Using an RF switch to pulse the lithium niobate electro-optical phase modulator, we have generated 1GHz frequency chirped pulses in 20 ns.

Name: John Mavroudes
Title: *Uniform Magnetic Field Apparatus for Bio-Physics Experiments,* Campbell Lounge 4
Faculty Advisor: Professor Matthew Wright; Professor Eugenia Villa-Cuesta
Abstract: We have constructed a set of 3D Helmholtz coils to study the effects of various magnetic field conditions on the longevity of fruit flies. Our approach will allow us to tune the absolute magnetic field from 0G to 100G in all 3 spatial dimensions. Initial measurements show indicate that we have a magnetic field sensitivity of 10 mico Tesla. We hypothesize that high magnetic field conditions will diminish the longevity of fruit flies and low magnetic field conditions may enhance their longevity based on initial work conducted by other groups.

Name: Chinelo Nnebe
Title: *How Environmental Conditions Can Affect Skull Morphology: A Test Case Using Retinoic Acid,* Campbell Lounge 2
Faculty Advisor: Dr. Andrea Ward
Abstract: The Food and Drug Administration (FDA) identifies all-trans retinoic acid as a Category C chemical that significantly contributes to birth defects; the FDA deems tretinoin-based products unsafe for pregnant women or those trying to conceive. In order to understand the effects retinoic acid has on the development of embryonic skulls, we exposed developing zebrafish embryos to two different concentrations of retinoic acid (10-9M and 10-10M) and recorded the sizes and shapes of their skulls at different stages in their development (at 5, 6, 7, 8, 9, 10, 14, 21, and 28 days). The measurements of these embryos were compared to those of developing embryos that were exposed to 10-5M DEAB (retinoic acid inhibitor), DMSO (control 1), and plain medium (control 2). The results of this experiment will be able to shed more light on the effect that relatively high levels of retinoic acid have on the development of human embryos.

Name: Fatime Qosaj
Title: *The Effects of Atypical PKC on the Differentiation of Kidney Cells,* Campbell Lounge 3
Faculty Advisor: Dr. Alan Schoenfeld
Abstract: Von Hippel-Lindau (VHL) is a tumor suppressor gene that produces a protein, pVHL, which functions to bind to a target protein, HIF-Î±, and then destroy it under oxygenic conditions. HIF-Î±, or Hypoxia Inducible Factor, is an oxygen-dependent transcription factor inhibited by VHL, leading to tumor suppression. A mutant VHL gene causes HIF-Î± to accumulate, inducing activation of various genes that can promote cancer. Harmful effects include renal cell carcinoma, haemangioblastomas, and most important to this study, kidney cancer. pVHL functions by covalently binding an ubiquitin molecule (76 amino acid compound) to a specific target protein attached to the VHL gene. As a result, an ubiquitin E3 ligase complex forms. Once this complex is forms, the cells signal the target to go to the proteasome where the target protein degrades. When VHL functions regularly, an insignificant amount of HIF-Î± is present in the cell and tumors are suppressed. Subsequently, VHL has the potential to prevent cancer by preventing growth factors produced by HIF-Î±. While some of the pVHL's properties may be due to regulation of HIF-Î±, there may be additional functions of

pVHL. pVHL has also been shown to bind to atypical protein kinase C (PKC). The target protein studied in this experiment, atypical PKC, has been hypothesized to play a cooperative role with VHL, instead of the antagonistic role apparent in the HIF-Î± protein. An RNA interference technique was conducted on the different kidney cells lines. In this process, we have attempted to silence endogenous atypical PKC levels in the cells lines by infection of retroviruses coding for short hairpin RNA targeting PKC zeta and iota (isoforms of atypical PKC). This procedure was done in 786-O renal cells that either lack VHL or have VHL reintroduced. Using these cells, it will be possible to understand if lowering the levels of atypical PKC would hinder or help VHL with regards to phenotypic changes in kidney cell differentiation.

Name: Roger Sanguino Walishah Ahmadi
Title: *Rapamycin's Effect on the Metabolic Rate of Drosophila melanogaster,*
Campbell Lounge 3
Faculty Advisor: Dr. Eugenia Villa-Cuesta;Dr. Heather Liwanag
Abstract: Dietary rapamycin treatment has the ability to both promote health and lengthen life span in mammals and invertebrates. Recent experiments in isolated mitochondria have shown that the beneficial effect of rapamycin might be mediated by changes in mitochondrial metabolism that improve mitochondrial performance. These effects are dependent on the nutritional status of the organism. However, the impact of this in vitro mitochondrial effect has not been studied on whole animal metabolic rate. Therefore, in this study we want to address whole animal metabolic rate of flies fed rapamycin in different nutritional conditions. We fed Drosophila females with two hundred micro molar rapamycin added to a 2% 8% and 12 % yeast caloric diet, flies were exposed to the rapamycin treatment for one, three, six and ten day intervals.

The data indicated that in longer exposure to rapamycin, oxygen consumption decreases significantly, mimicking conditions that of starvation. Since previous studies showed that free fatty acids were less abundant during longer exposure to rapamycin, we hypothesize that our data can be explained by decreased lipid availability at that time point.

Our results further corroborate previous findings that rapamycin has an effect on mitochondrial metabolic pathways. Therefore future experiments can analyze the metabolic rate of different mitochondrial strains of flies exposed to rapamycin. Overall this project will help build an understanding of the best circumstances for rapamycin treatment in order to increase health span.

Name: Neha Sharma
Title: *Effects of Submergence on the Thermal Function of Pinniped Fur,*
Campbell Lounge 3
Faculty Advisor: Dr. Heather E. M. Liwanag
Abstract: Pinnipeds are a group of marine mammals with three extant families: Otariidae, which includes fur seals and sea lions; Phocidae, the true seals; and Odobenidae, the walrus. They are unique among marine mammals because they spend time both on land and in water, and because they use two forms of insulation, fur and blubber. Fur and blubber thicknesses are variable among the pinniped groups: fur seals

have dense, waterproof fur and a moderate blubber layer; sea lions have non-waterproof fur with a thicker blubber layer; phocids have thin, non-waterproof fur with very thick blubber; and walruses have almost no fur and the thickest blubber. Thermal conductivity, which is how easily heat passes through a material, is similar for fur seal and sea lion pelts, whereas phocid seal pelts have higher conductivity and therefore reduced function in air. However, the thermal function of the pelt in water has never been quantitatively compared between groups. This study examined the effects of submergence on the thermal function of pinniped pelts by measuring the thermal conductivity and thermal resistance of otariid and phocid pelts in water. Under conditions of submergence, fur seal pelts (N=17) had the lowest thermal conductivity; sea lion (N=21) and phocid (N=9) pelts had significantly higher thermal conductivities ($P<0.001$). Taking fur thickness into account, fur seal pelts had the highest thermal resistance in water ($P<0.001$), whereas sea lion and phocid seal pelts had lower and nearly equal thermal resistance values. Although fur seal and sea lion pelts function similarly in air, the ability of the fur seal pelt to trap air while submerged makes it a superior insulator in water. In contrast, sea lions and phocids must depend on their blubber for insulation when submerged. Overall, this has implications for the evolutionary transition from fur to blubber in these groups, especially within the Otariidae.

Name: Tara Shea
Title: *Structure-activity relationships of prazole fragment inhibitors of T. vaginalis uridine nucleoside ribohydrolase using NMR-based activity and binding assays.*
Campbell Lounge 4
Faculty Advisor: Dr. Melissa A. VanAlstine-Parris; Dr. Brian J. Stockman
Abstract: The potent proton-pump inhibitors omeprazole, pantoprazole, and rabeprazole have been previously identified as Î_M inhibitors of T. vaginalis uridine ribohydrolase (UNH). These compounds provide a starting point in the development of novel antitrichomonal agents. As a first step in reengineering the compounds to be nM inhibitors of UNH, structure-activity relationships for fragments of the prazole compounds have been determined. The parent prazole compounds consist essentially of substituted benzimidazole and pyridine rings separated by a methylsulfinyl linker. Substituted benzimidazole and pyridine rings selected to represent the structural space around each of the two halves of the prazole parent compounds were obtained commercially. Fragments where tested for activity using an 19F NMR-based activity assay at concentrations of 500 Î_M and 1 mM. The fragments were also tested for UNH binding using WaterLOGSY 1H NMR experiments. Eight fragments exhibited weak inhibitory activity while two fragments exhibited stronger inhibitory activity, namely 2-(methylthio)benzimidazole and 2-(chloromethyl)-3-methyl-4-(2,2,2-trifluoroethoxy)pyridine. Five of the fragments, including both of those with strong inhibitory activity, gave WaterLOGSY signals indicative of binding to UNH. The activity and binding data for 2-(methylthio)benzimidazole is interesting in that it was the only fragment tested that contained a sulfur substituent in the same location as the parent prazole compounds. In order to test the requirement for a sulfur substituent at this position, the prazole compound 1-(1H-benzimidazol-2-yl)-2-phenylethanol was synthesized. This compound was found to be active as an inhibitor, suggesting that the

sulfoxide is not required for activity. Oxidation of the alcohol group is expected to improve inhibition further. This synthesis strategy will ultimately be utilized to link the substituted benzimidazole and pyridine rings with the best activities.

Name: Rohit Singla
Title: *The Effect of Retinoic Acid on Jaws and Teeth of Axolotl Salamanders,* Campbell Lounge 2
Faculty Advisor: Professor Andrea Ward
Abstract: Retinoic Acid (RA), a derivative of Vitamin A, is a gene regulator which controls various biological factors in organisms, from spermatogenesis in humans to the number of vertebrae in zebrafish, and everything in between. This research experiment focused on the effect of RA on the jaws and teeth of axolotl salamanders. It was hypothesized that increasing the concentration of RA will decrease the number of teeth and will decrease the length of the lower jaw. Three different concentrations of RA (10E-9, 10E-10, and 10E-11) were used as well as three different concentrations of DEAB 10E-5, 10E-6) and 10E-7). Since the DEAB is an RA inhibitor, it was expected that if increased concentrations of RA decreased the number of teeth and size of the lower jaw, then increased concentrations of DEAB should increase the number of teeth and the size of the lower jaw. Experimenting with different RA concentrations can produce a wide range of different results.

Graduate Oral Presentations
Name: Braulio Assis
Title: *Genital size and reproductive success on a spider,* Campbell Lounge 1
Faculty Advisor: Dr. Matthias Foellmer
Abstract: The adaptive significance of reproductive behaviors as they relate to the function of genitalic traits is of great interest to behavioral and evolutionary ecologists, given the poorly understood evolutionary divergence of genitalia, combined with a pattern of negative genital allometry. Spiders have become model systems for the study of reproductive behaviors, especially regarding sexual selection and sexual conflict, because of their unique paired reproductive morphology. We investigate sperm transfer success during copulation in the highly sexually size dimorphic orb-weaving spider Argiope aurantia. The number of sperm cells transferred was modelled as a function of copulation duration, different male and female genital traits, and male and female body size. We found that the sperm transferred increased with increasing copulation duration, male body size and female spermatheca size, while none of the other genital traits were significant predictors. Although copulation duration is very short in this species (median = 2.1s), males face a trade-off between staying in copula and risking being cannibalized, because this risk increases with increasing insertion duration. Importantly, the size of the relatively large females, mediated through spermathecae size, appears to limit the number of sperm which can be transferred. This contrasts to the current view that with increasing sexual size dimorphism, the size of the female reproductive tract and sperm storage organs increase disproportionately compared to the males', setting the stage for necessary multiple matings by females and therefore the evolution of adaptations to avoid sperm competition in males, such as the wide-spread mating plugs in spiders.

Name: Dan Dong
Title: *Investigate VHL and PKCÉ Relationship in 786-O Renal Cells by Silencing PKCÉ level,* Campbell Lounge 1
Faculty Advisor: Dr.Alan R. Schoenfeld
Abstract: von Hippel-Lindau (VHL) name after German ophthalmologist Eugen von Hippel and Swedish pathologist Arvid Lindau. Since the term VHL debutes in 1936 ,its name always accompanied with disease, and frequently appeared in several tumor syndrome affecting many systems from circulatory system to urinary system. Until 1993, VHL's research experienced a big breakthrough by it has been confirmed as a tumor suppressor gene. Then, the following studies flourished as Knudson's "two-hit" hypothesis of VHL gene , genotype-phenotype correlation in VHL disease and etc. Among which, VHL gene and its potential substrate relationship is one of hottest spot. Atypical protein kinase C (aPKC) is one of the VHL gene potential substrates. aPKC is a member of protein kinase C(PKC) family which involved in many cellular functions such as cell signal transduction, differentiation and cell growth. aPKC contains two isoforms in humans: PKC iota(Î¹) and PKC zeta(Î¶). At present, there are two hypothesis of VHL and aPKC relationship. One proposes itâ€™s a negative relationship (VHL mediate a ubiquitination degradation of aPKC. The other proposes it's a cooperation relationship (VHL and active aPKC promote some of the same cellular phenotypes). As my study is one part of our general study, my experiment just focus on relationship between PKCÎ¹ and VHL. In general, my study is to use our existing renal cell systems (786-O cells with or without reintroduced VHL) and downregulation levels of PKCÎ¹ (reintroduce specific short hairpin RNA) in these cells to investigate the real relationship between PKCÎ¹ and VHL by examining cellular phenotypes that are common to both VHL and PKCÎ¹, such as Î±5 integrin and Î²1 integrin levels, cyclin D1 and p27 expression as well as ZO-1 localization.

Name: Natalia Gmuca
Title: *Effects of electronic instrumentation on thermoregulation in northern fur seals,* Campbell Lounge 1
Faculty Advisor: Dr. Heather Liwanag
Abstract: The tagging of marine mammals with electronic devices enables researchers to gain a better understanding of their movements and at-sea behavior, thereby facilitating conservation efforts. In pinnipeds (seals and sea lions), electronic tags are typically glued to the animal's fur with epoxy, either directly to the pelage or on a neoprene patch. When tags are retrieved for data collection, they are retrieved either by cutting the fur or by cutting through the neoprene patch and leaving the bottom layer of neoprene attached to the animal. It is thought that the cut fur will be restored or the neoprene patch shed during the molt, but this has never been explicitly investigated. This study examines the effects of tagging and tag retrieval on thermoregulation in northern fur seals. Northern fur seals rely primarily on their fur for insulation in water, and are thus ideal for determining the long term impacts of instrumentation on pelage function and recovery. To assess the thermoregulatory consequences of instrumentation, we are measuring the thermal conductivity of northern fur seal pelts in water for (a) tags glued directly to the fur (N=31) and (b) tags glued to the fur with neoprene (N=31). For each tagging method, we

are measuring the thermal conductivity of the pelt (a) unmodified, (b) with tag attached, and (c) with tag removed. This is the first study to measure the thermoregulatory consequences of tagging in fur seals and will help determine which method of tag attachment best minimizes those consequences.

Name: Nandini Limbaskar
Title: *Characterization and modeling of the effects of CO2 addition and recycling on coal and biomass gasification,* Campbell Lounge 1
Faculty Advisor: Dr. John Dooher
Abstract: Coal gasification is the process of producing syngas as a mixture of carbon monoxide, carbon dioxide, hydrogen and steam from coal, water and oxygen. The resulting syngas can be used as a fuel for the production of electricity. This poster reviews the key concepts of using carbon dioxide from carbon capture and sequestration to assist coal gasification of low rank coal. The study concentrates on large percentage of biomass, which is burned to generate electricity from the waste and help to reduce methane emission with decreasing CO2 emission to the environment. The study also examines the use of carbon dioxide on coal gasification including coal/liquid carbon dioxide slurries for pressurized feed to gasifiers and the effects of carbon dioxide on char porosity and gasification kinetics. Data is presented on rheology of coal liquid carbon dioxide slurries and gasification kinetics is examined utilizing data from thermo gravimetric analysis (TGA) of low rank coals including the effect of carbon dioxide introduced with the feed. Phenomenological modeling is incorporated to determine the reactivity of char in CO2 by isothermal gravimetric analysis at various temperatures. An ASPEN model is used to analyze the implications of carbon dioxide assisted feed on expected performance of a gasifier in an IGCC power generation plant.

