



SIENA COLLEGE Academic Showcase 2019

 **SIENA College**
The education for a lifetime

MISSION of SIENA COLLEGE

Siena College is a learning community advancing the ideals of a liberal arts education, rooted in its identity as a Franciscan and Catholic institution.

As a learning community, Siena is committed to a student-centered education emphasizing dynamic faculty-student interaction. Through a blending of liberal arts and professional education, Siena College provides experiences and courses of study instilling the values and knowledge to lead a compassionate, reflective, and productive life of service and leadership.

As a liberal arts college, Siena fosters the rigorous intellectual development of its students through a healthy exchange of ideas both inside and outside the classroom. It provides opportunities to develop critical and creative thinking; to make reasoned and informed judgments; to appreciate cultural diversity; to deepen aesthetic sensibility and to enhance written and oral communication skills. It develops in each individual an appreciation for the richness of exploring knowledge from a variety of perspectives and disciplines.

As a Franciscan community, Siena strives to embody the vision and values of St. Francis of Assisi: faith in a personal and provident God, reverence for all creation, affirmation of the unique worth of each person, delight in diversity, appreciation for beauty, service with the poor and marginalized, a community where members work together in friendship and respect, and commitment to building a world that is more just, peaceable, and humane.

As a Catholic college, Siena seeks to advance not only the intellectual growth of its students, but their spiritual, religious, and ethical formation as well. To this end, Siena is composed of and in dialogue with people from different religious and cultural traditions; encourages critical reflection on religious experience; provides ample opportunities for worship and service; explores the moral dimensions of decision-making in business and the professions; and affirms the dignity of the individual while pursuing the common good.

The Franciscan Tradition

As a Franciscan community, Siena strives to embody the vision and values of St. Francis of Assisi. Within Academic Community Engagement, Francis inspires us to commit to building a world that is more just, peaceable, and humane. In his time, Francis encountered a variety of people and situations that inspired him to work alongside the poor and marginalized. They showed Francis a meaningful life of service and Francis taught his brothers how to live this life. Academic Community Engagement strives to carry forward the tradition of Francis. Our variety of programs give faculty, staff, students, and volunteers the opportunity to become a modern day Francis - learning about social justice issues and being part of a community-based solution.

Sponsored by:

CURCA

The Center for Undergraduate Research and Creative Activities

The Center for Undergraduate Research and Creative Activity (CURCA) was created as a means to expand high impact practices that promote student engagement and innovative learning leading to student achievement. Endowed through a \$1.5 million pledge by the friars of Holy Name Province, CURCA seeks to increase the number and quality of faculty-student mentored research through independent studies and summer research. CURCA seeks to make undergraduate research and scholarship opportunities available to as many students as possible across the curriculum.

For more information about CURCA, please visit www.siena.edu/curca.



SIENA COLLEGE
IS AN INSTITUTIONAL MEMBER OF THE
COUNCIL ON UNDERGRADUATE RESEARCH
Learning Through Research

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Academic Showcase Honor Societies

Schedule

HONOR SOCIETY INDUCTIONS AND AWARDS

Delta Epsilon Sigma (National Honor Society for students in a college with Catholic Tradition)	2:15 - 2:45	The Norm, Lonnstrom Dining Hall
Psi Chi (International Honor Society in Psychology)	2:30 - 3:00	Boland Room, Fr. Ben Kuhn House
Pi Gamma Mu (International Honor Society in Social Sciences)	3:00 - 3:45	Siena Hall 308
Phi Sigma Tau (National Honor Society in Philosophy)	3:30 - 4:00	Boland Room, Fr. Ben Kuhn House
Student Life Awards Ceremony	3:45 - 5:00	The Norm, Lonnstrom Dining Hall
Alpha Kappa Delta (International Honor Society for Sociology)	4:00 - 4:30	Sociology Commons, Rosetti Hall
Alpha Mu Gamma (National Honor Society for Foreign Language)	4:00 - 4:30	Boland Room, Fr. Ben Kuhn House
Civic Leadership Award (Center for Government and Politics)	4:00 - 4:10	Siena Hall 218
Civic Leadership Award (Political Science Department)	4:00 - 4:10	Siena Hall 218
Pi Sigma Alpha (National Political Science Honor Society)	4:10 - 4:20	Siena Hall 218
Phi Alpha Delta (Pre-Law Honor Society)	4:20 - 4:30	Siena Hall 218
Sigma Tau Delta (English Honor Society)	4:30 - 5:00	Boland Room, Fr. Ben Kuhn House
Phi Sigma Gamma Sigma Center (Honor Society in Biology)	4:45 - 5:15	Pat Brown Room, Morrell Science
Beta Gamma Sigma (National Honor Society for students of AACSB accredited Business Schools)	5:00 - 5:45	Roger Bacon Hall, Room 202
Kappa Delta Pi (International Honor Society in Education)	5:45 - 6:15	Boland Room, Fr. Ben Kuhn House

Academic Showcase

Poster Session



Academic Showcase Posters/Presentations

Alpha by Subject

Arts Division (ATDV)

Course: ATDV-499-AR2 - Health Services Administration

Faculty Supervisor: Erik R. Eddy, Management and Institute for Leadership and Development

Project By: Paris R. Archung

Title: “Value-Based Payment in Health Care Applied to Community Based Organizations”

Abstract: New York State is going through a transition from a pay-for-performance health payer system to a pay-for-value system. The change to Value-Based Payments (VBP) is a method to decrease costs and increase quality and performance in the healthcare field. The major goals for VBP is to keep people healthy and out of the emergency rooms. The Institute for Leadership and Development at Siena College has teamed up with Albany Med and Better Health for Northeast New York to create teaching seminars for 20 local nonprofit organizations known as CBOs or Community based organizations. These sessions prepare them to make contracts with larger organizations, Physician Groups, or Managed Care Organizations. CBOs play an important role in reaching individuals in the Medicaid population. Their role in the community accounts for social determinants of health by giving food, housing, transportation and more to their community. This contribution would play a role in keeping people health and therefore they are able to take advantage of value-based payments as a source of revenue. In this presentation, we will discuss the structure of the 6 sessions and the importance of CBOs' role for VBP.

Biology

Course: BIOL-299 – Independent Research in Biology

Faculty Supervisor: Thomas Giarla, Biology Department

Project By: Matthew P. Dolinar and Margot G. Pavlik

Title: “Comparative Phylogeography of Two Rodent Groups in East Africa”

Abstract: This project aims to explore the geographic and phylogenetic connections between non-related rodent groups co-occurring in the East Africa. *Colomys goslingi* (African Wading Rat) and various *Tachyoryctes* species (root rats) occur around the Albertine Rift Valley, Kenyan Highlands, and Ethiopia, and may exhibit similar patterns of genetic diversification. Our analysis was conducted using genetic samples of two mitochondrial genes to build phylogenetic trees. Similar patterns in the tree and geography could be indicative of past or current geographic barriers in the region that were important for speciation.

Project By: Karla M. Perez

Title: “Investigating the Connection Between Racial, Ethnic and Gender Diversity in Genetics Research and Alzheimer’s Disease”

Abstract: The purpose of this study is to investigate the possible connection between lack of racial, ethnic, and gender diversity in genetics research to Alzheimer’s disease. In the United States, African American and Hispanic individuals, as well as women, are more than likely to develop Alzheimer’s disease in comparison to their white and male counterparts. However, genetic research is primarily made up of white male subjects. This lack of genetic research diversity may have a negative connection to the investigations and treatments to diseases such as Alzheimer’s due to insufficient scientific information on the diverse backgrounds of the populations that dominate the disease.