Undergraduate Poster Presentations
Name: Walishah Ahmadi & Roger Sanguino
Title: *Role of Mitochondrial DNAs on the Modulation of Whole Animal Metabolic Rate Mediated by Rapamycin,* A1
Faculty Advisor: Professor Eugenia Maria Villa-Cuesta; Professor Heather Liwanag
Abstract: Mammalian target of rapamycin (mTOR) is a protein kinase responsible for cell proliferation and cell growth. When active, mTOR signaling pathway regulates the cell for excess cell accumulation and cell survival. Deregulation of the mTOR pathway cascade by its inhibitor rapamycin has similar beneficial effects as dietary restriction. Previous research done in the lab showed that rapamycin improved in vitro mitochondrial performance by increasing the amount of oxygen consumption and decreasing the production of reactive oxygen species (ROS), suggesting that mitochondria may mediate the health benefits of rapamycin. These effects are dependent on the mitochondrial haplotype of the organism. Here, we are interested in the effect of rapamycin in vivo on the whole metabolic rate of the wild type Drosophila melanogaster and different mitochondrial haplotypes. Preliminary data in the lab showed that rapamycin decreases whole animal metabolic rate. Therefore, we hypothesize that rapamycin will modulate metabolic rate on whole flies depending on the mitochondrial haplotype.

Name: Tameem Ahmed
Title: *The Evaluation Of A Low Temperature Solid Oxide Fuel Cell*, A5
Faculty Advisor: Dr. Horace E. Walcott. Chemistry teacher at Brooklyn Technical High School, scientist at the New York City Department of Education.
Abstract: A Solid Oxide Fuel Cell (S.O.F.C.) is a type of Fuel Cell that obtains its energy from the Oxidation of a type of solid, known as an Electrolyte. Fuel Cells are usually powered by different gases and liquids at normal room temperature, such as Hydrogen and Methane for instance. Solid Oxide Fuel Cells have the capability to give power to various types of objects that are usually compatible with batteries. A regular Solid Oxide Fuel Cell uses a solid Electrolyte, which becomes situated between the Anode (positive) and Cathode (negative) electrodes. The object creates electricity when Air,Fuel, and Heat are available. The byproducts of this reaction are: Heat (which is responsible for continuing this process), Water, and Carbon Dioxide gas. A Proton Exchange Membrane Fuel Cell is a type of Fuel Cell with purposes for transportation, along with different Fuel Cell features that are classified as both motionless and moving. The purposes of a P.E.M.F.C. mainly involve the gases of Hydrogen and Oxygen. The gap between the efficiency and versatility of both types of Fuel Cells is still wide, despite the presence of innovations in Nano-Science to improve the P.E.M.F.C.

I have been testing hypotheses to show that a Proton Exchange Membrane Fuel Cell (P.E.M.F.C.) can be an ecologically clean source of Hydrogen & Oxygen and hypotheses in developing a Low Temperature Solid Oxide Fuel Cell, where Hydrogen is the Fuel and the byproduct of the energy producing Combustion reaction is Water, which is classified as a non-polluting molecule. The energy from the S.O.F.C. can then be used to provide energy for autonomous submersibles and flying drones. There is a significant chemical toxicological difference between the contaminants in a regular Solid Oxide Fuel Cell and a Solid Oxide Fuel Cell that is composed of either Hydrogen or Oxygen. My S.O.F.C. will be evaluated on the following criteria: the percentage of polluting effluents, energy efficiency, and modeling.

Name: Katherine Alvarado
Title: *Rapamycin as a treatment for Succinate Dehydrogenase mutants in Drosophila melanogaster,* A2
Faculty Advisor: Dr. Eugenia Villa-Cuesta
Abstract: Mitochondria are a class of organelles responsible for generating the majority of the energy needed for cellular growth and healthy longevity. So much so, that defects in the mitochondria lead to system failures, which contributes to the development of degenerative diseases. An example is the Leigh Syndrome, a neurological disorder characterized by progressive losses in cognitive and somatic operations, culminating in death. This syndrome is of deficiencies in Complexes I, II, IV, or V of the electron transport chain (ETC) localized along the inner mitochondrial membrane. Although contemporary treatments include vitamins and supplemental therapies, these options have not been effective on a large scale.

Previous data in the laboratory showed that the drug rapamycin enhances the efficiency of Succinate Dehydrogenase (SDH) â€“ the enzyme in Complex II of the ETC, as well as an enzyme found within the Citric Acid Cycle. Defects in the subunit b of SDH

(SDHB), are associated with increased levels of mitochondrial reactive oxygen species (ROS), resulting in shorter lifespans.

This research seeks to determine the potential for rapamycin as a treatment in Complex II related diseases such as Leigh Syndrome. In order to achieve this, we use Drosophila melanogaster mutants sdhB. These mutant strains exhibit higher ROS levels and decreased longevity under normoxia (standard oxygen levels) and hyperoxia (high levels of oxygen). In this study we test the hypothesis that feeding sdhB mutant flies rapamycin will improve their longevity under hyperoxia and normoxia conditions.

Name: Jennifer Babayev
Title: *Neurite outgrowth effects of caffeine on Laminin Induced PC12 cells,* A3
Faculty Advisor: Professor Weeks
Abstract: The extension of dendrites and axons in neurons may be used to rescue damaged neurites in the human body. The purpose of the experiment was to identify whether coffee encourages neurite outgrowth activity in tumor cells (PC12). Coffee was acknowledged to enhance neuritic growth after a 24-hour exposure. Treatment with coffee at 1%, 10% and 100% concentrations have advanced the dendritic growth of the PC12 cells. These results show that coffee promotes neurite outgrowth.

Name: Jennifer Babayev & Avelina Svititskaya
Title: *LC50 of Malathion- Induced Hemigrapsus sanguineus and Panopeus herbstii,* A3
Faculty Advisor: Professor Freeman
Abstract: Malathion is an organophosphate pesticide used to control a wide variety of insects to maintain an agricultural setting. Malathion can be converted into malaoxon, a relatively more toxic compound; however, because of the droplet sizes of the application, there is a minimal exposure to people. Malathion is nonetheless very toxic to aquatic life; thus, this research experiment analyzed the mortality rate of the invasive species, Hemigrapsus sanguineus, and the native species Panopeus herbstii when exposed to various concentrations. These concentrations were calculated in parts per billion, and applied to their environment for a 48-hour period. At the highest concentration of 160,000 ppb the crabs of both species were still alive.

Name: Simona Bekker
Title: *Characterization of the Prazole Class of Compounds as Inhibitors of Trichomonas vaginalis Uridine Nucleoside Ribohydrolase,* A4
Faculty Advisor: Brian J. Stockman
Abstract: Trichomoniasis is a common sexually transmitted disease that is caused by an infection with the protozoan Trichomonas vaginalis. An escalation in drug resistant strains of T. vaginalis makes the development of new therapeutic drugs desirable. Potential targets for new drugs include the enzyme uridine nucleoside ribohydrolase (UNH), which is responsible for the cleavage of the N-glycosidic bond between uracil and ribose. Recently, the proton-pump inhibitors omeprazole and lansoprazole were identified as UNH inhibitors, which convert to reactive thiophiles in the acidic stomach environment and then covalently inhibit proton pumps. However, UNH assays were carried out at pH 6.5 suggesting that the prazole parent structures are the UNH-active species. To test this hypothesis, samples of the prazoles were prepared and incubated for

an hour at pH values ranging from 1.5 to 7.5 and then stopped by raising the pH with NaOH. The amount of parent compound was measured using 1D 1H NMR. The resulting solutions were tested for UNH inhibition in NMR assays run in parallel with fresh parent compound. The results indicated a loss of potency for compounds below pH 5.5, in agreement with the observed loss of parent compound. However, the results were complicated by the presence of precipitate at lower pH values. Addition of the reducing agent dithiothreitol (DTT) was found to block prazole inhibition as well as reverse prazole inhibition after a one-hour incubation with inhibitor. However, DTT did not reverse prazole inhibition following overnight incubation. Native gel electrophoresis suggests that this loss of activity results from loss of the UNH tetrameric structure in the presence of prazole compounds. Collectively, the results are consistent with UNH-mediated formation of a reactive thiophile whereby the prazole compounds are converted to the reactive thiophile in the UNH active site and then covalently modify a free cysteine sulfhydryl in the active site.

Name: Diana Chaykina & Vivian N. Matubia
Title: Nucleation, growth, and kinetic studies of cadmium and tellurium, A6
Faculty Advisor: Dr Justyna Widera; Prof Krystyna Jackowska
Abstract: The nucleation and growth of cadmium and tellurium was studied on glassy carbon substrate at 22 Â°C. Cadmium telluride (CdTe) is an important material for solar cell technology. A novel method for the deposition of CdTe was developed by our group to produce thin films that have the potential to be used in solar technology [1]. In order to be able to better control the synthesis of these thin films, to design and control their properties at the molecular level, the kinetic parameters as well nucleation and growth mechanism of cadmium and tellurium deposition must be studied. Cyclic voltammetry was used to determine the diffusion coefficients of the two species. For cadmium the diffusion coefficient was 2.30*10-6 cm2/s and for tellurium it was 2.66*10-6 cm2/s. Based on i/t chronoamperammetric curves the mechanism of nucleation of both cadmium and tellurium was determined as being progressive. This conclusion was supported by AFM and SEM imaging.

Name: Andy Chen
Title: *Crowding Agents Stabilize the Active Conformation of GAC-Nucleoside Hydrolase,* B1
Faculty Advisor: Dr. Brian Stockman
Abstract: Trichomonas vaginalis is a parasite that relies on nucleoside hydrolase enzymes to salvage nucleobases from the host to survive. Guanosine, adenosine, cytosine-preferring nucleoside hydrolase (GAC-NH) has been previously characterized as a possible salvage pathway in the parasite, yet its kinetic behavior reflects a slow, denaturing process over time in dilute buffer solution. Previous researchers hypothesized that the enzyme is a dimer in its native conformation and eventually denatures in a dilute buffer solution. To assess its behavior in a more “cell-like” environment, GAC-NH activity was determined after adding crowding agents to the activity assay. Researchers hypothesized that the addition of crowders would stabilize the native dimer conformation and maintain enzymatic activity over time. 19F NMR-spectroscopy was used to observe the reaction using fluorinated adenosine as the substrate. Fluorine labeled substrate

allows researchers to monitor the reaction of interest amongst a conglomerate of other unlabeled molecules that are "invisible" to the observer. Various crowding agents such as cytochrome-c, dextran, Ficoll-70, polyvinylpyrrolidone were first assayed with 2-fluoroadenosine to determine if the crowder bound to the substrate. Three of the four (omitting cytochrome-c) would be used with GAC-NH to determine the time required for the reaction to complete. GAC-NH was then incubated with and without crowders up to 25 hours. GAC-NH retained enzymatic activity after 25 hours of incubation in 200mg/mL of crowding agent, while under dilute buffer conditions, the enzyme formed little to no product as only after 18 hours of incubation. In conclusion, GAC-NH retains its enzymatic activity in a crowded environment, similar to those found in the cell. And because of this, crowded parameters may be necessary for future enzyme inhibition studies.

Name: Zachary Fallon
Title: *Characterization of Arginine-Rich Binding in Protein-RNA Interactions,* A7
Faculty Advisor: Professor Maria C. Nagan
Abstract: The Human T-Cell Leukemia Virus Type-1 (HTLV-1) is a complex retrovirus and causative agent of adult T-cell leukemia and tropic spastic paraparesis. The Rex protein in HTLV-1 is essential for the reproduction of new viral particles, acting post-transcriptionally in the nucleocytoplasmic transport of the unspliced and partially spliced viral mRNAs, allowing for the formation of new virions. The Rex protein functions by binding to a region on the viral RNA called the Rex Response Element (RxRE), and belongs to a family of proteins that identify their RNA targets utilizing arginine-rich motifs (ARMs). The NMR coordinates of two mutated peptides containing the ARM of the Rex protein bound to an RNA aptamer were obtained, and molecular simulations were ran for 100 ns. The Rex peptide binds to the aptamer with a significantly greater affinity than to the native RxRE. Multiple models of each mutant are examined, and various parameters and changes in the complex are analyzed to further describe the role of arginine and water in the Rex-RxRE interactions.

Name: Eda Gulu & Christiana Joyce
Title: *Mating Preference Patterns of Female Wild Type Drosophila Melanogaster When Given an Equal Opportunity to Mate with Wild Type Males and Eye Morphology Mutants,* B2
Faculty Advisor: Dr.Galina Fomovska
Abstract: Through the process of sexual selection, certain genes in a population can be common or if a specific trait is chosen against, that gene will eventually die out. In most cases when an organism has a specific mutation, that organism is chosen against to decrease the possibility of mutant offspring. In this experiment sexual selection is explored through the mating preference of female drosophila virgins when given an option to mate with either a wild type drosophila male or mutant male possessing an eye morphology mutation. The different strains that were analyzed were wild type, bar, lobe and antennapedia mutants. The goal here was to explore female preference in sexual selection when two strains of Drosophila Melanogaster are in competition with one another. The effects of eye morphology mutations on the mating patterns of these specific strains were studied when eye color mutations were not playing a role as they can impact

the female preference. The specific mutations lobe, bar and antennapedia were selected since they are dominant traits that can be identified physically in the phenotypes of the offspring produced. Two trials were conducted in which three test vials were prepared and four control vials. The test vials contained two female virgin wild types, two male wild types and two of each mutant strains. The control vials functioned to illustrate the phenotype of the offspring when the female was only given one choice. Once all crosses were conducted, F1 generation offspring were counted and a chi-square statistical analysis was conducted. Chi-square analysis indicated that when in competition for mating wild type females prefer to mate with wild type over lobe and bar mutants, however when wild type and antennapedia males are in competition, they prefer to mate with antennapedia mutants. Our findings supported the theories proposed by other researchers that suggest the presence of a mutation on the Sex Comb Reduced gene of antennapedia mutant's results in ectopic expression of sex combs and provides for an advantage in sexual selection.

Name: Colleen Humes
Title: *Dipine-based Inhibitors of Trichomonas vaginalis Uridine Nucleoside Ribohydrolase are Active in Their Phenylpyridine Forms,* B4
Faculty Advisor: Dr. Brian J. Stockman
Abstract: Trichomoniasis is a sexually transmitted disease that affects about 180 million people worldwide. This disease is caused by the protozoan Trichomonas vaginalis which relies on the nucleoside salvage pathways, thus making enzymes in these pathways excellent targets for novel antitrichomonal therapies. One such enzyme is uridine nucleoside ribohydrolase (UNH) which cleaves the N-glycosidic bond in uridine providing uracil necessary for the parasite to survive. More than 500 compounds in the National Institutes of Health (NIH) clinical collection were previously tested for UNH inhibition using an NMR-based activity assay. The dipine class of compounds represented by the phenyldihydropyridine calcium channel blockers nifedipine and nicardipine were identified as UNH inhibitors in this screen. However, no inhibition was observed when these compounds were retested using fresh solutions prepared from solid compounds. Since solutions of nifedipine and nicardipine are known to be light sensitive and convert over time to their phenylpyridine derivatives, it was hypothesized that nifedipine and nicardipine were inhibiting the UNH enzyme in their phenylpyridine forms and not as the parent compounds. To test this hypothesis, fresh solutions of nifedipine and nicardipine were prepared and exposed to light for up to two weeks. 1H and 13C NMR experiments indicated that the parent compounds had been converted to the corresponding oxidized, phenylpyridine derivatives. Samples of the derivative compounds were then assayed in parallel with samples of freshly prepared parent compound using 19F NMR-based activity assay. The data indicated significant inhibition by the derivative compounds compared to the parent compounds. These results provide direction to ongoing structure-activity relationship work since they indicate that the phenylpyridine structure should be used as the basis for molecular modeling and structure similarity searches rather than the phenyldihydropyridine structure.

Name: Enoch Kim
Title: *Beginning the Synthesis of π-N-methyl Improgan,* A8

Faculty Advisor: Dr. Melissa Van Alstine-Parris
Abstract: Improgan is an analgesic drug that appears to have strong pain relieving properties. Distinct from opiate drugs like morphine, improgan lacks the addictive and tolerance properties making it an ideal pain relieving drug. Due to the fact that improgan does not cross the blood brain barrier, improgan must be administered directly into the brain of laboratory animals. The goal of this research is to modify improgan by methylating the π nitrogen on the imidazole ring. This will make the compound have less hydrogen bond donors and lower the polarity of the compound which may enable it to cross the blood brain barrier. A proposed seven step synthesis starting with commercially available urocanic acid will be carried out to synthesize π N-methyl improgan. In the process, complications arise as the imidazole ring undergoes tautomerization. Depending on which of the two tautomer undergoes methylation, two products can be formed. The methyl group can be attached to either the τ nitrogen or the π nitrogen. The conditions that favors the π nitrogen methylation instead of the τ nitrogen methylation is currently being investigated.

Name: Sara Kulins
Title: *Are crab-crab interactions altered by the rhizocephalan parasite Loxothylacus panopei?,* B8
Faculty Advisor: Professor Aaren Freeman
Abstract: Loxothylacus panopaei is a rhizocephalan (barnacle) parasite that infects at least nine species of xanthid crabs. Rhizocephalan parasites interfere with key functions such as molting, reproduction and the immune system. The first recorded occurrence of Loxothylacus sp. North of the Chesapeake Bay was in the Long Island Sound in October 2012. Field surveys conducted from May through November 2013 of intertidal sites in New York and New Jersey confirmed the rhizocephalan parasite's presence in the Northwest Atlantic. We investigated predation by two crabs (large Carcinus maenas and large Hemigrapsus sanguineus) on infected and uninfected mud crabs and small Hemigrapsus. Each predator was given 10 prey at least half their size, a combination of 2 out of 3 options; 5 Eurypanopeus depressus infected by Loxothylacus, 5 uninfected Eurypanopeus or 5 Hemigrapsus. Three trials were run over a period of 3 weeks using the same predators after a 3 day starvation period. Each trial lasted 96 hours. Overall the Hemigrapsus preyed heavily on Eurypanopeus, mostly on infected Eurypanopeus. Carcinus preyed on uninfected and infected Eurypanopeus equally. Both predator crabs preyed less on small Hemigrapsus than on Eurypanopeus. The parasites current distribution and prevalence in NY & NJ is still being studied as well possible impacts on other native crabs.

Name: Gloria Labib
Title: *Preferred Temperatures of Italian Wall Lizards,* B7
Faculty Advisor: Professor Heather Liwanag
Abstract: Temperature has a profound effect on the performance of ectothermic animals such as lizards. The Italian Wall Lizard (Podarcis sicula) is a lacertid lizard originating from Italy and the northwestern Balkan Peninsula. It is an opportunistic species characterized by broad ecological tolerance and high spreading capacity. This species has been introduced to the United States and has established populations in New York, and

California. We examined the preferred temperatures (Tpref) of 28 Italian Wall Lizards from the California population, using a thermal gradient. Lizards were placed into the gradient (10-40Â°C) and allowed to choose their location over a 2-hour time span. Body temperature was measured with a type K thermocouple inserted in the cloaca, and Tpref was recorded as the body temperature at the end of the 2-hour trial. Based on the Tpref of another Podarcis species, we predicted that P. sicula would prefer temperatures between 30-35Â°C. To determine whether thermal preferences differ by To determine whether thermal preferences differ by age or gender, we compared Tpref of juveniles (N=14), adult females (N=7), and adult males (N=7). Future work will compare Tpref of this population to that of the New York population, to examine whether temperature preferences shift with adaptation to different climates.

Name: Himlir Louima
Title: *Predation of Carcinus and Asterius on Nucella,* B5
Faculty Advisor: Dr. Aaren Freeman
Abstract: Predator foraging choices are essential in structuring intertidal communities. In this experiment, we strived to see how sea stars might alter a crab's foraging strategy and vice versa. The interaction of crabs (Carcinus maenas), sea star (Asterias forbesi) and snails (Nucella lapillus) caused changes in prey behavior such as causing the crabs to crush the snails and the sea star to winkle (i.e. consume the snails without damaging shells). Specifically, crabs predation on snails, sea star consuming snails if cues were released in the water to alternate usual behavior. We performed multiple trials to evaluate the effect of interaction on predation from July to August 2014 of intertidal sites in Maine. In the presence of sea stars, crabs did not alter their foraging on snails. However, in the presence of crabs, sea stars doubled their foraging on snails. We discuss these results and plans for future experiments.

Name: Vivian Matubia & Diana,Chaykina
Title: *Electrodeposition of Cadmium Telluride thin films,* B6
Faculty Advisor: Dr. Justyna Widera; Dr. Krystyna Jackowska
Abstract: Thin film properties are determined by the used semiconducting material and the applied deposition conditions since they are only nanometers thick. Therefore, the microscopic properties of the materials ought to be considered to optimize their fabrication. Cadmium telluride is one of the leading materials in manufacturing thin film solar cells, owing to its optimal energy band gap range and cheap fabrication costs. However, the cost and ease of fabrication of CdTe cells could greatly be reduced by seeking alternative deposition methods that are more flexible to allow for cheaper manufacture and increase the lifetime of the cells. In previous work (1), the parameters for optimal one step electrodeposition of CdTe in aqueous medium were determined as: -0.65 V in pH 2, 0.1 M lithium perchlorate solution and 5:1 ratio of Cd to Te ion sources. Further studies carried out by our group elucidate the nucleation and growth mechanisms involved that validate the optimal results obtained at 22 degrees Celcius and describe the nucleation, distribution and growth patterns of CdTe deposited under these conditions. The studies were conducted via: cyclic voltammetry, chronoamperometry, Scanning Electron Microscopy (SEM) and Atomic Force Microscopy (AFM). The samples were

deposited at: -0.45 V, -0.65 V and -0.80 V for varying times and the nucleation mechanism was determined to be progressive.

Name: Arielle Naranjo
Title: *The dual differing effects of pH and temperature on the embryonic forms of Danio rerio,* C1
Faculty Advisor: Dr. Andrea Ward
Abstract: The purpose of this experiment was to test the possible interactive effects of pH and temperature on the actinopterygian fish Danio rerio. Danio rerio are natively found in the Asian regions of the world and are commonly referred to as zebrafish. It has been seen throughout numerous previous experiments that the embryonic stage of development of fish is by far the most sensitive part of life. In this two-fold experiment, I tested the effects of differing pH and temperature on somite development in Danio rerio. It was hypothesized that Danio rerio would develop more effectively in the pH's closer to neutral and contain more structural defectiveness and less effective somite development in both the acidic and alkaline pH's. It was also hypothesized that in warmer temperatures the eggs would hatch at a faster rate as compared to the normal tank (control group). Inversely, in colder temperatures the Danio rerio eggs would hatch at a slower rate than the eggs in the normal/medium ranged temperature. Future research can determine if the embryonic state of Danio rerio are initially affected by pH or temperature; or both effects alter development equally. The increasing climate change perpetuates the importance of this research because the knowledge of the effects enables the direction of conservation efforts that are sustainable and productive.

Name: Yuriy Ostrozhynskyy & John Mavroudes
Title: *Zero Magnetic Field Generation using Helmholtz Coils and its Effect on Life Span of Drosophila melanogaster, C2*
Faculty Advisor: Dr. Eugenia Villa Cuesta; Dr. Matthew Wright
Abstract: Electromagnetic fields have an impact on the aging, health, and reproductive success of different organisms. Increased levels of electromagnetic radiation have been shown to decrease fecundity, lifespan, and anti-oxidative enzymatic activities by producing an increase of reactive oxygen species (ROS) in Drosophila melanogaster. High ROS levels can damage cellular components, which deter genotoxic events. However, little is known about the effect of low magnetic field in the health span and lifespan of organisms. This research focuses on the effect of zero magnetic fields on the lifespan and development of Drosophila melanogaster.

Our approach to cancelling out the Earth's magnetic field is to use a three dimensional Helmholtz coil apparatus. A gauss meter with sensitivity of 0.01 gauss will be used to tune the magnetic field coils to the appropriate currents needed to generate the fields. Taking into account that the Earth's magnetic field is a vector, the three pairs of coils will be responsible for generating an equal and opposite magnetic field along the x, y, and z axes. As a result, we can generate a zero magnetic field over a macroscopic volume with a magnetic field sensitivity of about 10-micro Tesla. We have taken advantage of the Helmholtz coil design and decided to produce two identical apparatuses in order to generate high and low magnetic fields in specific axes.

Since high magnetic field is known to decrease the life span of Drosophila melanogaster, our hypothesis is that zero-magnetic field will increase fly lifespan by decreasing ROS production.

Name: Michael Roveto
Title: *Atlantic Striped Bass, Atlantic Bluefin Tuna, and Alaskan Salmon Fisheries Regulations,* C3
Faculty Advisor: Dr. Jessica Dutton
Abstract: Fisheries regulations aim to support healthy stocks of fish through the use of quotas, seasons, landing sizes, and gear restrictions. This study will examine the striped bass, Atlantic bluefin tuna, and Alaskan salmon fisheries and the successes and failures of the management of these fisheries. Atlantic striped bass, Morone saxitilis, is found along the Atlantic coast of the United States and the Atlantic States Marine Fisheries Commission is responsible for managing coastal striped bass stocks. During the 1980s, striped bass stocks, especially the Chesapeake stocks, declined. Strict regulations were placed on the fishery and it was considered recovered by 1995. Today, the commercial striped bass fishery is an annual 19.5 million dollar industry. Atlantic bluefin tuna, Thunnus thynnus, have a commercial fishery in both the western and eastern Atlantic. The eastern Atlantic stocks of bluefin have been severely overfished, especially in the Mediterranean. For years, regulations on the eastern Atlantic bluefin fishery ignored the advice of fisheries scientists, resulting in overfishing. While the western stocks are more strictly regulated, bluefin are highly migratory so the overall fishery is affected by regulations of both stocks. Atlantic bluefin are still considered overfished but it is hopeful that new regulations may help to allow the fishery to recover. In comparison, salmon fisheries in Alaska are strictly regulated and carefully monitored, and therefore successfully managed. The fishery is economically important, with the 2013 harvest for Alaskan salmon being valued at 691.1 million dollars. There is also an important subsistence salmon fishery in Alaska, adding to the importance of carefully managing the stocks. The success of regulations is dependent on the fishery, but regulations must be strictly enforced to ensure that there will be healthy fish stocks in the future.

Name: Monika Siepsiak
Title: *Determining the Optimal Route to Synthesize Ï„-Methyl Improgan,* B9
Faculty Advisor: Dr. Melissa Van Alstine-Parris
Abstract: Improgan is a synthetic drug that appears to be a powerful pain reliever without the addictive properties of opiate drugs. To date, improgan has only been administered through direct injections into the brain of laboratory animals due to the fact that it does not cross the blood brain barrier. The goal of this research is to synthesize N-methyl improgan, a potentially brain penetrating analogue. Replacing the N-H on the imidazole ring of improgan with an N-methyl group will decrease the amount of hydrogen bond donors as well as the polarity of the compound, allowing it to cross the blood brain barrier. A seven-step synthesis has been proposed in order to construct this chemical congener. The progress towards the synthesis of N-methyl improgan will be described in detail. The synthesis produces isomers with methylation occurring at the Ï„(N-1) or Ï€(N-3) position. Different routes and conditions used to alter the ratio of the two isomers will be discussed as well as their separation.

Name: Kevin Tanen
Title: *Controlling Atomic Motion with Frequency-Chirped Laser Pulses,* C5
Faculty Advisor: Dr. Matthew Wright
Abstract: We theoretically explore controlling the motion of thermal atoms in a glass cell with a frequency-chirped laser. Our initial objective is to explore the possibility of using two frequency-chirped pulses as a means of coherently organizing Rb atoms in a glass cell. Using a semi-classical model, we show that will be able to adjust the mean location of Rb atoms with a series of 2 GHz frequency-chirp pulse pairs separated by intervals on the order of hundreds of picoseconds.

Name: Joanna Tycner
Title: *Formulation of a Novel Green Nail Polish Remover,* C6
Faculty Advisor: Dr. Justyna Widera
Abstract: Nail polish is one of the most widely used cosmetic products on the market today, which makes nail polish removers just as desirable. The issue with the popular nail polish removers is that their main ingredients (usually acetone or ethyl acetate) have pungent aromas and cause skin irritation. Methyl soyate is a highly desirable alternative solvent due to its useful qualities. Methyl soyate is environmentally friendly, lacks a pungent aroma and is pleasant to the skin. It is the main ingredient in a variety of substances, which range from industrial degreasers and biofuels to cosmetic products. Thus far, we have seen that methyl soyate has the ability to remove small quantities (1 coat) of nail polish, which have been applied to the surface of the artificial nails and removed using the conventional cotton pad. Additionally, various concentrations of two other components such as: dimethyl glutarate and dimethyl adipate were introduced into varying concentration of solutions of methyl soyate in order to explore the use of mixtures of 2 or 3 components as further possibilities of nail polish removers. Not only are these solvents non-toxic, but they have also shown the ability to remove small quantities nail polish.

The goal of this research is to successfully formulate a novel recipe of nail polish remover using methyl soyate as a main component. In order to compete with the popular nail polish remover brands the product must be biodegradable, offer moisturizing and skin renewing properties as well as great ability to effectively remove the polish.

Name: Stephen Tyndall
Title: *Determining the mechanism for the synthesis of 7-hydroxy-4-trifluoromethylcoumarin via the von Pechmann condensation reaction using molecular iodine as a catalyst,* C7
Faculty Advisor: Dr. Melissa VanAlstine-Parris
Abstract: Coumarins have fluorescent properties which make them useful laser dyes and fluorescent dyes, like the coumarin umbelliferone. Coumarin derivatives are also biologically active, such as the anticoagulant warfarin. The synthesis of coumarins has been performed since 1883 by the von Pechmann condensation reaction, but the exact mechanism for this synthesis has yet to be determined. It has been propose that there are 3 steps in the mechanism which are electrophilic aromatic substitution (EAS), transesterification and dehydration but the order of these steps is unknown. An

intermediate was observed during the synthesis of 7-hydroxy-4-trifluoromethylcoumarins (HFC) with iodine as a catalyst. This was the first time an intermediate was observed during the synthesis of any coumarin. This compound was identified as an intermediate since it was a hydrated precursor of the product which implies that the last step in the reaction is dehydration. Due to the presences of fluorine in these compounds we tested the ability to uses the 19F NMR to monitor the reaction. While monitoring the reaction by 19F NMR an earlier intermediate was observed. This new intermediate was isolated using column chromatography and identify by NMR. The identification of these two intermediates suggested that the mechanism proceeds through an EAS followed by transesterification then dehydration.

Name: Victoria Violo
Title: *Weeding Aggregators from NMR-Based Activity Assay Hit Lists,* C4
Faculty Advisor: Dr. Brian Stockman
Abstract: Trichomoniasis, the most prevalent non-viral sexually transmitted infection, has recently shown increasing resistance to current drug treatments. The parasitic protozoan Trichomonas vaginalis is responsible for trichomoniasis. T. vaginalis is incapable of de novo synthesis of uracil. Uridine nucleoside ribohydrolase (UNH) allows T. vaginalis to scavenge uracil from the host by cleaving the N-glycosidic bond of uridine. Inhibition of UNH will prevent T. vaginalis from obtaining uracil and thus represents a novel target for developing antitrichomonal agents. Previously, an 19F NMR-based assay that screened 573 compounds in the National Institutes of Health clinical collection identified 23 compounds as UNH inhibitors. However, the NMR assays were carried out at the relatively high concentration of 50 uM, suggesting the possibility of false positives resulting from compound aggregation. This can be particularly problematic for compounds with high cLogP values since the screening assays are carried out in aqueous conditions. Seven of the 23 UNH inhibitors, with cLogP values ranging from 3.4 to 5.8, were considered potential aggregators. These compounds were retested at various concentrations in the absence and presence of the detergent Triton X-100. The data indicated that three of the compounds did not inhibit UNH in presence of Triton X-100 and thus likely inhibit by aggregation. Inhibition by the remaining four compounds was not impacted by Triton X-100. These results provide direction to ongoing structure-activity relationship work since they indicate that three assay hits inhibit by aggregation and do not make specific interactions with UNH. By contrast, the remaining four compounds can provide useful structure-activity relationship data. These results are also broadly applicable to other enzymes that are screened against the NIH clinical collection at high concentration since compounds identified here as aggregators will likely turn up as false positives.

Name: JoannaWells & Megan Ossmann
Title: *Following Sandy: an updated grain size analysis of coastal sediments at Long Beach and Fire Island, New York,* C8
Faculty Advisor: Professor Beth Christensen
Abstract: Superstorm Sandy noticeably impacted the shallow coastal environment of Long Island, New York, with a massive 10m storm surge and days of relentless wind-

driven waves. The impact on the sea floor is not yet clear, but sediment samples obtained from varying depths off the coast of Fire Island and Long Beach reveal pertinent information. Samples were washed, dried, and sieved with a Ro-tap to separate grain sizes based on the Wentworth Scale. The samples primarily consisted of gravel and sand sized particles. In a less detailed grain size analysis conducted by the USGS in 2000, sand is the dominant grain size category. Our study is consistent with the earlier USGS study but also indicates variability within the study areas, possibly due to enhanced sediment transport caused by the storm. Samples collected in 2014 were added to a previous dataset of samples obtained in 2013 in order to determine if any changes have occurred. We anticipate that the 2014 samples will be similar to 2013, but will consist of a higher percentage of small-sized particles.