Project By: Francesca Gallo

Title: “Ecological Niche Modeling of the African Wading Rat”

Abstract: The region of Eastern Africa is vast, and there is a great amount of biodiversity. The African wading rat, *Colomys goslingi*, is a poorly studied small mammal from this region. Ecological niche models are tools that help predict climatic preference for species, as well as other regions where this species could occur. Ecological niche models use algorithms to predict the distribution of a species across geographic space using environmental data, including temperature, seasonality, and precipitation. We used occurrence records of *Colomys goslingi* to create an ecological niche model. We found that there is predicted areas of occurrence in the Albertine Rift, Kenya, Ethiopia and Cameroon, including many areas with no current records of occurrence. These regions should be targeted for future studies and conservation.

Project By: Carissa A. Huber and Gregory M. Sileo

Title: “The Genomics Education Partnership at Siena College”

Abstract: The Genomics Education Partnership (GEP) is a nationwide consortium that gives undergraduate students the opportunity to participate in genomics research. The goal of this research project is to learn more about a genetically silenced area on *D. melanogaster* fourth chromosome, called the Muller F Element, and why important genes are located there. The GEP will be using comparative genomics to determine the differences in the Muller F Element within *Drosophila* species. Before comparison occurs, the genomes of various *Drosophila* species need to be perfected which is done through volunteer submitted finishing or annotation projects. Finishing consists of resolving errors in draft assemblies, while annotation is determining the precise start and stop sites of exons and transcription start sites of genes.

Academic Showcase Posters/Presentations

Alpha by Subject

Biology

Course: BIOL-320 - Microbiology

Faculty Supervisor: Anna McLoon, Biology Department

Project By: Sonila Cobani and Cristina Pinto

Title: “Cinnamic Aldehyde as an Essential Chewing Gum Ingredient for Oral Cavity Bacterial Eradication”

Abstract: Many studies have focused their investigation on identifying normal oral bacterial species, and the effect of essential oils on various bacteria strains. The study of normal bacteria flora of a healthy oral cavity have identified phylotypes belonging to the genera Granulicatella, Veillonella, Streptococcus, and Gemella. From the comparison of either bacteriostatic or bactericidal essential oils effect on bacteria, the Cinnamon verum bark has showed the highest antimicrobial activity. (Comparison). The Big Red gum essential flavor is exactly Cinnamon. Generally the act of chewing gum improves oral cavity health as the Xylitol gum has showed to improve oral health by inhibiting decay causing bacteria attachment to the teeth (Xylitol). This study aims to investigate whether the consumption of Big Red gum containing cinnamon flavor has an effect on the oral cavity health. We hypothesize that chewing Big Red gum will improve oral health by decreasing the diversity of bacteria types and acting as either bactericidal or bacteriostatic against bacteria strains. To compare the difference in bacteria types, bacterial colonies from the tongue dorsum site from five healthy subjects were analyzed before and after the act of chewing. Bacteria colonies were transferred to a broth culture and the 16s rRNA genes from samples were amplified by PCR. Species were identified by the sequence analysis (Sanger sequencing) of 16s rRNA genes. To investigate whether the Big Red Gum act as bactericidal or bacteriostatic, pre-inoculated cultures from subjects were used for the construction of growth curves based on OD.

Project By: Tristan J. Girard

Title: “Manipulation of Bacterial Genome of B. Subtilis through Viral Transduction”

Abstract: We will be isolating the bacterium B.subtilis through soil samples on campus. Within the same soil samples we will be isolating the B.subtilis bacteriophages. Upon successful isolation of the bacteriophage, we will be genetically modifying its viral DNA to encode a gene (antibiotic resistance gene) that will be transduced into our isolate B.subtilis bacterium. upon successful transduction of modified viral DNA into the bacterium, we will be plating manipulated bacterium on antibiotic agar to and looking for growth of colonies to see if gene transduction successfully occurred. As of yet, we have successfully isolated our bacterium but have not isolated any bacteriophages.

Project By: Jessica L. Barnett and Ashley Potter

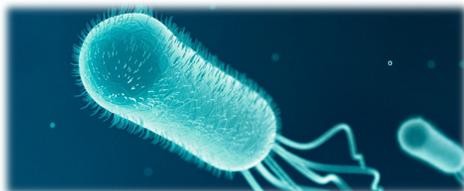
Title: “Characterization of Microbial Colonies in Drinking Water Samples at Siena College”

Abstract: One of the major issues in today's society concerning water is the lack of high quality drinking water, especially in underprivileged countries. Although water is a necessity, it is also a way for disease to spread, bacteria to be transported and fecal matter to gather. Therefore, experiments that test water quality are imperative for the production and distribution of high quality drinking water. The purpose of this study is to determine the best source of drinking water on the campus of Siena College. In order to do this, samples were taken from multiple water bottle refilling stations, water fountains and purchased water bottles. Bacterial colonies were quantified and stained to determine the microbial load and morphology of unknown species within the samples collected. Bacterial isolates were characterized on several different media for their ability to ferment glucose, lactose and use citrate for respiration. Biochemical testing was also conducted to further identify the Isolates present within all water samples. Based on these experiments, it appears that the microbial load is the largest on water fountain spouts in comparison to filtered water bottle stations and water bottles. As a result, drinking water is being contaminated.

Project By: Sean R. Jones and Gregory M. Sileo

Title: “Adaptation of E. coli Metabolism Over Time”

Abstract: Different species of bacteria are suited to metabolize different sugars and metabolites in their environment, (media in a laboratory environment). E. coli can metabolize both glucose and lactose in its surroundings, along with arabinose and xylose. We ask the question of how consistent incubation in lactose as the sole energy source affects its efficiency over time. Not only this, but how efficient a lactose incubated E. coli is at utilizing glucose in a glucose only media. We decided it would be useful to also look at the reverse of these, incubating E. coli in Glucose over time and then looking at its efficiency in both a glucose only and a lactose only media. This will be done by measuring growth rates through absorbance readings. Bacteria in each incubation was saved once every week for 3 weeks and saved in a glycerol stock. The E. coli will be streaked on x-gal plates in order to qualitatively compare lac operon expression (involved in lactose metabolism).



Academic Showcase Posters/Presentations

Alpha by Subject

Biology

Course: BIOL-320 - Microbiology

Faculty Supervisor: Anna McLoon, Biology Department

Project By: Daminica S. Ryan and Kaitlyn L. Nieves

Title: “The Development of Antibiotic Resistance in E. Coli Bacteria”

Abstract: The minimum inhibitory concentration (MIC) is the lowest concentration of an antibiotic that can be used to prevent bacterial growth. Understanding the MIC of antibiotics has become a very important aspect in the medical field to ensure effective treatment of bacterial infections. To explore how bacterial species become resistant to antibiotics, E. coli was subjected to carbenicillin and chloramphenicol. The bacteria were cultured on LB plates with low concentrations of each antibiotic (25 µg/mL Carbenicillin, 10µg/mL Chloramphenicol), to show the growth of spontaneous mutants. The resistant mutants were then subsequently subjected to increased antibiotic concentrations, to further examine effects on MIC and treatment pathways.

Project By: Jenna E. Mantell and Trista A. Zawartkay

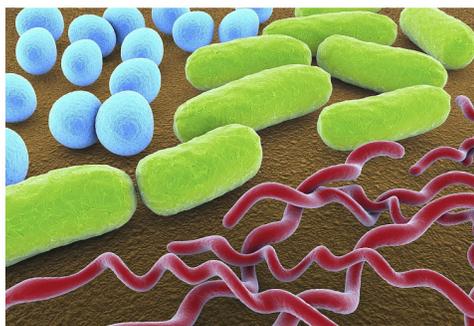
Title: “Effectiveness of Commercially Available Mouthwashes with Varying Active Ingredients”

Abstract: In addition to mechanical cleaning of teeth, commercial mouthwash companies claim their products increase effectiveness of oral hygiene practices. These products specifically target bacterial growth between teeth and on other hard to reach surfaces in the mouth. In the present study, three mouthwashes with varying active ingredients were tested in vivo and in vitro for antibacterial effectiveness. Participants (n=4) swished with water and then with the mouthwash in question. Samples were collected from between premolars using dental floss after each treatment. Additionally, broth cultures of individual colonies growing after mouthwash treatment were exposed to the mouthwash directly and OD600 was recorded as a measure of antibacterial activity. Cultures show decreased colony density after Listerine treatment compared to cultures following water treatment. Direct exposure to Listerine only killed bacteria from P1. P2 showed increased growth following addition of listerine. Cultures from P3 and P4 showed no change in culture density. Crest caused a drop in culture density of samples from P 2,3, and 4 but not for P1. Following addition of Crest, culture density decreased for all except the P3 isolate which showed no further decrease. Evaluating the effectiveness of these products can both guide consumers and provide insight on use of mouthwash in individuals who are unable to floss regularly.

Project By: Matthew Lobiondo and Matthew Williams

Title: “Antibacterial and Synergistic Qualities of Garlic on Three Species; Escherichia Coli, Bacillus Cereus, and Staphylococcus Epidermidis”

Abstract: With the number of drug-resistant bacterial strains rising, it is beneficial to study the effect of synergism between antibiotics and common foods containing antibacterial properties. Both garlic and ginger are examples of everyday products that are said to have antibacterial properties. Temperature and the physical form of ginger and garlic can be altered to affect these properties. The species used in this study were Escherichia coli, Bacillus cereus, and Staphylococcus epidermidis. Results show that only garlic contains these properties when introduced as fresh cut pieces or powder whereas in this trial ginger did not show antibacterial properties in any form. This is supported by research showing a compound, allicin becoming active when garlic is crushed or chopped which has antimicrobial activity. Using these results, fresh cut and powdered garlic were paired with tetracycline, kanamycin, ampicillin, and cephalothin to test synergism. Synergism might work by increasing the sensitivity of bacteria to these drugs or by lowering the effective dose. If results show synergism, then it can be possible to treat infections of bacterial species that have evolved resistance to certain drugs.



Project By: Lena G. Farah and Allyson E. Quinn

Title: “An Investigation of the Possible Correlation Between Cell Shape and Degree of Inhibition by Caffeine on Various Bacterial Species”

Abstract: There is a known bactericidal effect that caffeine has on some bacteria. It is yet to be determined which part of the cell caffeine interacts with to induce cell death. Multiple studies have found that it interacts with DNA and RNA synthesis though the mechanism is not understood (Sledz et al., 2015). As it is not known to act on part of the cell wall, it is not expected that there be a correlation in the cell wall structure of the bacterial strain and the ability of caffeine to induce cell death though some intramembrane proteins may play a role in the resistance. Prior research has suggested that there may be a cell shape related correlation, as cocci strains seem to be more resistant to the effects of caffeine, though

there has not been much evaluation into this. Caffeine concentrations of 180g/L - 250g/L have inhibited E.coli growth on TSA media. We plan to measure the growth of bacterial cultures of cocci and bacilli exposed to caffeine to look for a correlation between morphology and inhibition. Insight about caffeine's bactericidal effects is relevant, as caffeine is a substance that is known to be non-cytotoxic to eukaryotic cells in small doses and antibiotic resistance is on the rise in many bacterial strains.

Academic Showcase Posters/Presentations

Alpha by Subject

Biology

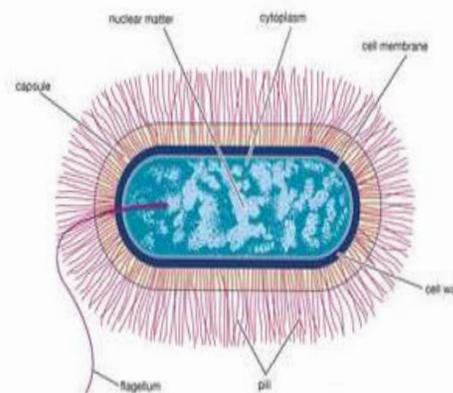
Course: BIOL-320 - Microbiology

Faculty Supervisor: Anna McLoon, Biology Department

Project By: Edwin L. Premchan

Title: “Generating Colored Bacillus Subtilis Strains to Test Microbial Fitness”

Abstract: Wild type *Bacillus subtilis* communities have the ability to come together to form complex communities called biofilms. Biofilm formation is favorable for *B. subtilis* in the wild because it allows the microbe to form symbiotic relationships with plants and improves resistance against antibiotics. When *B. subtilis* was brought into the laboratory it lost its ability to form biofilms over time thereby domesticating the bacterium. Two months of laboratory culture of 10 populations of a *B. subtilis* strain that forms biofilms revealed diverse biofilm forming capabilities. At the end of that two month experiment, many cells in the 10 populations had partially or completely lost the ability to form biofilm. In order to characterize the different strains, we can grow them together in order to see which strain is better suited at growing in various conditions. However, before we can do this there must be a method to distinguish the strains. We are cloning colored and fluorescent proteins into *B. subtilis* strains in an attempt to specifically track different strains without affecting the growth rate and fitness of the strain. By doing this we can assess the fitness of biofilm-forming and biofilm-attenuated strains.



Project By: Lesley Y. Santos and Alexandria N. Sullivan

Title: “Limited antimicrobial effect of raw honey on *E. coli*, *S. aureus*, and *S. epidermis*”

Abstract: Prior to the development of pharmaceuticals, medical treatment largely relied on natural remedies. Honey in particular has been documented in some of the world’s oldest medical journals as having antimicrobial properties. It is now known that most types of honey possess this antimicrobial activity largely as a result of the enzymatic production of hydrogen peroxide. We started out our study by testing the antimicrobial effects of different honey dilutions on *E. coli*. Ultimately, we decided to use our 50% honey dilution to carry out all future experiments. In a follow-up experiment, we determined that honey had limited antibacterial effects compared to those of Tetracycline and did not synergize with the known antibiotic. However, honey had a greater antimicrobial effect on *Escherichia coli* compared to similar substances such as molasses and maple syrup. Previous studies have shown that the antimicrobial activity of honey is primarily due to the presence of hydrogen peroxide. We therefore attempted to use heat to denature oxidase, the enzyme which produces hydrogen peroxide. TSA plates containing *Escherichia coli*, *Staphylococcus aureus*, and *Staphylococcus epidermis* were each treated with the heated honey, untreated honey, and 3% hydrogen peroxide. While heat-treated honey did continue to display antimicrobial properties, possibly due to the presence of oligosaccharides, it generally produced the weakest inhibition on bacterial growth. In contrast, hydrogen peroxide displayed the strongest antimicrobial properties against all bacterial strains. Consolidating these results, we determined honey to have only mild antibacterial properties.