Name: Koon Fai Wong
Title: *Understanding the Pechmann Condensation Reaction Mechanism for the Synthesis of 7-hydroxy-4-methylcoumarin Using Molecular Iodine as a Catalyst,* C9
Faculty Advisor: Dr. Melissa VanAlstine-Parris
Abstract: Coumarin derivatives have wide applications in the pharmaceutical and cosmetic industries. They are also used in color technology as laser and fluorescent dyes. The Pechmann condensation reaction is one of the common routes for synthesizing coumarins using activated phenols and Î2-keto esters as the starting materials. Three mechanistic steps for the Pechmann reaction have been proposed, yet the order of these steps is still unclear due to the lack of isolated intermediates. By better understanding how the Pechmann reaction works, it will be possible to accurately predict and synthesize novel coumarin derivatives. Intermediates were isolated during the synthesis of 7-hydroxy-4-trifluoromethylcoumarin which established the mechanism of the reaction. However, it was hypothesized that when the substituent at the 4 position is changed from an electron-withdrawing group like trifluoromethyl to an electron-donating group like methyl, the kinetics of the reaction becomes altered. The goal of this research is to investigate how changing the substituent to a methyl group alters the reaction.

Graduate Presenters
Name: Rita Burmanroy
Title: *Investigating the Relationship Between PKCzeta and VHL,* A9
Faculty Advisor: Dr. Alan Schoenfeld
Abstract: VHL disease is an autosomal dominant syndrome which results in tumors affecting various systems of the body. Mutations in the VHL gene have been shown to be the cause of sporadic renal cell carcinoma (RCC), jumpstarting research into this tumor suppressor gene. The VHL complex has been elucidated to work as an E3 ubiquitin ligase and an established target of the VHL protein is HIF-a, which is tagged for degradation via the proteasome. Previous research has suggested that atypical PKC (aPKC) is also a target for degradation by the VHL complex. However, aPKC has functions similar to the VHL protein. Here, we investigate the relationship of VHL with one isoform of aPKC, PKCzeta, by implementing RNA interference against PKCzeta in VHL-deficient and VHL-positive cell lines and evaluating its cellular effects compared to a control of each. Procedures included western blotting of proteins with confirmed roles in VHL function,

immunostaining to observe tight junction formation, and a wound healing assay to analyze invasion properties of the cells.

NURSING AND PUBLIC HEALTH

Undergraduate Poster Presenters
Name: Christina Attanasia & Elga Peralta
Title: *Is Natural Childbirth Safer than Pitocin Induced Childbirth: A New Approach to Maternity Nursing Care,* A10
Faculty Advisor: Dr. Akhtar Ghassemi
Abstract: Background and Research Objective: This study searches to understand whether natural childbirth is safer than Pitocin induced childbirth. It aids to help bring a new approach to Registered Nurses in regards to caring for maternity patients. Subjects and Methods: Subjects consist of past-experienced maternity patients. All questionnaires used in the study were administered to past-experienced maternity patients asking for opinions on their experiences whether natural or Pitocin inducted.

Name: Jane Lee
Title: *Ethics: Consequences of Poor Judgment,* A11
Faculty Advisor: Professor Thomas Virgona
Abstract: The code of ethics is a leadership tool that most health care providers and nurses utilize to manage patient care. To adhere to the code of ethics, one must follow expectations such as: integrity, honesty, concern and respect for others, pursuit of excellence, accountability, loyalty, and independent objective judgment. With these qualities, the job of a nurse would become ethical, organized, and simple. The code of ethics can help with decision-making, conflict management, develop stronger leadership skills, and create better communication amongst others. Many students and employees have an understanding of the code of ethics, but in reality, these expectations are not always applied, which could risk the lives of patients. Over the summer, the VA Hospital was reported to have over 40 patient deaths due to severely prolonged wait times to see a health care provider. This was due to staff members having poor understanding of ethics, which became disconcerting to hundred thousands of veteran patients. This incident has affected jobs and the quality of care for doctors and nurses. WThe media has exposed the VA hospital to the public, how immoral and unethical it was to forge and hide medical records and waiting lists by creating uproar to the public. It was clear the staff and higher representatives had very little understanding of ethical codes or just did not have the proper training on how to handle certain situations in an ethical manner. As nurses and nursing students, we must consider ethics and important foundation of our education and training because we could become liable for our own actions. If the higher representatives ignore the issues nurses face, then we must teach and help each other to resolve conflict.

Name: Yurim Mun
Title: *Ethical Applications to Stem Cell Research,* A12
Faculty Advisor: Professor Thomas Virgona
Abstract: There are several different stem cells that have been discovered and utilized for the purpose of research. The paper discusses embryonic, somatic, and induced

pluripotent stem cells; however, it focuses primarily on the ethical implications and dilemmas the embryonic stem cell research poses. With the ethical and moral controversy raised, scientists and researchers seek a way in which they may continue with embryonic stem cell research without disrespecting the views and opinions of those who value the potential lives the embryos hold. The paper also touches upon the factors that play a role in the raised ethical and moral controversy as well as the reasoning and justification of those who are for and against the embryonic stem cell research. There are promising results of stem cell research through some of the successful cases; these include the generation of egg cells, fabrication of tiny human livers, and a toddler who successfully received a bioengineered windpipe. The cases will be further explained deeper into the paper.

Name: Jillian Roesch
Title: *Nursing Assessment of Postoperative Delirium for Geriatric Patients,* B10
Faculty Advisor: Professor Deborah Ambrosio
Abstract: The purpose of this study is to enhance patient outcomes through an examination of the mode through which nurses assess for and manage postoperative delirium in the geriatric population. Assessment is central to effective and competent nursing care. Therefore, the tools and methods used to provide risk and development assessments for postoperative delirium will be examined in accordance with their validity, reliability, and appropriateness for the population of focus. Attitudes and education regarding the care of the older adult will be discussed, with relation to their effect on the nurse's ability to accurately and objectively assess their geriatric patients. Current nursing practice for the prevention and detection of postoperative delirium will also be used to gain a more accurate understanding of the current level at which this condition is being addressed in the acute care setting. The synthesis of these components of postoperative delirium assessment and management will provide a basis for practice improvement suggestions.

Name: Sharmila Samwaru
Title: *Properly Assessing Patient's Understanding in Health Literacy: The Nurses Role In Encouraging Active Patient Participation,* B11
Faculty Advisor: Helen Ballestas
Abstract: Many individuals have trouble understanding information pertaining to their overall health and well being. Health literacy is a crucial component for day-to-day activities and allows individuals to make the best possible decisions regarding their lifestyle and habits. Without a certain level of literacy, individuals are susceptible to making poor decisions that can impact their health negatively. Activities such as taking the proper medications, filling out past medical history forms, participating in important screening tests and managing a chronic disease are impaired with low health literacy. It is the nurse's role to foster a health literate community though effective patient education and communication. Through properly assessing a patient's level of comprehension can nurses further encourage active participation and engagement.

Name: Kristen Weeks
Title: *The Care of Post-Sexual Assault Patients in the Emergency Department,* B12

Faculty Advisor: Dr. Deborah Ambrosio

Abstract: Post-sexual assault victims that present to the Emergency Department are a vulnerable population in need of prompt, skilled and compassionate attention in order to effectively begin the complex coping process that follows surviving being raped. The emergency nurses, and more specifically, certified Sexual Assault Nurse Examiners, have the potential to positively impact the outcome of a patient's recovery following a sexual-assault based on the care provided in the emergency setting. This paper outlines how a post-sexual assault victim will present in the emergency department and how the nurse should respond to and care for this specific type of patient. This paper also discusses different patient-centered interventions that can be implanted in the patient's care to prepare them for the examination and better assist them through the process in the emergency department. The significance of these interventions is to decrease the patient's anxiety and then positively impact their long-term recovery. This paper additionally outlines the benefits of having Emergency Department nurses trained to be Sexual Assault Nurse Examiners so that they can more effectively and appropriately care for victims. The goal of this paper is to portray the importance of employing expertly trained Sexual Assault Nurse Examiners in the Emergency Department in order to provide more patient-centered care and ultimately help survivors begin their road to recovery as soon as they enter the hospital. With their skilled and compassionate care, Sexual Assault Nurses have the capacity to make a difference in a sexual assault survivor's life from the moment they walk in to the Emergency room. By employing more SANEs in emergency settings, nurses can positively influence the lives of a broader population of survivors everywhere.

SOCIAL SCIENCES

Undergraduate Oral Presentations

Name: Allison Adler
Title: *¿De que etnia soy?: Reflections on the Boundaries of Hispanic Identity,* Hagedorn Hall 107
Faculty Advisor: Professor Hanna Kim
Abstract: What does it mean to be a Hispanic? The categories "Hispanic" and "Latino" are institutionally utilized and defined by the U.S. government. However, they also carry informal connotations that are reinforced in both the media and politics. The various formal and informal definitions of these terms associate Hispanic/Latino individuals with particular characteristics, such as a low-class standing and lack of education, which have become markers of Hispanic authenticity and non-Whiteness. However, these characteristics do not always correspond to how Hispanic/Latino individuals characterize themselves. Using fieldwork data from two separate projects, this presentation will introduce the views of middle-class Hispanic individuals who view themselves as existing outside of these norms. Focusing on their use of everyday performative acts, such as speaking, reciting family history, working, and performing domestic tasks, this presentation will discuss how these individuals enact and create spaces for their conception of Hispanic identity. These spaces question the dichotomy between "White" and "non-White" in the U.S. and are sites for reimagining ethnic identity.

Name: Alexis Bueno
Title: *Where does stigma begin?,* Hagedorn Hall 107
Faculty Advisor: Professor Deborah Little
Abstract: Where does stigma begin? Does it begin in the courtroom during trial or before that? In this paper I argue that individuals are stigmatized as early as arraignment by processes in the arraignment court. For five weeks, I observed arraignment trials in a suburban district court. While observing each trial, I focused my attention on the processes of degradation and on the rhetorical devices used by defense attorneys to combat the stigma. As a result, I found that one way in which the court officers dehumanize the defendant is by controlling their movement within the courtroom. The presence of handcuffs on the accused and latex gloves on a court officer aid in the portrayal of a "tainted" individual. Defense attorneys use family background as a way to make the audience see the defendant as approachable, while invoking an emotional response from the judge. The degradation rituals within the criminal justice system contribute to the process of attaching stigma and labeling individuals as criminals.

Name: Erin Carey
Title: *Hurricane Sandy impacts on Long Island's south shore sediments,* Hagedorn Hall 107
Faculty Advisor: Doctor Beth Christensen
Abstract: The force of Hurricane Sandy's wind and storm surge caused multiple overwashes and breaches along the south shore of Long Island, New York. The surges

resulted in a new mixture of sediments off of the south shore. Through the use of grab sampling multiple samples were recovered. Numbered samples are currently being weighed in crucibles and put into a furnace to burn off organic carbon at 410* C for 6 hours. Organic carbon can be found embedded in the layers of mud and sediment on the ocean bottom. These crucibles are then weighed to see the loss of this carbon. The results of this research are currently being analyzed.

Name: Josephine Chuah
Title: *A Qualitative Exploration of the Effects of Perpetual Foreigner Stereotype on Asian Americans,* Hagedorn Hall 106
Faculty Advisor: Professor Jean Lau Chin
Abstract: Although many Asian Americans are now American born citizens, do they continue to be viewed as perpetual foreigners? How prevalent is this phenomenon and what are its emotional consequences? The purpose of this qualitative study is to explore personal accounts among Asian American young adults about their experiences of being perceived as foreigners. Sixteen Asian American young adults, ages vary between 18-25 were recruited primarily from a suburban city outside of New York. In addition to collecting demographic data on age, ethnicity, country of origin, gender, place of growing up, all participants will read an experimental vignette portraying a scenario of being asked, "Where are you from?" with the assumption that the individual is not American born. Participants will record written responses to the perception and affective response to the scenario and the rating of how frequently participants have experienced this scenario in their own lives. Responses will be evaluated as to prevalence and nature of this experience among Asian American young adults.

Name: Sophia Conti
Title: *Biocultural Perspectives of Obstetric Fistulas,* Hagedorn Hall 106
Faculty Advisor: Professor Kathryn Krasinski
Abstract: Obstetric fistula is a devastating childbirth injury that affects thousands of women across the developing world each year. Fistulas are caused by a complex array of biological and sociocultural factors, including evolutionary forces, traditional gender roles, and lack of health care infrastructure in developing nations. Cultural factors are a particularly potent cause of obstetric fistula as women with fistula are often married young, live in rural areas, and are very poor. More often than not fistula patients are at the mercy of their male relatives for obtaining the resources necessary to be cured. Luckily, the birth technology necessary to repair and prevent obstetric fistula is well-developed and needs only to be dispersed to countries in need. However, international organizations attempting to end fistula must recognize the full context in which these injuries occur, so they can best be equipped to handle all aspects of the problem and effectively provide aid to women at risk for obstetric fistula.

Name: Taylor Groth
Title: *Reducing Test Anxiety in College Students with Disabilities,* Hagedorn Hall 106
Faculty Advisor: Dr. Dana Boccio
Abstract: It has been estimated that nearly ten million students have maladaptive levels of test anxiety in North America, rendering it one of the most prevalent causes of

scholastic impairment in our educational system. College students with disabilities are especially prone to experiencing test anxiety, as a result of lower levels of self-confidence stemming from a history of coping with genuine academic difficulties. Nevertheless, little research has been conducted on effective interventions for reducing test anxiety in populations with disabilities. Moreover, studies that have examined test anxiety reduction strategies have typically involved providing students with training in cognitive-behavioral techniques over an extended period of time consisting of weeks or months. This approach may not be a feasible intervention model for institutions of higher education that wish to offer more condensed instruction in test anxiety management techniques in order to reach a larger number of students more quickly. The present study examined the effects of a brief, one-hour workshop on test anxiety levels in a sample of college students with various disabilities, including learning disabilities, Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, and physical disabilities. Specific techniques addressed during the one-hour instructional session include basic time management and study skills, cognitive restructuring, and stress management strategies designed to help students relax and refocus during evaluative situations. It was hypothesized that participation in the workshop would result in a reduction in test anxiety levels, as measured by scores on the Spielberger's Test Anxiety Inventory (TAI), a self-report questionnaire assessing worry and emotionality surrounding examination situations. Paired samples T-tests were conducted to assess for reduction in test anxiety as a result of participating in the workshop. Results indicated that after participating in the workshop, participants demonstrated reduced test anxiety levels overall, as well as a more specific reduction in their level of emotionality surrounding test-taking. Level of worry surrounding test-taking approached significance for the disabilities subsample.

Name: Jazmine Javier
Title: *Literature and Ideology: How the Haitian Revolution Shaped Abolitionist Rhetoric before the Civil War,* Hagedorn Hall 107
Faculty Advisor: Professor Levy
Abstract: Historians, teachers, and other scholars often discuss the American Civil War as a national occurrence with little international context. However, due to the Triangular Trade prior to the Haitian Revolution and American Civil War, American politics and economics largely intertwined with that of the West Indies and Haiti. This shared socio-economic history in which there was a constant exchange of people, goods, and literature, begins to explain why Haiti's successful abolitionist revolution affected Americans. Although there were national events that had already divided American views on abolitionism, literature written in the transnational context about abolitionism in Haiti was crucial in creating a bi-polar environment of pro and anti-abolitionism.

About half of the literature that discussed the future of slavery served as anti-abolition propaganda to preserve the economic benefits of slavery. Other works that discussed the future of slavery propagated idealistic views of abolition to gain traction for inclusion and eventually equal rights. Drawing their inspiration from the Haitian Revolution and American slavery, both abolitionist and pro-slavery writers laid the foundation for the bipolar discourse from which Americans will come to view slavery.

Name: Malcolm Sandy
Title: *Multicultural Psychology,* Hagedorn Hall 106
Faculty Advisor: Dr. Carolyn Springer
Abstract: Viewing the literature behind rates of psychological disorders amongst different ethnic and racial groups shows that some groups of people appear to suffer from mental disorder and illness more than others. Historically, the rates of mental illness in Blacks in the United States has been perceived to be much higher than the rates of mental illness in non-Hispanic whites. It is well documented that high levels of stress can influence an individual's susceptibility towards mental disorder and illness. Prejudice and racism are both social stressors that can and do cause harm to minorities on a daily basis. This presentation seeks to examine how Black America's high rates of diagnosable mental disorders are influenced by racism and racism coping behaviors.

Name: Alexa Savino
Title: *Anti-Genre Tensions in France: The Construction of Gender Identity and the State,* Hagedorn Hall 107
Faculty Advisor: Professor Nicole Rudolph
Abstract: How do politically-charged understandings of "genre" (gender) in France engage with the nation's historical traditions and values to create a complex web of ideological conflicts? This question has become increasingly more relevant, given the recent rise to prominence of groups dedicated to protecting gender roles as a means of preserving the traditional family unit and their vision of national well-being. Such groups have facilitated the growth of the anti-genre movement's reaction against proponents of parity and gender equality as framed by progressive agendas, policies, and programs. Anti-genre activists played a pivotal role in the dismantling of the Hollande government's recent project known as "ABCDs of equality", which aimed to use the classroom as a space for eroding long-held beliefs, stereotypes, and misconceptions undergirding the typical roles and identities attributed to men and women. Anti-genre advocates form a peculiar conglomerate of activists with seemingly irreconcilable and incompatible ideological goals and thus their success is a phenomenon worthy of study. This thesis project will explore how the anti-genre movement happened: what particular elements of France's historical traditions and evolving political culture help to explain the movement's growing popularity and visibility on the public stage? This work will use the aforementioned movement as an opportunity to explore politicized notions of gender in relation to: the complex dynamics of French politics on the Left-Right spectrum, the unique process by which feminism has taken shape in France, the evolution of family policy in relation to France's defined national identity, and the multidimensional implications of French secularism and laicite for religious groups with a stake in the anti-genre cause.