Project By: Matthew J. McHugh and David W. Reynolds

Title: “White Vinegar Effectively Reduces Microbial Load in Store-Bought Romaine Lettuce”

Abstract: Romaine lettuce is a common source of food-borne illnesses, as evidenced in the *Escherichia coli* outbreaks across several states in both the fall of 2018 and January 2019. We obtained two different brands of romaine to examine, the first was picked a month before this experiment began, and the second a week before. Different washing treatments were analyzed to determine the effectiveness of each at reducing microbial load present on the lettuce. The treatments consisted of unwashed samples, and samples washed with bleach, running tap water, white vinegar, or a vegetable wash, with both the vinegar and vegetable washes being followed by a tap water rinse. A total of 50 lettuce leaves were washed and plated on TSA agar plates every other day for a period of ten days. Plates were incubated at 37 degrees Celsius for four days, then four days post plating, microbial growth was analyzed. For each treatment, unwashed lettuce samples were assumed to contain the approximate microbial load present in a 1 gram sample of lettuce if not washed, and bleached lettuce samples served as a negative control. For the older lettuce, the vinegar wash was the most effective at reducing microbial load, reducing it by 64% when compared to unwashed samples. The vegetable wash was a close second, reducing microbial load by 62%, whereas water only decreased microbial load by 8.5%. For the fresher lettuce, next to bleach which was 94% more successful than unwashed samples, vinegar was again the most effective, reducing microbial load by 87.7%. Vegetable wash was less effective than in the older lettuce samples, only registering a thirty fold difference, and water washed treatments decreased microbial load by 13.2%. Overall, our results show that white vinegar is the most effective washing technique at reducing microbial presence in romaine lettuce.

Academic Showcase Posters/Presentations

Alpha by Subject

Biology

Course: BIOL-320 - Microbiology

Faculty Supervisor: Anna McLoon, Biology Department

Project By: Rachel H. Brown and Elizabeth M. Fournier

Title: “Antifungal Activity of Essential Oils Against *Candida Albicans* and *Saccharomyces Cerevisiae*”

Abstract: The presence of fungi is commonplace in daily life and its accessibility increases its drug resistance exponentially. Strains like *Candida albicans* are becoming a threat to immunodeficient patients while strains like *Saccharomyces cerevisiae*, casually known as Baker’s Yeast, are becoming harder to control. Essential oils are the new fad to treat fungal skin infections. Three of the more popular oils, for their scent and effect combined, include tea tree, lavender, and peppermint. These oils are becoming popular and likewise, expensive, and it is our goal to find the optimum dilution and oil to prevent growth of the fungi in question to spare consumers from trial and error. Noteworthy susceptibility of each fungus to the particular concentration will be noted by measuring the resistance diameter of the treatment on Mueller-Hinton agar plates on YPD broth. Growth conditions will also be taken into effect as *Candida albicans* will be grown at both 30 and 37 deg C, the latter which is known to stimulate hyphae growth that will make the fungi more resistant to toxin penetration. Both species are known to have particular inhibitory concentrations, MFCs, and these reference values will be compared to our findings. Peppermint oil is the most effective killer, although tea tree is the most popular in sales.

Project By: Melissa K. Breen, Erica S. Frost and Liam F. Peterson

Title: “Lysol Found to be Most Effective Against Shower Microbiota”

Abstract: Showers are a means to clean the self, but are known to be home to a number of microbes, such as fungi, Gram-negative and -positive bacteria, endospores, and so forth. As a result, it is imperative that we utilize disinfectants in order to properly clean these surfaces. This need for proper sanitation and hygiene has sparked the development of a number of different disinfectants, and it is our intention to provide a quantitative and qualitative analysis of the efficacy of 3 common household cleaners: Lysol, Windex, and 10% Bleach. Efficacy is here defined as the disinfectant capable of eliminating the greatest diversity of microbial species with the lowest possible volume. Our study suggests that Lysol is the most efficacious disinfectant as evidenced by sparse growth of microbes on TSA plates and subsequent generation of a growth curve suggesting an inability of the microbial species to grow in the presence of a low volume of the cleaner.

Project By: Amanda R. Buck and Francesca Gallo

Title: “Determining Growth Conditions Conducive to the Biofilm Formation of Environmental Bacterial Strains in a Laboratory Setting”

Abstract: Some species of bacteria have gained the ability to form biofilms when exposed to unfavorable conditions. The formation of this community of cells provides group-integrity and the sharing of limited nutrients among the participating cells. When grown in a laboratory environment, the normal cues for biofilm formation may not be present resulting in different developmental outcomes. Through the use of LBGM and MSgg media, we seek to determine if isolated unknown strains of bacteria form biofilms when compared to 3610 *Bacillus subtilis* wild type. Being that not all strains have the same genetic makeup, the general biofilm inducing media may not trigger the community development and thus, antibiotics and minerals were used to induce biofilm formation as well. Studies show that certain antibiotics and minerals have increased the ability for *Bacillus subtilis* to form a biofilm. Plating strain 3610 and five additional environmental strains on MSgg did not produce robust biofilms as expected, but plating on LBGM caused phenotypic differences. In addition, the antibiotics used in varying concentrations caused biofilm growth in some strains while the results from the mineral exposure experiment have yet to be collected. From exposing bacteria to conditions that promote or hinder biofilm production, useful information can be acquired that will allow prevention techniques in the medical or home environment if avoiding biofilm growth or ways in which to induce the growth of these communities.

Project By: Jacqueline C. de Bruin and Jasmeen K. Johal

Title: “Characterization of *Salmonella* in Simulated Turtle Tanks through Qualitative Analysis and Efficacy of Chlorox in Eradicating *Salmonella* in the Simulated Tanks.

Abstract: Salmonellosis is a common bacterial illness in both animals and humans. Within the United States, it is estimated that around 1.4 million cases occur among humans. This is particularly troublesome for amphibian and reptilian pet owners, since these pets are recognized as sources of Salmonellosis. Due to the prevalence of health cases regarding this disease, in addition to the household and research popularity of keeping amphibian and reptiles as pets, there is likely a correlation between the two. To test the efficacy of cleaning methods used by pet owners both within labs and households, simulated turtle tanks were created and manipulated to test whether *Salmonella* population decreased during our testing period of 4 weeks. Four conditions of simulated turtle tanks were tested: control (no cleaning), removing 1/4 of the tank water periodically, removing the full tank water periodically, and removing the full tank water while subjecting the tank to small quantities of Clorox. The most common method of cleaning tanks was the removal of 1/4 of the tank water every few days depending on the size of the tank. We determined that the most efficient way of removing *Salmonella* from the tanks was to do a full water change while subjecting the tank to Clorox. The presence and rough quantity of *Salmonella* growth were determined through inoculating the simulated tank water in BPW, and then streaking the BPW onto SS and XLD plates and examining colony growth. The integration of qualitative analysis for each of the conditions provides a noticeable difference in *Salmonella* growth relative to cleaning methods, which suggests for a more rigorous cleaning protocol for pet owners nationwide.

Academic Showcase Posters/Presentations

Alpha by Subject

Biology

Course: BIOL-320 - Microbiology

Faculty Supervisor: Anna McLoon, Biology Department

Project By: Ellie M. Lockhart and Michael R. Ramsey

Title: “Efficacy of Commercially Available Disinfectants against Common Healthcare-Related Bacteria Species Staphylococcus Aureus and Escherichia Coli”

Abstract: Natural disinfectants like hydrogen peroxide, sodium hypochlorite, and commercially-used CaviWipes were tested against two bacterial strains common to healthcare facilities, *S. aureus* and *E. coli*. Dilutions of each disinfectant were evaluated in comparison to the original strength of the disinfectant by measuring bactericidal activity using optical density (OD) 600, colony forming units (CFUs), and disc diffusion assays. The two natural disinfectant agents were hypothesized to be equally as efficient as commercially available agent, with them yielding similar disinfection rates to those advertised. Results aid to identify bacteria most susceptible to these disinfectants to ensure appropriate usage in healthcare facilities.

Project By: Hannah B. Bakowski and Marisa Ferrotti

Title: “Analysis of the Antimicrobial Activity of Tea Tree Oil”

Abstract: Historically, people have been using natural products as treatments for all aspects of illness and abnormality. However, most of these remedies have not extensively been scientifically tested. Natural products, including tea tree oil, have been shown to produce antimicrobial and antiseptic activity (Solórzano-Santos 2012). In this experiment, we explored the antimicrobial activity of tea tree oil (*Melaleuca alternifolia*) on bacteria (*Staphylococcus epidermidis* and *Escherichia coli*). Additionally, we determined if tea tree oil is bacteriocidal or bacteriostatic and the effective dosage of tea tree oil necessary to produce an antimicrobial response. We also examined the effectiveness of hand washing with tea tree oil. In order to perform these experiments, we first grew these strains of bacteria on plates with treated tea tree oil disks. Subsequently, we measured the optical density of the bacteria in different dosages of tea tree oil to determine the most effective dosage and the method of action of tea tree oil. Lastly, we determined the effect tea tree oil on the bacteria of hands. Performing these various experiments and with the discovery antimicrobial activity of tea tree oil specifically against *S. epidermidis* and *E. Coli* has allowed for the potential implementation of tea tree oil in various medical treatments.

Course: BIOL-335 – Developmental Biology

Faculty Supervisor: Nina Zanetti, Biology Department

Project By: Massimo DiGirolamo, Pauline M. Kalta, Talyn E. Kelley and Alexia N. Libretti

Title: “Histological Development of Forelimb Cartilage in Chick Embryos”

Abstract: This research focused on observing the development of cartilage in the forelimb buds of chick embryos. We isolated the limb buds from chick embryos every day from 3.5-8 days and then made slides of the tissues. Our goal was to quantify the amount of cartilage that formed over the span of the chick's development before it matured into bone.

Project By: Katherine E. Arsenault, Madeline G. Britton, Macy E. Carleton, Jessica L. Livingston and Sakina K. Moosavi

Title: “Using CAM Grafts to Isolate Developing Optic Vesicles”

Abstract: Utilizing CAM (chorioallantoic membrane) grafting, we asked the main question "Are optic vesicles extracted from 3 and 4 day old chick embryos able to grow and develop when placed in a new and unusual environment?" We use both 3 and 4 day old embryos to determine if the age of the embryo when the optic vesicle is extracted has an impact on the development. Using a pigment scale, we compare the color of the optic vesicle when it is extracted, to the color of the further developed eye one week after it has been placed in the new environment.

Course: BIOL-420 - Biochemistry

Faculty Supervisor: Kearney Gunsalus, Biology Department

Project By: Adam R. Bevilacqua and Lucian M. Williams

Title: “Biochemistry 1VJR Isolation Project”

Abstract: “1VJR, also known as 4-nitrophenylphosphate, we will be purifying and characterizing through the use of several protein assays. The goal of this project is to measure the activity of the protein”

Project By: Talyn E. Kelley, Lino Gaglio, Sydney K. Grugan and Alexia N. Libretti

Title: “1VJR Protein Presentation”

Abstract: An overview of the purification process of a protein 1VJR, a nitro-phenol phosphatase, and the analysis of that protein via SDS-PAGE.

Academic Showcase Posters/Presentations

Alpha by Subject

Biology

Course: BIOL-420 - Biochemistry

Faculty Supervisor: Kearney Gunsalus, Biology Department

Project By: Barbara A. Meyer, Natalie L. Muratori and Mason K. Soeder

Title: “Purification, Expression, and Characterization of Activity of Putative Glycerol Dehydrogenase”

Abstract: Using low-cost, novel protein production methods in *E. Coli* bacteria, we over expressed production of the enzyme 1KQ3. Prior information of the enzyme only consisted of its crystallized structure and proposed function based on nucleotide base comparison to similar proteins. Throughout our experiment, we isolated and purified 1KQ3. Finally, we ran assays to prove 1KQ3's activity as a glycerol dehydrogenase.

Project By: Elizabeth M. Allegretti, Catherine R. Cyril, Jessika R. Jaime and Liliana Sanchez Adames

Title: “Expression, Purification, and Characterization of Putative Glycerol Dehydrogenase”

Abstract: The crystal structure of 1KQ3 has already been determined, and on the basis of this structure, it has been theorized that this enzyme is a glycerol dehydrogenase. A protein with glycerol dehydrogenase activity catalyzes a redox reaction and oxidizes glycerol to glycerone. In order to determine the validity of this, the protein was over expressed in *E. coli* cells and then purified using affinity chromatography. The protein was able to be characterized as a glycerol dehydrogenase based on an enzyme assay that was run and the increased absorbance that occurred as NAD⁺ was converted to NADH.

Project By: William Escuyer, Andrew J. Kwok and Priya Nair

Title: “Determining 4-nitro-phenol Phosphatase Activity in Isolated and Purified 1VJr from *Thermotoga Maritima*”

Abstract: Identification of protein structure-function relationships is key to understanding its purpose in organisms. A previous study has shown the crystal structure of 1-VJR from the thermophilic bacterium *Thermotoga maritima*, specifically the enzyme 4-nitrophenylphosphatase (4-NPP). However, the function of 4-NPP in 1-VJR remains unknown. In this project, we aim to determine the activity of 4-NPP of isolated 1-VJR of *Thermotoga maritima*. 1-VJR was expressed and tagged with histidine in *Escherichia coli* using a protocol involving 2 liter polyethylene terephthalate beverage bottles. The protein was purified using immobilized metal ion affinity chromatography and dialysis. 4-PP activity was tested using an enzyme assay and determined.

Project By: Kyle T. Brugmann, Austin G. Ryder and Collin J. Timony

Title: “Isolation of 1KQ3”

Abstract: Isolation of protein 1KQ3, a protein of known sequence and structure, from *Thermotoga maritima*. 1KQ3 is known to be in the oxidoreductase class of enzyme and functions as a glycerol dehydrogenase. The proteins were transformed into *E. coli* with an arabinose inducible expression vector and induced using an arabinose containing growth medium, with selection for ampicillin resistance. Post induction the cells were lysed and 1KQ3 was isolated using a nickel chelate affinity column, and were eluted by an imidazole buffer. Collected fractions underwent dialysis to remove the imidazole and assays were run to assess activity of the glycerol dehydrogenase, 1KQ3.

Project By: Hannah B. Bakowski and Kalyne R. Green

Title: “Expression and Purification of the Protein 1KQ3 from *E. coli* and Evaluation of Protein Function”

Abstract: The protein 1KQ3 has a structure that has been determined, but the function was only annotated based on the proteins structure and the sequence homology. We wanted to determine the function of the protein and see if it paralleled any enzymatic activity. To do this, the protein 1KQ3 was purified from *E. coli* using a 2018 protocol for protein expression which uses a 2-L soda bottle to grow the *E. coli* culture. The cultures were auto-induced to get a higher 1KQ3 yield. Once the protein was seen on a SDS-PAGE gel, different gel chromatography methods were used to purify the 1KQ3 from the culture. Assays were performed to observe any enzymatic activity 1KQ3 possesses. Results have yet to be determined since experiments are in progress.