Name: Jonathan Sclar, Alicia Canas, & Mahdiyah Jaffer
Title: *The Rwandan Genocide,* Hagedorn Hall 108
Faculty Advisor: Professor Axelrod

Abstract: Our paper, entitled "The Rwandan Genocide," goes in depth to discover the origins, manifestations, and solutions of the 1994 conflict between the Hutus and the Tutsis. This conflict is unique because the International Community went silent as the attempted slaughter of an entire ethnicity occurred in the center of the world. The origins of the conflict determine the history of the conflict and defines the actors involved. The manifestations section examines the trigger of the conflict and the actions that took place during the war. Finally, the solutions aspect of the paper discusses the successful and unsuccessful attempts at bringing the offenders to justice.

Name: Naresh Singh
Title: *An Analysis of the History and Current Legal Status of Private Military Corporations,* Hagedorn Hall 108
Faculty Advisor: Dr. Devin Thornburg, Professor Katie V. Laatikainen
Abstract: Objective: The main objective of my research is to present a linear timeline to explain the evolution of privatized military power from its earliest uses, to present variant. The Privatized Military industry has been around for millennia, dating as far back as the Medieval Era. Recently however, the industry has transformed in such a way to cause a conundrum within the International community. Due to this new variant of industry, the international community is left confused as to the legal status of Private Military Corporations, which this paper will also discuss. Methods: In order to accomplish the above referenced task, I have gone through various databases and books that discussed the privatized military industry at length. From the readings, I have found that Private Military Corporations are not only misunderstood, but they are generalized from the perceptions that the media gives regarding them. They have fallen into a situation where these corporations are seen as mercenaries for hire, based on an antiquated definition which used to define the industry, but is no longer applicable. Intended Results: At the end of my paper, I hope to initiate a discussion on the actual status of Private Military Corporations in the International Community. I would like to pose potential solutions to change the current ambiguity surrounding the status of Private Military Corporations in the context of warfare. Conclusion: Although this project is still in development, it is a necessary subject to research. For the purposes of preserving the lives of innocent civilians, and further to identify Private Military Corporations as legitimate actors in our contemporary understanding of warfare, research must be done.

Name: Rachel Stern, Rachel Reiss, Mindel Mayer & Shoshana Roman
Title: *The Effects of Longer Working Hours on Nurse and Patient Outcomes,* Hagedorn Hall 106
Faculty Advisor: Yiyuan Sun
Abstract: Background: The recent nursing shortage created a shift towards 12-hour shifts for nurses, moving away from the traditional 8-hour nurse's shifts. This research review highlights the effect of the long working hours on nurse and patient outcomes. Objective: The goal of this review is to examine the effects of extended shift hours on nurse and patient outcomes. Method: To perform this review, we searched CINAHL, MEDLINE, Cochrane Library, other electronic databases. Keywords used in the search include shift, caregiver, medication errors, productivity, shift workers, health care provider, 8-hours, 12-hours, work hours. We have found 11 secondary sources and six

primary sources. Critical appraisal tools will be used to evaluate the quality and consistency of the research findings in these articles. Preliminary Results:
Some studies found that nurses who worked extended shifts had poor outcomes, for example increased odds of burnout, job dissatisfaction, and intention to leave the job, lower quality of care and more safety concerns compared to nurses who worked 8-hour shift. It was also found that working on shifts longer than 12 hours greatly increased patient's dissatisfaction. However, other studies reported positive outcomes including decreased patient complications and length of stay with longer shifts. A systematic review indicates there is insufficient evidence to associate shift length with nurse and patient outcomes. Implications: Many factors contribute to the adoption of longer shift hours, such as nursing shortage and nurse's own choice of 12-hour shift to avoid work/home conflicts. To minimize the less encouraging effect of 12-hour shift, it is important to develop effective measures, such as extended child care, allowing naps during night shifts, and reduction of changing shifts with short notice. In addition, more well-designed research studies are needed to investigate the effect of shift length on patient and healthcare provider outcomes.

Name: Joanna Wells
Title: *Detecting Cultural Landscape Modifications in the Alaska Boreal Forest with LiDAR Imagery,* Hagedorn Hall 108
Faculty Advisor: Professor Kathryn E. Krasinski & Professor Brian T. Wygal
Abstract: Parcels selected in collaboration with ongoing cultural resource projects managed by the Matanuska-Susitna Borough and Knik Tribe were remotely surveyed for semi-subterranean features including caches and house depressions using GIS and LiDAR imagery. Because semi-subterranean features in dense summer vegetation are difficult to locate via pedestrian survey, hillshade analysis was used to identify depressions and possible site locations. These were later confirmed via pedestrian survey and AHRS data. The project was expanded throughout the Susitna Valley with promising results suggesting LiDAR hillshade analysis is a beneficial supplement to pre-pedestrian survey with limited false positives.

Graduate Oral Presentations
Name: Kathryn Cavan & Ohiro Oni-Eseleh
Title: *Re-entry of United States Military Veterans Into Civilian Society Through Education*, University Center 213/214
Faculty Advisor: Dr. Laura Quiros
Abstract: Since the economic collapse of 2008 and the accompanying recession, the importance of college education has gained increasing emphasis. This emphasis has been supported by the nature of the economic recovery, which has opened a window into the complexion of the future American economy, one that will require increasingly skilled labor. It is against this background that these presenters study the current enrollment of military veterans enrolled in colleges and universities across the United States. A review of the United States Department of Veterans Administration report shows a significant spike in that number from 541,439 in 2008 to 800,369 in 2010 and 945,052 in 2012, representing a 75 percent increase since 2008. Through interviews with military veterans attending colleges and universities in New York State, this qualitative study

explores the goals of, and challenges faced by veterans as they seek to re-enter civilian society through college/university education. The study also examines the extent to which the college education process meets the initial expectations (goals) of the veterans. Finally, the presenters develop and present a theory for understanding the plight and expectations of student-veterans in order to develop effective systems that enhance their re-entry into civilian society.

Name: William Foley
Title: *Structure and compositional characteristics in female self-portraits as an indication of female identity progression,* University Center 313
Faculty Advisor: Professor Susan Petry
Abstract: The extent to which psychological characteristics of artists are manifest in the works they create has long been of interest in psychology. Self-portraits should naturally serve as the prototype for this idea. While some studies have investigated this, very few have analyzed self-portraits by women. The present study looks at the changing and unchanging characteristics of female self-portraits over time. Both structural and compositional characteristics are measured and explored in the context of the changing roles of women.

Name: Rachel Hartmann
Title: *Traumatic Events and Quality of Life among Individuals with Military Experience,* University Center 313
Faculty Advisor: Dr. Carolyn Springer
Abstract: Post-traumatic stress disorder (PTSD) in our military is highly underreported and lacks significant research. Occurrences have increased substantially post 9/11 reaching its highest prevalence in 2011 with 15,702 individuals affected. In 2004, 3,095 incidents of PTSD were reported which supports this rapid influx of symptomology is proving to be a concerning and persistent epidemic. This research examines the variations in our servicemen's overall quality of life when correlating traumatic events and possible PTSD. Specific personal views, experiences, and symptoms may be interrelated and potential associations could allow for early detection. Participation included a minimum of 30 individuals that were 18 years of age or older with experience in the United States Military. Applicants were equally recruited regardless of gender, race, psychological or physical disabilities. Using a cross-sectional, between subjects, non-random design; all participants received the same condition. Subjective self-reports were collected using a confidential online survey generator which masked and integrated the scales utilized during testing. This included the Wisconsin Quality of Life Scale, four of the independent DDRI-2 modules used to rate military experiences, and the PCL-M scale used by the military to measure PTSD. Social media, veteran resources centers, and related associations were contacted for recruitment purposes.

Name: Andrea Maneri
Title: *Teaching and Learning with the Net Generation,* University Center 213/214
Faculty Advisor: Professor Diane Caracciolo
Abstract: Individuals who are born in 1982 or after grew up with the Internet and have been immersed in digital technology their whole lives. They are considered members of

the Net Generation. This qualitative case study of one ninth grade ELA teacher and her students examines how growing up in the digital age has impacted members of the Net Generation. The case study methods include a semi-structured interview with the teacher and classroom observations. Findings are analyzed using general categories that are aligned with common literacy skills (reading, writing, speaking and listening). This study is designed to gain a greater understanding of how students' use of technology and media challenges and strengthens their literacy skills.

Name: Manali Roy
Title: *Assessment of Personality and Memory,* University Center 313
Faculty Advisor: Professor Robert Bornstein
Abstract: The purpose of this study is to examine the effect of ego-depletion on cognitive performance and mood in people with obsessive personality traits versus control (non-obsessive) participants. To assess the presence of obsessive personality traits, participants were administered a 16-item screening questionnaire for Obsessive Compulsive Personality, which contains items for Obsessive-Compulsive Personality Disorder from the Millon Clinical Multiaxial Inventory-III (MCMI-III) and the International Personality Disorder Examination (IPDE). In the ego-depletion condition, participants were made to wait in the lab room for 7 minutes between the two tasks. Performance on the second cognitive task is used to measure the effect of ego-depletion on performance; the Multiple Affect Adjective Check List (MAACL) was administered to determine if it elicits negative affect. For this study undergraduate students currently enrolled in a Fall 2014 and Spring 2015 Psychology courses (XXX women and XXX men) were recruited via the Adelphi online experiment sign-up system. The next step of this study is to analyze the data more fully to test the hypotheses that ego-depletion will - 1) negatively affect the performance of people with obsessive personality traits more strongly than control participants in the second cognitive task, and 2) evoke more negative affect in obsessive people than non-obsessive people. The study will help researchers have a better understanding of people with an obsessive personality style.

Name: Beatrice Watford
Title: *Can Lifestyle Modifications Like Sugar Addiction Detox Reduce the Risk for Chronic Disease Such as Obesity and Metabolic Syndrome, and Increase Physical Activity Performance in Children and Adults?,* University Center 213/214
Faculty Advisor: Dr. Devon Thornburg
Abstract: There is no doubt in my mind that eating a clean diet along with exercise is the key to longevity and a healthy lifestyle. This is an open ended qualitative study and its purpose is to provide education to adults and children in the community of Nassau County, the benefits of refraining from sugar in their diets. The CDC and other organizations have linked sugar to health disparities. Within the community this study will show the negative impact of sugary diets and compare it with US statistics. This study will also motivate those within the community who are addicted to sugar to take steps to reduce sugar, make wiser food choices, take steps to exercise, thus improving their health and quality of life.

Name: Carolan Weyn

Title: *Classroom Management Strategies in a Secondary Education Classroom,* University Center 213/214
Faculty Advisor: Professor Diane Caracciolo
Abstract: There is a very important link between how a teacher manages a classroom and how effectively the students learn. This qualitative case study of three English high school teachers and their prospective classes of students used observations, field notes and interviews to seek and discover classroom management strategies that can be implemented in order to create a positive environment in a secondary classroom. Some strategies examined and evaluated for effectiveness are: creating an environment of respect and rapport, establishing and consistently reinforcing rules and routines, using location as a classroom management tool, and the skill of selectively ignoring negative student behavior. It is difficult to make any definitive statements on what works best when it comes to classroom management, due to the fact that various teachers have differing opinions and approaches to classroom management. While some strategies seem to be more effective than others, each teacher must constantly use their individual judgment and determine what strategies work best for them.

Undergraduate Psychology Poster Presentations
Name: Oliver Auguste, Karunya Bhattacharya, Marcha Couyoute, Tiffaney Johnson, Pamela Karouzakis, Michael Khayan Lontscharitsch, Shley Mauro, John Medina, Kaitlyn Nuzzi, Leela Riquelme, Ahmad Salamah & Michael Spinella
Title: *Putting it Together: Student Projects from Practicum in Experimental Psychology (398-004),* A13
Faculty Advisor: Dr. Carolyn Springer
Abstract: The interactive capstone experience for undergraduate psychology majors, Practicum in Experimental Psychology, builds upon students' knowledge of research methodology and statistics and provides them with a venue for independently designing and conducting their own research study. This poster presents the on-going research projects of students enrolled in Section 004 of this class in Spring 2015. Students will discuss their progress to date in devising, implementing and analyzing data from their research studies which span a variety of areas in the field including developmental psychology, social psychology, sports psychology, educational psychology, personality, health psychology, and cognitive psychology.

Name: Daniel Brennan, Victor A. Del Bene, John Butler & Sophie Molholm
Title: *An FMRI Investigation of the Development of Hemispheric Differentiation in Multisensory Speech Integration in Neurotypical Children and Adolescents, and Individuals with Autism Spectrum Disorder,* A14
Faculty Advisor: Dr. John J. Foxe; Dr. Lars Ross
Abstract: Autism Spectrum Disorder (ASD) is a pervasive developmental disorder characterized by persistent deficits in social interaction, stereotyped patters of behavior and impairments in verbal and non-verbal communication. Language deficits are some of the most salient overt symptoms in ASD. While it is widely acknowledged that ASD is a disorder of brain development, the neural basis of these language deficits remains poorly understood. Social communication is multisensory in nature, and there is emerging evidence that the ability to integrate sensory information is impaired in ASD. In this

study we investigated neural mechanisms underlying the integration of auditory and visual speech signals in ASD using functional Magnetic Resonance Imaging (fMRI). More specifically, we studied whether altered hemispheric differentiation of neural networks involved in language processing in ASD can be observed audiovisual speech perception task. In this study we scanned 19 children and adolescents diagnosed with ASD and 26 age and IQ matched neurotypical controls between 7 and 17 years of age while watching a video of a speaker narrating a story. This continuous story was manipulated to smoothly transition between blocks of auditory- only (A), visual- only (V) and audiovisual (AV) conditions. We compared blood-oxygen-level dependent (BOLD) responses between ASD and neurotypical groups in multisensory brain regions defined by a superadditive (AV > A+V) BOLD- response to the audiovisual condition. The developmental trajectory of multisensory activation and hemispheric differentiation in neurotypical participants was assessed and compared to BOLD- measures in ASD participants. The results of this study have significant implications for our understanding of the development of brain networks underlying the integration of auditory and visual speech stimuli and their altered developmental trajectory in ASD.

Name: Serena Chapman, Haley Blunt, Gabriella Calia, Nicole Ficano, Russell Garcia, Angela Khoury, Rose Lernihan, Jennifer Mahr, James Martin, Ajsha Mekulovic, Christina Minolts, Valerie Rodriguez & Jessica Stolfi
Title: *Ongoing Research Projects in Practicum in Experimental Psychology Spring 2015,* A15
Faculty Advisor: Professor Susan Petry
Abstract: Presented here are short descriptions of research being done by students in Practicum in Experimental Psychology in Spring 2015, s.001. Students will be present to discuss their work. This semester students are investigating attitudes differences in contact and non-contact sport athletes, posting determinants in Instagram, the nature of the influence of childhood dreams on later success, attitudes towards stress and milestones in life, anxiety and self-talk in athletes, bias in judgements of attractiveness and cheating for ones 'own team', color preferences and product packaging, birth order and parental bonding and attachment, number-form synesthesia and mental representation of abstract concepts, attitudes towards sex and std testing in athletes, impact of TV viewing on personality in different age groups,perceptions of beauty in art by introverts and extroverts and non-verbal learning of choreography in different majors- multiple intelligences model.

Name: Kathryn Graham
Title: *A Profile of Borderline Personality Disorder Features in Late Adolescence: A Review of the Literature,* A16
Faculty Advisor: Dr. Laura Brumariu
Abstract: Borderline personality disorder (BPD) is a serious psychological disorder characterized by a pattern of instability in interpersonal relationships, self-image, and affects, and marked impulsivity (American Psychiatric Association, 2013). Research has shown that personality traits are not stable until adulthood (Stepp, 2011). However, studies suggest that similar BPD features might be observable in adolescence, therefore,

it is important to understand the developmental correlates of BPD at this age (Stepp, 2011; Bornovalova et al 2009; Sharp et al 2014).