Project By: Kyle T. Brugmann, John A. Dinelli and Austin B. Ryder

Title: “Octanoic Acid Treatment of Antifungal Resistant *C. albicans*”

Abstract: Biofilm formation by *Candida albicans*, a fungus found to be harmless in most people, on medical inserts is a growing problem in modern medicine. With immunocompromised patients having an increased susceptibility to these infections. These biofilms are resistant to common antifungal drugs like fluconazole, making them very difficult to treat and therefore treatment often requires removal/replacement of the insert. Disruption of the biofilms with octanoic acid, a component of coconut oil, is the focus of the study. Exposing *C. albicans* to varying concentrations of octanoic acid and measuring the metabolic activity (or lack thereof) at each concentration has been the goal of the study. Ultimately, we hope to be able to use octanoic acid as a treatment of *C. albicans* biofilm infections.

Academic Showcase Posters/Presentations

Alpha by Subject

Biology

Course: BIOL-420 - Biochemistry

Faculty Supervisor: Kearney Gunsalus, Biology Department

Project By: John A. Dinelli and Myrlandy C. Surprise

Title: “Purification and Assay of 1VJR from *Thermotoga Maritima*”

Abstract: Protein purification is a method used widely across Biology and Biochemistry research. Once purified, a protein's optimal functionality can be tested, which can lead to efficient use of the functional protein in other research projects. Using plasmids, we transformed *Thermotoga maritima* to increase express a protein 1VJR which has an apparent phosphatase domain through auto-induction. 1VJR was then purified using affinity chromatography and its activity will be tested through a NPP enzyme assay which has not yet been completed.

Course: BIOL-430 – Animal Physiology

Faculty Supervisor: Rebecca Clark, Biology Department

Project By: George J. Bushey, Marisa Ferrotti, Elizabeth M. Fournier, Ahmed H. Jabir, Amanda M. McMahon, Rida F. Merchant, Barbara A. Meyer, Morgan M. Murphy, Brendan R. Nashelsky, Luke J. Rasmussen, Emily A. Roff, Makayla E. Schmidt, Aidan D. Sullivan, George F. Tawfellos, Justin K. Tram and Trista A. Zawartkay

Title: “Exercise Alters Total Energy Intake and Nutrient Processing in the Cricket *Acheta Domestica*”

Abstract: An increase in an animal's daily energy expenditure can impact a wide range of other physiological traits, including its food intake, absorption, and excretion of metabolic wastes. The exact nature of this response is likely to vary across animals, forms of exercise, and the nutrient concentration of available food. In this experiment, we compared the total nutrient intake and physiological responses of juvenile crickets that were forced to exercise for an hour a day over a three-day period, to sedentary individuals. We also tested whether a diet's total nutrient concentration impacted the ability of the crickets to compensate for energy losses. We discuss our findings in the context of prior work on the relationship between diet and activity in insects.

Project By: Melissa K. Breen, Nicholas R. Casper, Paige M. Cobb, Lorenzo R. Cotugno, Mallory V. Heflin, Jessika R. Jaime, Kailyn E. Looby, Bavnouti M. Mansour, Priya Nair, Isabel Nazario, Fariyah A. Omarshah, Margot G. Pavlik, Kerrigan M. Phelan, John P. Teixeira, Tara J. Zander

Title: “Exercise Alters Nutrient Preferences and Nutrient Processing in the Cricket *Acheta Domestica*”

Abstract: An increase in an animal's daily energy expenditure can impact a wide range of other physiological traits, including its food intake, absorption, and excretion of metabolic wastes. The exact nature of this response is likely to vary across animals, forms of exercise, and the quality of available food. In this experiment, we compared the nutrient intake strategies and physiological responses of juvenile crickets that were forced to exercise for an hour a day over a three-day period, to sedentary individuals. We discuss our findings in the context of prior work on the relationship between diet and activity in insects.



Course: BIOL-499 – Host-Parasite Research

Faculty Supervisor: Christopher Harbison, Biology Department

Project By: Melissa K. Breen, Charlotte E. Hutchins, Ahmed Jabir, Domenic P. Roberto and Matthew D. Williams

Title: “Pheromone Communication and Aggregation Behavior in Bird Parasites”

Abstract: Lice are well-known pests of mammals and birds; however, little is understood about their ability to communicate using pheromones. Here, we study the possibility of pheromone communication in a feather-feeding wing louse (*Columbicola columbae*) that infests Rock Doves (*Columba livia*). We first show that lice preferentially aggregate on flight feathers, suggesting the possibility of aggregation pheromones. Using a Y-tube olfactometer,

we demonstrate that lice readily respond to volatile pheromones produced by nearby lice, and are likely using multiple sex-specific pheromones. Next, using SPME (solid phase microextraction) and GC-MS (gas chromatography-mass spectroscopy), we identified a number of potential volatile pheromones emitted by lice. Finally, we used *in vitro* and *in vivo* bioassays to determine whether these candidate compounds were used in parasite pheromone communication. Understanding the pheromone communication of parasites may help to lead to novel control strategies

Academic Showcase Posters/Presentations

Alpha by Subject

Biology

Course: BIOL-499 – Independent Research – C. elegans Genetics

Faculty Supervisor: D. Adam Mason, Biology Department

Project By: Emily M. Marticello and Liam F. Peterson

Title: “Regulation of Sex-Specific Pharyngeal Pumping by MAB-3, a Conserved DM-domain Transcription Factor”

Abstract: The majority of animal life cycles rely on mating between two morphologically distinct sexes. These sexes usually have differences in multiple characteristics, including body size, body morphology, susceptibility to stress and behavior. Therefore, in most animals, a sex determination pathway must impart sex-specific information onto developmental, cellular, and neurological processes to generate these sexual dimorphisms. Research in the Mason lab focuses on the function of the highly conserved DM-domain family of transcription factors in regulating sex-specific development and behaviors. We have discovered that a DM-domain transcription factor called MAB-3 shows male-biased expression in the pharynx (a muscular organ that pumps food into the digestive tract) and that MAB-3 activity is important for establishing sex differences in pharyngeal pumping rate.

Project By: George J. Bushey, Madeleine Graziano and Caitlin S. Muir

Title: “Characterizing Expression Patterns of Genes Involved in Male Tail Morphogenesis in C. elegans”

Abstract: Current research in the Mason lab focuses on characterizing the cellular and genetic pathways that control morphogenesis (the birth of shape) during animal development. To accomplish this, we study the morphogenesis of the C. elegans male tail, since the male tail undergoes drastic remodeling during the last larval stage. Our previous work has demonstrated that the DM-domain transcription factor, DMD-3, is the master regulator of male tail tip morphogenesis. We are now trying to identify the genes that function “downstream” of DMD-3 activity to drive morphogenesis. To do this, we identified candidate DMD-3 regulated genes using RNA-sequencing of mRNAs from dissected male and hermaphrodite tail tips. We have been analyzing the expression patterns of some of these candidate genes by looking at the pattern of GFP expression in transgenic strains carrying GFP reporters.

Project By: Margaret A. Moisan, George F. Tawfellos and Clare H. Wooschlagler

Title: “Identification of DMD-3 Regulated Genes Involved in C. elegans Male Tail Morphogenesis”

Abstract: The development of a fertilized egg into an adult is a fundamental part of all animal life cycles. Morphogenesis, a key component of development, involves the changes in the shape of the developing structures to generate the adult form. Work in the Mason lab focuses on characterizing the morphogenetic events that shape the C. elegans male tail. Previously, we found that the DM domain transcription factor DMD-3 is the master regulator of male tail morphogenesis. The current focus of the Mason lab is to identify the “effector genes” regulated by DMD-3 that induce the changes in cell shape, adhesion, and fusion that drive morphogenesis of the male tail. A recent RNA-sequencing analysis of wild type and mutant tail tips identified ~200 candidate DMD-3 regulated genes. We are currently determining the expression patterns of a subset of these genes using GFP reporter transgenes.

Course: BIOL-499 – Independent Research – C. elegans Genetics

Faculty Supervisor: Rachel Sterne-Marr, Biology Department

Project By: Kaely E. Elkins

Title: “Role of RGS Homology and Pleckstrin Homology Domains in GPCR Kinase 2 Activation”

Abstract: G protein-coupled receptors (GPCRs) are transmembrane proteins that act through multi-step pathways to regulate metabolic and synaptic signaling, as well as many other processes. GPCR kinases (GRKs) regulate GPCR signaling via phosphorylation. GRK2 consists of an AGC kinase domain (KD), a pleckstrin homology domain (PHD), and a regulator of G protein signaling homology domain (RHD). GRK2 is activated by G β and membrane phospholipids but its most dramatic activation is induced by interaction with GPCRs. Past experiments suggest that the peptide domain in GRK2 located between the lipid binding domains (NLBD/CLBD) of GRK5 is positioned to interact with GPCRs. To understand GRK2 activation, we performed site directed mutagenesis, in vitro kinetics, and intact cell phosphorylation assays to probe the roles of the KILLPEPSI peptide and RH domain a helix 11 in GRK2 function.

Project By: Mohammad Farhat and Rachel Sterne-Marr, Biology Department

Title: “Purification and Proteomics of Major Whey Proteins in a Nutritional Supplement”

Abstract: Whey has been treated as a waste byproduct of cheese making process by the dairy industry for a long period of time. Recent research has revealed that whey proteins carry potent biological activities making their isolation of a higher significance. This research project is an attempt to isolate and characterize the five major whey proteins from a nutritional supplement. The proteins were purified by ion-exchange (cation and anion) and gel filtration (Sephadex G50 and G100) chromatography and assessed by SDS-PAGE and Bradford assay. Proteomics, top-down (MALDI/TOF) and bottom-up (MALDI/TOF and MALDI/TOF/TOF), were used to identify and characterize the five major whey proteins.

Academic Showcase Posters/Presentations

Alpha by Subject

Biology

Course: BIOL-499 – Independent Research

Faculty Supervisor: Rachel Sterne-Marr, Biology Department

Project By: Gabrielle A. Albano, Kaely E. Elkins, Zachary Farina and Rachel Sterne-Marr

Title: “Phosphorylation of the Alpha2A Adrenergic Receptor by GRK2 Mutants”

Abstract: Cell communication is orchestrated by the release of chemicals, such as hormones, which bind to receptors on cell surfaces. Adrenergic receptors play important physiological roles in regulating of insulin and neurotransmitter secretion and the regulation of heart rate. In order to keep such physiological signals in check, receptor are often inactivated through phosphorylation by GPCR kinases (GRKs). Our goal was to determine if GRK2 mutants that failed to phosphorylate the beta 2 adrenergic receptor, were able to phosphorylate the structurally distinct alpha2A adrenergic receptor. To facilitate this project, we previously generated a rabbit antibody, Rb617, which specifically recognizes the phosphorylated alpha2A adrenergic receptor. In preliminary studies we found that various GRK2 mutant are also unable to phosphorylate alpha-adrenergic receptors.

Business Analytics and Actuarial Science

Course: MGMT-300 – Operations Management

Faculty Supervisor: Manimoy Paul, Business Analytics and Actuarial Science

Project By: David W. Le Blang and Sierra L. Juneau

Title: “Quality and Performance: Ambulance Diversions”

Abstract: Ambulance diversion (AD) is a phenomenon where ambulances local to a hospital are rerouted, or diverted, to more distant facilities due to emergency department (ED) overcrowding. Despite resounding studies done on this topic, none have pinpointed an exact cause as to why EDs become so overcrowded. Using data spanning all hospitals in California from 2007-2015, obtained from the California Health and Human Services website, we investigated the most probable causes of AD hours by running fixed and random stepwise cross-section time-series regressions, and by creating control charts to determine whether the hospital processes are within statistical control. We found that the most prominent cause of a hospital’s ED overcrowding was the number of patients who were admitted to the hospital but did not receive treatment (p -value 0.000). This encapsulates patients who were triaged and registered but left before being treated; patients who left before being triaged or registered; patients who were triaged and left before being registered; patients who were not treated but referred to another facility. Through control charts, it was shown that the process is mostly in control (with the exception of one anomaly), and that action needs to be taken in order to reduce the amount of diversion hours within and between facilities. Through determining the primary reason of ED overcrowding, a holistic approach of both educating the general public and influencing either hospital waiting-line models or ED entry criteria is a potential solution to tackling the problem of ED overcrowding.



Course: QBUS-200 – Business Statistics I

Faculty Supervisor: Manimoy Paul, Business Analytics and Actuarial Science

Project By: Philip Harabarovici and Diomary Perez-Trinidad

Title: “How Brand Awareness of Fast-Food Restaurants Differ from Country to Country and its Effect on the Purchasing Decision”

Abstract: The purpose of this study is to research the forces behind brand awareness of the popular fast-food restaurant chain McDonald’s. Specifically, we will focus on how brand awareness as a whole is affected by various perceptions. These perception classes include Price, Convenience, Distance from Work/Home, and the “fun factor” experience or ambiance of the restaurant. **Methodology:** Our method includes the collecting of data from a wide range of survey respondents where they will answer questions regarding brand awareness and perceptions relative to their personal experiences at McDonald’s. We will then analyze the data and conclude which perceptions have been supported or disproved as aspects that impact attraction to fast-food restaurants. **Results:** The data collected concluded that price perception is impacted by age, brand perception of quality, brand name familiarity, and fast food trips per month. A separate conclusion is based on the impacts on the fun factor perception. This was proved to be affected by age, brand perception of quality, and fast food trips per month. **Conclusion:** This data is significant because it allows us to see what factors motivate or influence the brand perceptions of consumers relative to fast-food restaurants. These conclusions equally provide an indication of how brand awareness impacts the sales of the product.

Academic Showcase Posters/Presentations

Alpha by Subject

Business Analytics and Actuarial Science

Course: QBUS-420 – Business Intelligence Tools

Faculty Supervisor: Manimoy Paul, Business Analytics and Actuarial Science

Project By: Steven M. Simboli

Title: “E-Cigarette Growth among American Youths”

Abstract: Using panel data from 18 states, 21.6% of American youths surveyed have advised of electronic cigarette usage. This number is an increase from a 2008 study conducted in Korea where only 0.5% of students had ever tried an e-cigarette. E-cigarettes have a stigma associated with the harmfulness of their vapors. The perception is that they are less harmful than traditional cigarettes. This study investigates the factors that make one become an e-cigarette smoker. The results show that blacks are less likely to smoke e-cigarettes. If one tried to smoke any form of smoking earlier are more likely to start smoking e-cigarettes. Most likely sources of buying e-cigarettes are gas-stations, drug stores and grocery stores, vape-stores, mall and over the internet. If anyone in the family or in the friend circle ever smoked that had a significant effect on one to smoke e-cigarettes. If someone tried to quit smoking that resulted in smoking e-cigarettes. Significant e-cigarette smokers thought it was less harmful.