The goal of this review was to identify developmental factors associated with BPD features in adolescents (ages 13-18), and provide a comprehensive picture of BPD features in adolescence. An extensive search of the literature was conducted and findings suggest that adolescents experiencing BPD features show increased impulsivity and suicidality, poor emotion regulation skills, and elevated levels of experiential avoidance. Childhood trauma, including sexual abuse, is also associated with BPD. Finally, family factors, including low maternal support, low family cohesion, high levels of maternal-child discord, and insecure parent-child attachment were associated with later BPD features in adolescence. Given the significant costs associated with adult BPD, these findings suggest that it is important to have a comprehensive understanding of BPD in adolescence to increase early identification and intervention (Sharp & Bleiberg, 2007).

Name: Eric Homburger
Title: *Gender Differences in Colligate Soccer: Aggressive vs Violent Behavior,* A17
Faculty Advisor: Dr. Carolyn Springer
Abstract: This study explores gender differences in collegiate soccer; more specifically differences in aggressive and violent behavior between the two genders. Aggressive and violent behavior in sports has been a topic of much controversy as of late, and this research will shed some light into what levels of aggressive/violent behavior college athletes exert. This research will also investigate what factors make student athletes more aggressive or violent, on and off the field. The researchers hypothesized that men would show more violent behavior, while women would be more aggressive on the field. Twenty- seven women and 30 men from Adelphi University's soccer program were asked to participate in this study; ages ranged from 18-22. A series of short questionnaires including, socio-demographics, health behavior, perceptions of violent and aggressive actions in sports, and their opinions on what constitutes as violent or aggressive behavior in sport, were administered online. Analyses included frequencies and descriptive statistics, t-tests and analyses of variance to examine group differences and correlations and cross tabulation analyses to examine relationships among variables. Implications of the findings for athletic directors, physical educators, coaches and players are discussed.

Name: Bonnie Ippolito, Victoria Khaimova & Christina Minolts
Title: *Do Men and Women Drink for Different Reasons?: Gender Differences in the Association of Personality and Risky Drinking Behaviors among First-Year College Students,* A18
Faculty Advisor: Dr. Katherine Fiori
Abstract: Previous research has demonstrated that certain personality characteristics, such as extraversion, sensation-seeking, and impulsivity, are associated with risk-taking behaviors like binge-drinking (Diulio, Silvestri, & Correia 2014; Hustad, Pearson, Neighbors, & Borsari 2014; Kambouropoulos & Rock 2010; Mackinnon, Kehayes, Clark, Sherry, & Stewart 2014; Otonari, Nagano, Morita, Budhathoki, Tashiro, Toyomura, & Takayanagi 2012; Pearson & Hustad 2014). However, less well known is how neuroticism is linked to drinking behaviors, and whether gender moderates the

association between personality and drinking behaviors. The purpose of the present study was to examine gender differences in the association of extraversion and neuroticism with drinking behaviors in first-year college students. Our sample consisted of 287 first-year students from a small university in the northeast of the United States (Female n = 242; Male n = 45). Students were asked to complete a survey during their first few weeks of college. The survey asked students to self-report on a number of variables, including personality (extraversion and neuroticism) and risky drinking behaviors (binge-drinking). Regressions revealed that among males, extraversion and neuroticism were positively associated with the number of drinks consumed the last time they partied. In contrast, among females, only extraversion was predictive of risky drinking behaviors (extraversion significantly positively predicted both the number of drinks consumed the last time they partied, and how many times they had 5 or more drinks in the past two weeks). Findings have implications for understanding individual differences in the reasons for risky drinking among college students, and for tailoring college-based interventions to combat these risky drinking behaviors.

Name: Fallon Kane
Title: *The Other Side of Abuse: Dependency in Male Perpetrators of Domestic Violence,* B13
Faculty Advisor: Dr. Robert Bornstein
Abstract: Dependency in male perpetrators of domestic violence is an understudied phenomenon in the study of intimate partner violence (IPV). The goal of this paper is to quantify the abuse- dependency link using meta-analytic techniques, as it appears 17 studies published between 1988 and 2014. Studies were gathered from Bornstein's (2006) review of this relationship, and added onto via an extensive literature search using relevant dependency/domestic violence search terms. Results indicate a modest bust statistically significant relationship between dependency and domestic violence ($r = .121$, Combined $Z = 4.37$, $p < .0001$), with the result becoming stronger ($r = .380$, Combined $Z = 6.00$, $p < .0001$) when studies using dependent personality disorder symptoms were omitted. The findings in this research will ultimately help in better understanding how to treat and study male perpetrators of domestic violence, and to distinguish how the dependency-IPV relationship differs when a personality disorder model of dependency is used versus the more spectrum/trait based approach.

Name: Nicholette Lewis
Title*:* *Compassion Satisfaction, Burn Out, and Secondary Traumatic Stress among Healthcare Professionals,* B14
Faculty Advisor: Dr. Jerold Gold
Abstract: Treating, interacting with, and caring for patients who have experienced a traumatic event can take a toll on one's health. Research has shown that approximately one out of seven patients seen by healthcare professionals (HCPs) has experienced at least one traumatizing event in their lifetime and nearly 50% of HCPs may become secondary victims as a direct result of treating these traumatized patients (Seys et al., 2013). Secondary victims often suffer from burn out and secondary traumatic stress (two essential components of compassion fatigue) after being exposed to information

regarding another's trauma. This study will address the gap in the literature regarding compassion fatigue among HCPs who work solely with patients in need of home care services. Levels of burn out, secondary traumatic stress, and compassion satisfaction of various different healthcare professionals are assessed. This study also examines whether or not the type of care administered by HCPs affects these levels. Participants (n=100) recruited from Centerlight Health Care Systems completed two questionnaires assessing quality of life using the Professional Quality of Life Scale (ProQOL) a measure of compassion satisfaction, burn out, and secondary traumatic stress and responses to stressful job-related experiences. Results from previous research suggest that this study's findings will show that compassion satisfaction will be negatively correlated with burn out and secondary traumatic stress for all professionals. It is also expected that professional job titles that have the highest scores for burn out and secondary traumatic stress will be significantly correlated with levels of professionals' interaction with patients and the type of care they administer. Limitations and suggestions for future research are discussed.

Name: Samantha Maiale, Nickie Antypas, Brittany Bonasia, Jennifer Choi, Joseph Diaz, Julianna Lombardi, Danielle Lundgren, Christina Mastropolo, Nae'ema Nadir, Stephanie Parvis & Janine Quintino
Title: *Ongoing Research Projects in Practicum in Experimental Psychology Fall 2014,* B15
Faculty Advisor: Dr. Susan Petry
Abstract: Presented here are short descriptions of research done by students in Fall 2014 class Practicum in Experimental Psychology. Students will be present to explain their work. Fall semester's research included occupation and fear of dentists, what does it mean to 'hold the pen awkwardly', compulsive shopping and body image, attitudes towards punishment and locus of control, personality and volunteering, delay of gratification and alcohol use, cheerleader personality stereotyping, parental punishment style and experience with children, childhood role-models in students from one and two-parent households, exercise type and stress reduction and negative self-talk and body image.

Name: Timothy McGowan
Title: *Relationship Between Affective Disorders and Risk of Suicidality Among Children With or Without ADHD,* B16
Faculty Advisor: Dr. Francine Conway
Abstract: This present study explores the relations between affective disorder and risk of "suicidality" among children with or without attention deficit hyperactivity disorder (ADHD). The empirical literature suggests that being diagnosed with an affective disorder increases an individual's risk of suicidality. (Kilbane, Gokbayrak, Galynker, Cohen, & Tross, 2009). Affective disorders were operationalized as individuals meeting the DSM IV criteria for Major Depressive Disorder, Bipolar Disorder, or Mood Disorder NOS. Additionally, "suicidality" was operationalized as a child with a history of suicide, thoughts of ending their life, preoccupation with ending their life, prior suicide attempts either single or multiple, plan of ending life, and/or a suicide attempt with hospitalization. The present study included 87 children who were hospitalized at an inpatient psychiatric hospital in an urban setting. There were no significant differences in affective disorders

between ADHD and non-ADHD children. Descriptive analyses and Analysis of Variance (ANOVA) were completed to examine group differences in level of suicidality with the expectation that children diagnosed with an affective disorder and ADHD would experience a greater risk of suicidality. The mean age of participants was 12.7 (SD = 2.85). The ages ranged from seven to 18 years old. Males made up 63 percent of the participants. Multivariate analysis shows that among children without an ADHD diagnosis but who are diagnosed with an affective disorder were more likely to express higher levels of suicidality ($F = 4.01$, $p < .05$). When suicidality and affective disorders were considered with anxiety disorders results showed that ADHD kids with anxiety disorders were significantly more likely to report suicidality ($F = 3.68$, $p < .05$; M(ADHD)=1.08,SD = 1.24). These findings replicate those from relevant previous studies. But, expand the existing body of knowledge about anxiety as a risk factor for suicidality among ADHD children.

Name: Melissa Mero
Title: *The effect of empathy level on the perception of emotions in voices and photographs,* B17
Faculty Advisor: Dr. Susan Petry
Abstract: Empathy is the ability to understand and share the feelings of another. It varies in each person and can affect how one perceives emotions. This research focuses on how the level of empathy a person has can affect how they perceive emotions in faces that were photographed and voices that were recorded. We also chose to focus on if whether the face/voice belonged to a child or an adult, affected how empathetic a person can be. Participants were recruited from a college campus and ranged from age 19-34. Twenty Google images and twenty 9-1-1 audio clips were used as stimuli. They were selected from images and 9-1-1 calls available on the internet and displayed emotional facial expressions and voice recordings of both calm and fear. During the study first the audio clips were played in random order. After each audio clip participants were asked to rate on a scale of 0 (no emotion) to 4 (strong emotion), how strong was the emotion in the clip they listened to, as well as how strong an emotion they felt after listening to the clip. After this, the process was repeated for the viewing of photographs. Each participant then took the Toronto Empathy Scale which measures various aspects of empathy using self-ratings and is widely used in the field. Preliminary results suggest that children in general elicit stronger emotional responses compared to adults. They also suggests that audio stimuli (9-1-1 clips) are more effective than visual stimuli (photographs). Further analysis will reveal more results and the significance of these results.

Name: Elizabeth Nestler
Title: *Judging Violence Potential of Criminals in Video Clips,* B18
Faculty Advisor: Dr. Susan Petry
Abstract: Nonverbal cues are important in predicting the behavior of others during social interactions. Facial expressions, gestures, and bodily movements convey this necessary information that is perceived and processed subconsciously. There is little research on how accurate we are in judging violence potential of individuals using only nonverbal

cues. The present study looks at the accuracy of college students in judging the violence potential of inmates. Video clips from MSNBC's Lockup:Raw were presented without audio. The inmates selected in the videos were from four groups based on the nature of their crimes and their behavior while incarcerated. The four groups were violent crime and violent while incarcerated, violent crime and not violent while incarcerated, nonviolent crime and nonviolent while incarcerated, and nonviolent crime and violent while incarcerated. After each video, participants were asked to answer four questions involving the nature of the original crime, if the prisoner had been violent while incarcerated, the length of the sentence, and how sympathetic the participant feels towards the inmate. After all video clips had been presented, each participant completed the Toronto Empathy Questionnaire. Preliminary research found that there was little accuracy in judging how violent the inmates' crimes. However, participants were approximately 80% accurate in judging whether nor not the inmate has been violent while incarcerated. Inmates who were violent while incarcerated, whether the initial crimes they committed were violent or not, were assigned significantly longer sentences and viewed with less sympathy compared to inmates who were not violent while incarcerated. In addition, individuals with higher empathy scores felt more sympathy towards inmates who were not violent while incarcerated. Thus, it appears that violence can be perceived best when it is recent. The immediate past is the best predictor for violence potential.

Name: Lisa Rabinovich
Title: *The Dissolving Mind: An Analysis of the Progression of Cognitive Degeneration in Artists as Seen Through Their Artwork,* C13
Faculty Advisor: Dr. Devin Thornburg; Dr. Susan Petry
Abstract: This study will assess early, middle, and late works of art by 20th century artists with Alzheimer's disease and the manner in which the condition manifests in their artwork. This study will evaluate 90 works of art created by 6 artists who have suffered from Alzheimer's disease. In order to track the progression of the disorder, structural characteristics of the works will be analyzed, specifically the artists' color palate, use of color, brushstroke, the amount of the canvas being used, as well as the level of realism and abstraction in the artwork. Analysis of self-portraits painted by artists suffering from dementia reveals the progressive appearance of style changes over many years (Bogousslavsky & Hennerici, 2007). It is hypothesized that it is possible to track cognitive degeneration through the lens of studio art and to physically see the transformation of the body and mind on canvas.

Name: Leah Reisert
Title: *The Association between Adoption Status and Attachment Styles during the Transition to College,* C14
Faculty Advisor: Dr. Katherine Fiori
Abstract: The purposes of the present study are to determine whether adoption status is predictive of attachment styles and college transition outcomes, and to test whether attachment styles mediate and/or moderate the association between adoption status and outcomes. A group of 14 college student adoptees and a comparison group of 38 college student non-adoptees were given a self-report survey measuring attachment styles and

college transition outcomes. We predicted that insecure attachment styles (anxious and avoidant) would be positively correlated with negative college transition outcomes; adopted individuals would have higher rates of insecure attachment styles than non-adopted individuals; that attachment styles would mediate the association between adoption status and outcomes (that is, higher levels of insecure attachment in adopted individuals would at least partially explain their worse college transition outcomes); and finally, that adoption status would interact with attachment styles in predicting college transition outcomes (that is, only insecurely attached adopted individuals would have negative college transition outcomes, whereas securely attached adopted individuals would fare as well as non-adopted individuals). It is our hope that the findings from this research will aid in the creation of support services to help adopted individuals transition smoothly to college.

Name: Rebecca Roditski
Title: *Minimal Interactions and Subjective Well-Being: Potential Moderating Effects of Extraversion-Introversion,* C15
Faculty Advisor: Professor M. Joy McClure
Abstract: We interact with strangers almost every day during our commutes, while in line to make purchases, and in nearly every public place we go. Previous research has shown that even such minimal interactions can improve subjective well-being (Sandstrom & Dunn, 2013, 2014). Interacting and making connections are simple tasks for some, but for others merely thinking about a potential interaction with an unfamiliar person can be tiring. The purpose of the present study (a replication and extension of Sandstrom & Dunn, 2013) is to examine whether the effects of minimal personal interactions on subjective well-being are moderated by extraversion-introversion. In addition to examining potential benefits for subjective well-being, the present research will examine potential costs to state self control. 80 participants will be recruited on their way into a coffee shop. They will be given a goal to either complete an efficient transaction or to form a genuine connection with the barista, as per the original study. Prior to entering the coffee shop, participants will answer a questionnaire measuring extraversion-introversion (adapted from Saucier, 1994). Following the interaction, participants will complete questionnaires to rate the efficiency/connection in their interaction, their state self control (adapted from Ciarocco et al., 2010), and their positive affect (Diener et al., 2009). It is hypothesized that participants given the goal to make a connection will experience a boost in positive affect compared with those given the goal to complete an efficient transaction (replicating Sandstrom & Dunn, 2013), but that this will be moderated by extraversion-introversion, such that more introverted people will be more sensitive to the benefits of connection. However, it is also hypothesized that introverted people will be more likely to incur a cost in state self control when making these connections, given that they find social interactions to be more effortful.

Name: Kimberly Velazquez & Kathryn R. Giuseppone
Title: *Role Confusion in the Mother-Child Relationship Among Adolescents with and without Anxiety Disorders,* C16
Faculty Advisor: Dr. Laura E. Brumariu; Dr. Karlen Lyons-Ruth

Abstract: Literature suggests that poor parent-child relationships are related to anxiety disorders (Rapee et al., 2009). However, little is known about relations of parent-adolescent role confusion (Vulliez-Coady et al., 2013) and interpersonal trauma with anxiety disorders, particularly in the context of comorbidity (Cassidy et al., 2009). We extend the literature by comparing adolescents with anxiety disorders and comorbid Axis I diagnosis to adolescents with no Axis I diagnosis, and to those without anxiety disorders but with similar comorbid Axis I diagnoses, on role-confusion and interpersonal trauma. The sample included 109 late adolescents (Mean age=19.9, 43 males) and their mothers. Anxiety diagnoses were assessed with the SCID-I (First et al., 1997). Role confusion was assessed with the Caregiving Helplessness Questionnaire (mother report; George & Solomon, 1996) and with the Childhood Experience of Care and Abuse questionnaire (adolescent report; Bifulco et al., 2005), yielding scores for emotional and instrumental role confusion. An overall rating for severity of trauma from birth to age 18 was assigned based on the Conflict Tactics Scale, the Traumatic Stress Schedule, and the Childhood Traumatic Experiences Scales-Revised. Adolescents with anxiety disorders and comorbid diagnosis compared to those with no diagnosis, reported higher levels of emotional role-confusion with their mothers (M(SD)=2.74(1.33) and M(SD)=1.90(.92), $p<.01$, and had mothers who tended to report higher levels of caregiving helplessness M (SD)=91.43(17.75) and M(SD)=78.01(9.24), $p=.07$. Further, adolescents with anxiety and comorbid diagnosis had higher levels of interpersonal trauma than did those with no diagnosis, M(SD)=3.64(1.93) and M(SD)=2.53(1.88), $p<.01$. No other significant differences between groups were found. Our findings suggest a transactional model of adolescent anxiety in which both mothers and adolescents have a sense of role confusion resulting in helplessness. Results also point to the potential importance of addressing role confusion and interpersonal trauma when working with adolescents with anxiety disorders.

Undergraduate Social Sciences Poster Presentations

Name: Kimberly Lombardi, Allison Adler & Kaitlin Shahinian

Title: *A Bioarchaeolgoical Study of Klazomenaen Osteological Remains from Asia Minor and Aegean Thrace from the 7th c. BC/BCE: Reflections on a Pioneering Population,* A22

Faculty Advisor: Dr. Anagnostis Agelarakis

Abstract: The Klazomenaens, members of the Ionian Confederacy of Asia Minor, were the first Greeks to migrate to European Thrace, during the Archaic Period (7th c BC/BCE), where they laid the foundations of the city-state of Abdera. An ongoing, interdisciplinary, archaeo-anthropological project between the Hellenic Antiquities Authorities and Adelphi University's Department of Anthropology, provides unique bioarchaeological data retrieved from the skeletal record of the Klazomenaeans at Abdera and the mother city of Klazomenai in Asia Minor. Using the methodological approaches of anthropological archaeology and forensic anthropology this presentation will elucidate aspects of the daunting conditions during the first eight decades of settlement at Abdera as reflected through the demographic dynamics of age and biological sex subgroups. Additionally, assessments of osteological remains yielded ante mortem manifestations of

occupational, degenerative, and paleopathological conditions substantiating the tribulations experienced by the Abderetes as recorded in the historical record. The subtleties of their constraints are further compared with dynamics of their contemporary population at the mother city of Klazomenai, in Asia Minor, revealing the life conditions and stressors experienced by the Klazomenaens in both settlements during the Archaic period. This presentation is of interest to anthropologists, archaeologists, and historians, as well as scholars studying population migrations in both historical and contemporary contexts.

Name: Edward Maher
Title: *Does The System Benefit Everyone,* B22
Faculty Advisor: Dr. Jacqueline Olvera
Abstract: In order to succeed in many western societies, most people believe that individuals should go to college as a way of achieving social mobility. However, some individuals believe that working hard for what you want is enough. This paper asks does education make a difference in whether an individual believes that the system benefits all people with any type of opportunity that they want to possess? This research focuses on the relationship between education and individual beliefs about inequality. Using the General Social Survey (GSS), this paper tests the association between education and beliefs about working hard. I measure beliefs in inequality from the GSS question – Inequality Continues to exist because it benefits the rich and powerful"- for the dependent variable. The second variable used from GSS is "Respondent's degree" for the independent variable. For the research component of the data, I focused using different forms of analysis from bivariate and descriptive statistics using these independent and dependent variables. The findings from the data using SPSS shows evidence of an association between degree and beliefs: people with "Less than a high school diploma" believe the rich had more opportunities for advancement in a competitive social system. The research also shows that people with a bachelors or graduate level degree disagree that inequality benefits the rich compared to people with less than high school and high school level of education. Based on the research conducted, the conclusion drawn is that the level of education shows different beliefs on inequality. The people with lower levels of education believe they are at a disadvantage in terms of status. For people with higher education, they believe that the system does benefit people in terms of social advancement and having a career.

Name: Anastasiya Martinova
Title: *A Comparative Analysis on Kosovo and Ukraine,* C22
Faculty Advisor: Dr. Devin Thornburg
Abstract: In talks of succession, many countries have been closely linked. In today's world there is a comparison being drawn between Crimea and Kosovo. Although Kosovo suffered from ethnic cleansing under the reign of Slobodan Milosevic and Crimea succeeded via referendum, many are concerned about the political consequences of the territorial claims from Russia. This paper will focus on analyzing human right violations as well as comparing the aftermath of succession.

Name: Natnael Petros & Catherine Xie

Title: *Enculturation and Acculturation,* C23
Faculty Advisor: Dr. Devin Thornburg
Abstract: The purpose of this research is to learn of the enculturation and acculturation of refugees, immigrants, and/or new citizens in the United States. Acculturation is the indoctrination of one's first culture and enculturation is the learning, exposure and/or assimilation of a new culture (second culture learning). Using students from ELS (English Second Language) and the International Student community (based on the length of their stay in the United States) at Adelphi University as a case study, we would like to discover is what factors contribute to migrants choosing to become enculturated in American society or remain acculturated in their native culture while being new residents in the United States. Through the use of giving out surveys to our target audience we expect to discover that the majority of them will choose to remain more acculturated with their own culture while not fully assimilating (enculturation) in U.S culture. Second culture learning doesn't come easy when one wasn't exposed to new cultures from their original home.

Name: Elizabeth Sam
Title: *Improving Nursing Care for the Transgender Population Through Culturally Sensitive Nursing Education,* B23
Faculty Advisor: Professor Louise Geddes; Professor Traci Levy; Professor Deborah Ambrosio
Abstract: The Williams Report estimates that in the United States, there are approximately 700,000 transgender individuals. While this number appears small, the report further states that fear of harassment or discrimination has lead to underreporting by this community with regards to their true gender identity. Such fear is not without basis, as the Center for Disease Control has identified that transphobic discrimination is directly responsible for high rates of homelessness, poverty, and unemployment as well as untreated physical and mental illness in this population. While healthcare settings are often viewed as safe spaces where individuals may receive non-judgmental care, research demonstrates that the transgender population is actively discriminated against within these contexts. A lack of culturally sensitive and transgender inclusive nursing education has resulted in a dearth of understanding about among nurses about the needs of this population, and has further contributed to the stigmatization of this population. This project looks to use evidence based research to evaluate the treatment of the transgender population, both in nursing academia as well as within clinical contexts, and proposes means of improving nursing training so that it is inclusive of the experiences of transgender patients.The goal of this project will be to improve the quality of nursing care towards the transgender population through the development of culturally sensitive practices, which will potentially improve health outcomes for this demographic.

Name: Adriana Simone
Title: *Is There a Generation Gap in Views Towards Homosexuality Among Americans,* B28
Faculty Advisor: Professor Olvera
Abstract: Recent studies on attitudes towards homosexuality and same sex marriage show that there is a generation gap in beliefs about homosexual relations. These studies

find that millennials (18 thru 33 year olds) are more liberal in their views about same-sex marriage compared to the silent generation (individuals 68 years old and over). Using GSS data for 2008 and 2012, this paper investigates the factors that explain this gap. This study compares 2008 and 2012 responses to examine whether attitudes toward homosexual relations shifted across these two generational groups since the passing of Prop 8 (the California ballot initiative that legalized same-sex marriage).

Name: Taylor Soete
Title: *White Privilege in the United States Arraignment Court System,* C24
Faculty Advisor: Professor Deborah Little
Abstract: Many researchers have documented the existence of white privilege in social institutions in the U.S. For example, race plays a very large role in our criminal justice system." In this research, I have analyzed the workings of white privilege as well as the treatment of white ethnographers in the arraignment court room. To collect this data, I observed in an arraignment court in the North East. I collected this data over a five week period in the fall of 2014. Throughout my research, I found that white privilege does indeed exist within the arraignment court room. Much of the white privilege being displayed in the court room is given to white ethnographers. I analyzed the treatment of student researchers in this courtroom and learned that white student researchers are granted greater access to the court proceedings than non-white student researchers or non-white family members. This research adds to our understanding of the operation of white privilege.

Name: Adika Venture
Title: *The Art of Stratigraphy,* A23
Faculty Advisor: Professor Argiro Agelarakis, Professor Bryan Wygal
Abstract: Among all of the methods for relative dating Stratigraphy is a commonly used method for most archaeologist when they are in the field. it has become common place on most excavations to have someone on site that will draw the stratagraphic data, to best give a pictographic view of where one era ends and another starts. In my research i will be explaining the importance of stratigraphy to the Archaeological field work of Brian T.Wygal and Ted Goebel through the Early Prehistoric Archaeology of the Middle Susitna Valley.

Name: Alexandra Wurglics & Hannah Kim
Title: *Perceptions of Homeless Romans by American Study Abroad Students,* B24
Faculty Advisor: Professor Ben Scribner
Abstract: Rome, like any major city in the world, has a diverse demographic mix including native Romans, immigrants, study abroad students, and the homeless. The purpose of this research project is to look deeper into the perceptions that American study abroad students have of the homeless living in Rome. This research was prompted by a semester abroad, in which volunteering with the homeless was an integral part of the experience. Background research, with the help of academic journals and newspaper articles, helped gain an understanding of the homeless and how they ended up in their situations. This led to greater awareness about Italian recession and unemployment rates. Not only is Italy in one of its worst post war recessions, it also has its highest

unemployment rate in the last three decades. In order to carry out this research, interviews with various students and homeless people were conducted. These interviews are evidence of a big misperception of the homeless. The first result concludes that the students' perspectives of the homeless change from person to person. Visiting students who volunteered with the homeless were more apt to see them as regular Romans affected by the economic downturn or other life events while others did not pay attention to the population at all. Another result is the established pattern that many study abroad students based their ideas of the homeless solely on their experiences from the United States. Finally, the most important aspect of this entire project (only realized by the end) is that speaking with many different people, and being exposed to the homeless in such a real way, has raised even more questions for future investigations. These include delving deeper into local Roman volunteers' perspectives of the homeless, the resources available to the homeless, and the Italian government's interaction with homelessness. Hopefully this study is just the jumping off point to understanding the Roman homeless in a more real and raw way.

Name: Samantha Zawistowski, Danaleah Schoenfuss & Kaitlin Shahinian
Title: *Musculo-Skeletal Analysis of a Neolithic Population in Crete, Greece,* A24
Faculty Advisor: Professor Anagnostis Agelarakis
Abstract: This project, part of a larger interdisciplinary endeavor, presents forensic anthropologic data relative to the ongoing study of remains recovered at the Aposelemis site in Crete, Greece. The human remains represent the first formal Neolithic burial ground discovered on the island, comprising of 53 funerary contexts. The burial site was discovered under rescue excavation circumstances by the Greek Archaeological Service, deeply stratified beneath a Minoan time period buildings complex.

This study focuses on aspects of skeletal morphology with emphasis on musculo-skeletal changes reflecting on biological sex and age subgroup dynamics, revealing aspects of life conditions. The research takes into account manifestations of bone robusticity, skeleto-muscular changes, and degenerative disease such as osteoarthropathies and joint eburnation. Forensic analysis reveals that musculo-skeletal changes are present in greater prevalence among men than women, occurring in differing anatomic loci between sexes. Across age subgroups past Sub-Adulthood, there appears to be no significant trend discriminating towards any age group regarding a predominance in skeleto-muscular changes, although cases of osteoarthropathies and joint eburnation steadily increase from Late Adulthood toward older age cohorts.

So far there appears to be no co-relative or discriminatory parameter between longevity and skeletally robust versus gracile individuals. This may indicate that, while the observed variability in musculo-skeletal changes reflects on facets of gender based labor diversity, the engagement in more labor intensive weight bearing work was not disposing the individuals involved to a higher risk of morbidity or mortality.

This study offers unique contributions of significant interest to prehistorians, archaeologists and anthropologists, as well as scholars investigating the human condition through the social and biological sciences during the Neolithic period in the Mediterranean basin.

Graduate Psychology Poster Presentations
Name: Colleen Bucci
Title: *How Does Early Attachment Influence Later Cognitive Ability?,* A19
Faculty Advisor: Dr. Laura Brumariu
Abstract: Cognitive abilities are associated with better health and overall well-being (LÃª-Scherban et al., 2014), therefore, it is important to identify early precursors of cognitive abilities. Few studies assessed attachment security as a predictor of cognitive abilities, and fewer studies investigated this link longitudinally (West et al., 2013). Additionally, little is known about mechanisms explaining this relation (Oâ€™Connor & McCartney, 2007). Theoretically, self-efficacy in math is related to both quality of attachment and cognitive abilities. Our study extends the literature by evaluating whether attachment security in infancy influences cognitive ability at age 15 years, and whether math self-efficacy explains this relation. This study relied on the longitudinal NICHD Study of Early Child Care dataset (N = 1,364; 705 boys). Attachment with mother was assessed using the Strange Situation at 15 and 36 months. Cognitive ability was measured at age 15 years. Children also completed a measure of math self-efficacy at grade 6. Results show that securely attached children, compared to insecurely attached children at 36 months, had significantly greater cognitive abilities. They also showed higher self-efficacy in math. Self-efficacy in math was significantly associated with cognitive abilities, and partially mediated the relation between attachment at 36 months and cognitive abilities. Results were not significant for attachment at 15 months. Our study is among the first to show that perceived self-efficacy in math at grade 6 partially explains the relation between early attachment security and cognitive ability in adolescence. Findings highlight the long-term importance of the quality of early mother-child attachment for cognitive abilities. Identifying self-efficacy as a mechanism through which attachment influences cognitive abilities over 12 years is an important step toward improving prevention and intervention efforts.

Name: Kathryn Giuseppone
Title: *Does Future Time Perspective Explain the Relation between Attachment and Depression in Middle Childhood? Evidence from Romania,* A20
Faculty Advisor: Dr. Laura E. Brumariu
Abstract: Previous literature has demonstrated that children with lower levels of parent-child attachment security experience higher levels of depressive symptoms. Few studies have assessed factors that might explain this relation between attachment and depression, particularly in Eastern European samples. Future time perspective, or children's expectations about their future, is conceptually linked with both attachment and depression. This study adds to the literature by examining whether attachment security is related to depression and time perspective, and whether time perspective explains the relation between attachment security and depression in middle childhood. The sample included 306 children (grades 5-7, 155 females) and their mothers from Romania. Children completed the Security Scale, the Time Perspective Questionnaire, and a measure of depression. Results show that children with lower levels of secure attachment had higher levels of depression and poorer future time perspective on all three dimensions. Children reporting poorer future time perspective also reported higher levels of depression. Total future time perspective mediated the relation between attachment

security and depressive symptoms and only short-term time perspective on leisure time contributed significantly to mediation. Long-term time perspective on social relations and leisure time did not explain the relation between attachment security and depression. This study is among the first to show that attachment security is related to children's expectations about their future in middle childhood, and that short-term time perspective on leisure time mediates the association between attachment security and depression in an Eastern European sample. Identifying mechanisms that explain the association between attachment security and depression is an important step in regards to understanding the development of depressive symptoms and managing interventions.

Name: Michael Grisanti
Title: *Defense Styles and Coping with Threats to Psychological Needs,* A21
Faculty Advisor: Professor M. Joy McClure
Abstract: Some stressors are more threatening to our psychological well being than others. The purpose of this research is to examine if an individual's primary defense style impacts their assessment and understanding of threats to psychological needs of relatedness, competence, and autonomy. Participants will complete a websurvey including previously validated questionnaires asking about defense styles. Participants will then be randomly assigned to respond to scenarios describing stressful situations that threaten autonomy, competence, or relatedness. Responses include measures of affect and coping strategies. It is expected that participants who endorse more mature defense styles will feel less threatened by the scenarios and will choose more adaptive coping strategies. This may be moderated by the particular need under threat, with relatedness threats potentially being most impactful.

Name: Leah Harris
Title: *Affinity-Seeking in Relationships,* B19
Faculty Advisor: Professor M. Joy McClure
Abstract: Although humans are driven by a fundamental need to connect with others, previous research has shown that fear of rejection can lead to behavior that is inhibited and indirect. More recent theorizing has highlighted that relationships include both threats to be avoided (e.g. rejection, hurt feelings) and rewards to be gained (e.g. support, feelings of closeness). In the current investigation, we will use hypothetical scenarios to examine affinity-seeking behavior in two important contexts: when seeking support from a new relationship partner, and when initiating a relationship with a prospective partner. Levels of reward and threat will be manipulated independently. It is hypothesized that levels of reward will predict the level of affinity-seeking whereas levels of threat will predict whether more direct or indirect strategies are pursued.

Name: Taylor MacFarland
Title: *How Psychological Well-Being is Affected by the Presence of a Congenital Vascular Anomaly,* B20
Faculty Advisor: Dr. Carolyn Springer
Abstract: The purpose of this research is to identify what psychological entities exist as the result of a congenital vascular anomaly presented as a physical deformity. The experimental population consists of participants with a congenital vascular malformation

(physical deformity present from birth) and the control population consists of participants without. Each population will complete measures of depression, self-esteem, and narcissism. Participants in the experimental group will additionally complete a personal experience inventory related to their condition consisting of questions assessing the specific ways that different aspects of their lives have been affected due to their condition. It is hypothesized that individuals suffering from a congenital vascular anomaly will exhibit lower levels of self-esteem and narcissism and higher levels of depression. This research is being produced in hopes of converging humanities and medical sciences in order to better understand the psychological needs of individuals with predominantly physical medical conditions.

Name: Angie Morssal
Title: *Parent-Child Attachment and Saudi Arabian Children's Social and Emotional Development,* B21
Faculty Advisor: Dr. Laura Brumariu
Abstract: Attachment theory postulates that children's relationships with attachment figures have an important effect on their social and emotional development (Bowlby, 1982). Securely attached children show higher quality of peer relationships (Abraham & Kerns, 2013), and are better at regulating their emotions (Sroufe & Waters, 1977) than insecurely attached children. Emotion regulation processes are crucial in managing interpersonal relationships (Gottman & Mettetal, 1986). Attachment has been studied less in middle childhood compared to other developmental periods (Kerns, 2008), and little is known about quality of attachment in Middle Eastern countries. The primary goal of this study is to enhance our understanding of how attachment affects children's development in Saudi Arabia, a country with a familial constellation that is different than western cultures mainly in family's reliance on extended families when rearing children.

This study addresses four questions: 1) who are the attachment figures among children (ages 7-12) in Saudi Arabia? Based on previous literature, we hypothesize that children will identify their parents (mostly mothers) as their primary attachment figures. 2) We hypothesize that more securely attached children will show higher quality of peer relationships. 3) We expect that children with a more secure attachment will be better able to regulate their emotions. Finally, we expect that emotion regulation will explain or mediate the relation between attachment and the quality of peer relationships. Participants will be approximately 100 children from Saudi Arabia, and constructs will be measured by using psychometrically sound measures (e.g. security scale; Kerns, Aspelmeier, Gentzler, & Grabill, 2001).

Name: Cory Rusin
Title: *A Qualitative Evaluation of the Narratives of Those with Eating Disorders,* C19
Faculty Advisor: Dr. Carolyn Springer
Abstract: This study examines the underlying themes that surface in the narratives of those who have suffered from an eating disorder. Writing samples were taken from a number of online eating disorder resource sites. These samples were then analyzed using grounded theory and content analysis software. These findings may be useful in contributing support for current understandings of the origin of eating disorders, as well as illuminating possible courses for future research.

Name: Elba Singh
Title: *Baby Blues: Assessing Community Knowledge on Post-partum Depression*, C20
Faculty Advisor: Dr. Carolyn Springer
Abstract: Women who have recently given birth may experience adverse changes in mood, thoughts and behavior; these changes have been labeled "baby blues" or Post-partum depression depending upon the duration and severity of symptoms. Post-partum depression is under recognized and under treated which leads to the lack of prevention and identification of early signs of Post-partum depression. Due to the lack of education women are more likely to become reluctant in disclosing their feelings of unhappiness after the birth of their baby. Obstetricians, pediatricians and social service providers can serve important roles in the screening of Post-partum depression. In New York City, minority women living in urban communities have inadequate access to Post-partum healthcare, which posits a major public health issue.

This study proposes to assess community knowledge and awareness about Post-partum depression and attitudes towards mental health services. Community members who are aged 18 and over and reside in the Queens communities of Jamaica, South Jamaica, Far Rockaway, Arverne, South Ozone Park, and St. Albans will be asked to complete a paper and pencil survey. Participants will be asked for information about themselves, their health status and healthcare utilization, their knowledge of Post-partum depression, their attitudes towards mental health and mental health services, and their social support system.

This poster will present preliminary findings from the survey study. Findings from the study will increase health and social service providers' knowledge and understanding of community perceptions and barriers to accessing needed care. The results can inform the design of culturally sensitive and appropriate interventions.

Name: Justin Trapani
Title: *Perception of Life Stresses, C21*
Faculty Advisor: Dr. Carolyn Springer
Abstract: Stress has no a definitive value. There is a varied range of stress, which can impact individuals in diverse areas of their lives. For some individuals, a key stressor is financial well-being, while for others it's the amount of social support they have, or even the level of their psychological well-being. A better understanding of how individuals perceive the stress in their lives can lead to more appropriate interventions. Utilizing various empirically cited scales, this study is attempting to measure what aspect of an individual's life causes them to feel the highest amount of perceived stress. Subject's responded to 134 survey questions, which were measured on Likert scales, via the website survey monkey. The survey questions inquired about participant's level of perceived stress, level of financial well-being, level of psychological well-being, and their amount of perceived social support.

Graduate Social Sciences Poster Presentations

Name: Alexandra Cerone
Title: *The Effects of a Parent-Facilitated Shared Book-Reading Approach to Acquiring Early Verbs: A Pilot Study,* A25
Faculty Advisor: Professor Susan Lederer
Abstract: This pilot study investigates a parent-implemented shared book-reading treatment strategy to facilitate the development of early action verbs/signs in toddlers with expressive language delays (ELD). Four children between the ages of 1;9 and 2;6 who were diagnosed by speech and language service providers with language delays participated. All were in the single word period. Parents engaged children in daily shared book-readings for a five-week period. The participants were post-tested to assess acquisition of target words/signs. It was discovered that the participants acquired between three and six of the target verbs/gestures. Vocabulary size prior to the implementation of this technique and interest in the book may be factors. The implications of these preliminary data are discussed.

Name: Katie Mathew
Title: *Take 5: The effect of yoga and deep breathing on the social discourse skills of an adolescent with pragmatic deficits,* C17
Faculty Advisor: Dr. Susan Lederer
Abstract: Current research has advocated for mindfulness practice. A literature base exists and continues to emerge, demonstrating that mindfulness practice can improve attention and self-regulation skills. Children with pragmatic deficits display deficits in the executive functions of inhibition and initiation, executive skills necessary for social communication and self-regulation. Therefore, a case study was undertaken with a thirteen-year-old male adolescent with pragmatic deficits, secondary to Attention Deficit Hyperactivity Disorder and Autism Spectrum Disorder. It is hypothesized that yoga, a mindful practice (with its attention to linking breath and movement) combined with deep breathing, will support improved executive skills needed for successful social communication. The study used a multiple baseline design across 21 weeks, during which the participant was assessed with the Behavior Rating Inventory of Executive Function and Stroop color-word tasks at three markers in the study. It is hoped that the finding of this case study will provide speech-language pathologists and teachers with pilot empirical evidence for determining the use of yoga and deep breathing in facilitating appropriate social discourse skills, and in fostering meaningful peer-to-peer social relationships.

Name: Brittany Renne
Title: *Accuracy of Type 2 Sound Level Meter Applications with Attachment Microphones,* C18
Faculty Advisor: Dr. Yula Serpanos; Dr. Janet R. Schoepflin
Abstract: Previous data regarding Type 2 Sound level meter applications (SLM apps) for smartphone and tablet devices using the standard built-in microphone has indicated poor reliability and validity in the sound field compared to an analog SLM. The use of an attachment microphone for SLM app devices could increase the accuracy of sound measurements, however no current research has been conducted. This study analyzed

sound measures recorded with 6 SLM apps using smartphone and tablet devices with and without an attachment microphone compared to a digital Type 1 SLM. An analysis of variance (ANOVA) was conducted to determine the effects of microphone type on the accuracy of SLM app measurements across devices.

MULTIDISCIPLINARY

Undergraduate Poster Presentations

Name: Matthew Bellomo
Title: *Transforming U.S. Education through Innovative Practices in Science Assessment and Standards,* B25
Faculty Advisor: Dr. Devin Thornburg
Abstract: Standardized testing has grown to be a norm in the sphere of education in recent years. Nonetheless, it remains a topic of heightened controversy as new common core standards are being developed and implemented. As the United States of America attempts to redeem itself in a world where the fields of science and technology have become increasingly competitive, it is important to determine the best practices of science assessment at the secondary level by examining and analyzing the educational systems of China, Finland, Canada, South Korea and the United Kingdom. After a thorough content analysis, the themes and patterns that are present were identified. Additionally, this study explores how their assessments align or contrast with the Next Generation Science Standards of the U.S. The language and attitude of these countries towards assessment seems to predict the attention to and time spent on authentic science instruction.

Name: Avinav Bista
Title: *Media in Politics: How the role of media has evolved,* B26
Faculty Advisor: Professor Katie Laatikainen
Abstract: The role and effect of media in the past century has altered dramatically and so has its influence on society, and at times has been the cause of social change as well as a political tool in international relations. Looking at the crucial historical moments of the past century and using newspaper articles, magazines and other published media as my sources; this paper discerns the evolving nature of media and how it affects the sociopolitical climate both within a nation and on the international stage. Starting from the early 20th century and leading up to the past decade, my research focuses on the use of media in the United States and the european continent specific to events such as the first and second world wars, the spread of communism along with social movements like the Civil Rights movement.

Name: Tyra Busigo
Title: *The Impact of Social Media on Social and Political Movements,* B27
Faculty Advisor: Dr. Devin Thornburg
Abstract: Social and political movements are often shaped by the media. In the past decade social media has played major role in social and political activism. In the present study, whether social media impacts new or existing social and political movements is examined. 37 adults were assessed via self-report survey. The results of this study show that all respondents had active social media accounts and the majority believed in the potential social media has to influence and even initiate social movements. Yet most were not utilizing their social media accounts for political or social activism.

Name: Maegan Garvey
Title: *Global Models of Dance/Movement Therapy: Force for Change,* C25
Faculty Advisor: Dr. Devin Thornburg
Abstract: With the growing use of Dance/Movement Therapy (DMT) as a type of therapy in the world today, this project focuses on studying how DMT is a force for change and benefitting many locations worldwide, in addition to how each location uses DMT. Using locales such as The United States, India, Sierra Leone, Argentina, Greece and the United Kingdom, there are a variety of demographics that will be covered such as, male and female children and adolescents. This content analysis will study textual information that is concentrated on studying how prominent the use of DMT is to the specific countries, how those countries benefit from using DMT, and what types of movements each location generates. Focusing on sources such as the American Dance Therapy Association Journal, The Arts in Psychotherapy, the American Journal of Dance Therapy, in addition to some books; I anticipate to find a large comparison between the regions and also expect to learn more about the different styles of DMT that are available throughout the world.

Name: Carleen King
Title*:* *Design-Build: Engineering Partnerships for Sustainable Development in Sanitation and Clean Water. Haiti: A Case Study,* C26
Faculty Advisor: Dr. Cindy Maguire; Dr. Peter DeBartolo
Abstract: Haiti's need for sustainable sanitation and clean water has been addressed for decades through major investment via development programs funded by the World Bank/international donations, international development (public and private), and NGO initiatives. Advancement, however, is slow; despite concerted efforts, commitment, and funding.

Centuries of outside involvement and inner turmoil have born a continuous climate of conflict in Haiti. Natural disaster has exacerbated conditions wreaking catastrophic damage not only to the spirit of a country desperately seeking to restore and sustain its democracy, but further blighting the condition of the spotty existing infrastructure, all resulting in more death and disease.

The ultimate goal of this research project is to propose a viable business plan: Design-Build Haiti; Partners in Clean Water, a project to support ongoing endeavors to build sustainable infrastructure that not only supplies clean water and sanitation, but provides a delivery system that encourages the development of foundations that shore up community outreach, employment initiatives, and long term economic development from within.

This foundational research will explore, through the lens of human rights, the benefits of engineering plans that utilize the strengths of business partnerships, government planning, and community involvement by first considering Haiti's: Existing infrastructure; Water rights; Health factors; e.g. Cholera; and Existing programs (NGO, Foreign Development, Government planning). This proposed needs assessment will seek to understand the conflict which creates impasse; fortifying barriers to clean water and sanitation rather than finding solutions through collaboration. The African Khoi proverb translated; "A dream is not a dream until it is share by the entire community." Haiti, as a

community, must embrace the dream to build its democracy, its future and strength of its children by way of clean water a

Name: Kyle Morrison
Title: *Forensic Reconstruction of An Ancient Styrax,* A26
Faculty Advisor: Professor Argie Agelarakis, Professor Anagnostis Agelarakis
Abstract: This display is part of an ongoing study involving forensic anthropology, aspects of the anthropology of conflict, the study of thrusting weapons in antiquity, and scientific illustration to visually reconstruct a component of the weapon that caused a fatal wound by penetrating the sternum of an adult male in a through and through trauma. Dating to around 500 BCE from the northern Aegean island of Thassos, it was determined that the weapon used was an ancient spear end called a "styrax". The illustration is based on a partial reconstruction using forensic techniques cast in bronze simulating the original material of the styrax in a collaborative effort by the departments of anthropology and art. An accurate 1:1 scale drawing of the styrax will be rendered based on measurements and corresponding data of the amount of force used to inflict the wound, including the entire tip of the weapon as the bronze rendition was incomplete. A second artist's rendition will focus on the hafting of the styrax to the spear shaft based on historical records. The heptahedrical edges of the styrax and its sharp point can best be represented for publication through scientific illustration. The styrax illustrations will complement the text indicating the length and sharpness of the styrax, to forensically reconstruct the mortal impact it afforded on the heart causing death based on exsanguinations. This cross-disciplinary study displays the complex design of the weapon that caused the death of the soldier under study and clearly outlines of the use of a styrax in battle. It further shows how scientific and technical illustration is invaluable in the reconstruction of artifacts and forensic remains. The meticulous forensic case study that has been done on the wounds of this soldier provided the complex data for the measurements, style and shape of the weapon. From this data, the illustrator is able to create the schematic diagram of the styrax, as has been the case of this project.

Name: Megan Murphy & Kimberly Atkins
Title: *Cultural Values and the Impact on Early Intervention Services,* C27
Faculty Advisor: Dr. Devin Thornburg
Abstract: This study evaluates the influences of culture and language on Early Intervention/ Speech Services sought by families. Focusing on speech-language pathology, parents of children receiving services were surveyed on how they value their culture. This study exposed how culture affects a child during the early childhood age (birth- grade 2) while receiving Early Intervention services. Using a quantitative and a qualitative approach, parents were surveyed to expose how their cultural values were maintained through their child's Early Intervention services. Parents from the Hy Weinberg Clinic at Adelphi University in Garden City, NY were surveyed. In order to be eligible to participate, parents must have a child currently receiving intervention for speech, language, or hearing services.

Name: Jessica Wells
Title: *Long Island Artifact Preservation,* A27

Faculty Advisor: Dr. Kathryn Krasinski
Abstract: The artifacts recovered from James Port, Waterside, and Winston II historic sites from Long Island NY are housed at Adelphi University. The assemblage consists primarily of animal bone, pottery, metallurgy, and wood in differing degrees of deterioration. This poster develops a comprehensive conservation plan to preserve these historic artifacts. In the process of examining each artifact, I also identified artifact types, especially from pottery pieces, to reconstruct material culture at the sites. By preserving these artifacts, we protect and can study how Native Americans who lived in the area interacted with Europeans at first contact.

Name: Samantha Zawistowski
Title: *An Ethnobotanic Study in Crete-Greece: Myth, Ritual and Medical Remedies,* A28
Faculty Advisor: Dr. Argie Agelarakis
Abstract: This poster presentation reflects the findings of an ongoing ethnobotanical study of the medicinal and culinary use of a select number of plants diachronically practiced by the mountainous herding populations in Northern Crete-Greece. Particular focus is placed on the timing of the seasonal gathering, the preservation and preparation of the plant components, and the practical applications and remedies of the following native plants Verbascum thaspus, Vitax agnus castus, Origanum vulgare, and Taraxacum officinale.

As in previous field seasons in Eleutherna-Crete, this study (summer season 2014) involved the identification of botanical plants, their collection, documentation, and sampling. The field studies involving the identification of the herbs in their natural habitat and proper sampling was often guided by members of the shepherd community. The samples were prepared and dried following the practices of the locals. The culinary use of these plants and their medicinal and healing properties were researched and recorded: their preparation (tea, essential oils,tincture, salve), properties and benefits (antibacterial, anti-fungal, pain relievers, ailment remedies, nutritional value). Research was conducted on comparative assessments to the ethnobotanical study allowing for a more thorough understanding of the plants and their use not only during earlier times in Crete, but in the neighboring region of the Eastern Mediterranean as well as their use throughout history. For the purpose of this poster, the herbs were illustrated in black and white and in color renditions. The mediums employed for the creation of these illustrations were rapidographs, watercolor, and color pencil on bristol board; scanned, edited and refined in photo editing programs. The results of this study present new data in a compilation of myth, ritual, traditional plant remedies and modern botanical uses.