Project By: Nikolas J. Boesenberg

Title: “Factors that Cause Fatalities in Automobile Accidents in the USA”

Abstract: In this academic study, I will be evaluating the most significant effects on fatalities in car accidents across the entire USA. I ran a regression output on the data I collected, to figure out which variable had the greatest effect on number of fatalities in a given car crash. My hypothesis was based upon whether drinking and driving or texting and driving are significant factors in how many fatalities occurred in the car crash, including both the car with the person who initiated the crash and other cars involved in the crash as well. From my output, I found that drinking and driving had a significant effect on fatalities, however, texting was not a significant factor.

Project By: Emra Ljubijankic

Title: “Factors Affecting Injury Severity in an Automobile Accident in the USA”

Abstract: Here, we are interested in finding what factors affect the injury severity in a car crash. A probit regression can be used to investigate various factors affecting automobile injury severity. My dependent variable is 1, 0, where 1 represents high severity of injury, or death. Whereas, 0 represents low severity of injury during an automobile accident. The primary focus of this research is to investigate if texting and driving, or, drinking and driving affect severity of injury. We found none of these variables mentioned to affect injury severity. Many other researchers have found that these variables mentioned do affect injury severity.

Chemistry

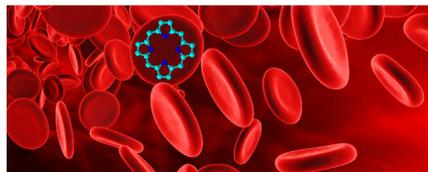
Course: CHEM-426 – Senior Research

Faculty Supervisor: Jodi O'Donnell, Chemistry and Biochemistry

Project By: Alec L. Dorfner

Title: “Design and Synthesis of Porphyrins with Liquid Crystalline Properties”

Abstract: A series of meso-substituted metalloporphyrins were designed, synthesized, purified, and characterized. Meso-tetrakis (4-hydroxyphenyl) porphyrin was etherified to flexible alkyl spacers terminated in a cyclohexyl ester in a three-step synthetic scheme. The phase behavior of the free-base porphyrin and metalloporphyrin analogs was analyzed by thermogravimetric analysis, differential scanning calorimetry, and polarized optical microscopy.



Project By: Joseph S. Kuehner

Title: “Synthesis and Characterization of Meso-substituted Liquid Crystalline Porphyrin”

Abstract: Porphyrins are a class of pigment that are able to coordinate with metals as well as readily accept modifications at a number of locations. This study explores the synthesis and partial characterization of a 5, 10, 15, 20-tetrakis (4-hydroxyphenyl) porphyrin (THPP) synthetically coupled to 10-bromocyclohexyl decanoate. The porphyrin was characterized using ¹H NMR and matrix assisted laser desorption ionization time of flight mass spectrometry (MALDI-TOF). Future analysis on this porphyrin include a study of thermal properties using thermogravimetric analysis (TGA) and differential scanning calorimetry (DSC), as well as microscopic analysis using polarizing light microscopy (POM).

Academic Showcase Posters/Presentations

Alpha by Subject

Chemistry

Course: CHEM-426 – Senior Research

Faculty Supervisor: Jodi O'Donnell, Chemistry and Biochemistry

Project By: Michael R. Ramsey

Title: “Highly Responsive Liquid Crystalline Metalloporphyrin VOC Sensors”

Abstract: Meso-tetrakis (4-hydroxyphenyl) porphyrin (THPP) was coupled to a flexible alkyl chain terminated in a cyclohexyl group in a three-step synthetic scheme. 12-bromocyclohexyl dodecanoate was synthesized via Steglich esterification then coupled to THPP in a Williamson etherification reaction. The tetra-substituted porphyrin compound was metalated with zinc to begin the generation of a library of related liquid crystalline metalloporphyrin sensors. Colorimetric sensing of volatile organic compounds (VOCs) with these compounds will provide a means for environmental monitoring of pollutants in water.



Course: CHEM-426 – Senior Research

Faculty Supervisor: Jason Hofstein, Chemistry and Biochemistry

Project By: Marykate T. Anderson

Title: “Using Scanning Electron Microscopy – Energy Dispersive Spectroscopy (SEM-EDS) to Quantify Ratios of Organic and Inorganic Gunshot Residue (oGSR and iGSR)”

Abstract: Pedagogical research on the techniques of both Scanning Electron Microscopy – Energy Dispersive Spectroscopy (SEM-EDS), and Matrix-Assisted Laser Desorption/Ionization (MALDI), was performed. After studying how both techniques worked, SciFinder Scholar was used to look for manuscripts that SEM-EDS and/or MALDI for the determination of gunshot residue (GSR). Our goal is to look at both inorganic and organic GSR (iGSR = primer, oGSR = propellant), and use the elemental and molecular ratios of observed species to act as markers that are distinguishable between ammunition manufacturers. Examples of low-molecular weight MALDI were researched, and potential experimental protocols are being developed. We will eventually look at ratios of oGSR and iGSR, along with correlations between a particular ratio and the presence of molecular clusters formed by the MALDI technique.

Course: CHEM-499 – Antibacterial Molecules

Faculty Supervisor: Daniel Moriarty, Chemistry and Biochemistry Department

Project By: Jacqueline C. de Bruin, Matthew A. LoBiondo and Collin J. Timony

Title: “Inhibition of Amyloid Fibril Formation via Naturally Phenolic Compounds”

Abstract: Amyloid fibrils are misfolded proteins that self-assemble to form insoluble, elongated, β -sheet structures. These fibrils are linked with the progression of ailments such as Type II Diabetes, and neurodegenerative diseases like Alzheimer's and Parkinson's Disease. Polyphenolic compounds, specifically ferulic acid, curcumin, and gallic acid, have shown the ability to impede the formation of these fibrils. Our work focuses on the inhibitory effect of these phenolic compounds on the formation of amyloid fibrils through the use of Atomic Force Microscopy (AFM) fluid imaging. We have been able to image significant inhibition of the phenolic compounds onto the amyloid fibrils as well as observe beginning stages and the morphology of fibrils. The work points to potential therapeutic targets in the treatment of amyloid disorders, and a useful technique in imaging fibrils in an environment that more closely resembles in vitro conditions than air dried samples.

Project By: Hannah E. Hagearty and Sean R. Jones

Title: “Antimicrobial Properties of Molecules Isolated From Pomegranate and Cinnamon Species”

Abstract: A consistent rise in the number of drug-resistant bacteria has led to an increased demand for the discovery and development of new antibacterial agents. We are seeking to characterize specific antibacterial compounds found within common foods, herbs, and spices. Currently the main targets of our work are cinnamon and pomegranate. Cinnamon species are known to have broad spectrum antimicrobial properties, being active against gram positive and gram-negative bacteria, but the differences between the individual species remain unclear. The pomegranate extracts appeared to be only effective against gram positive bacteria. Extracts were collected from a Soxhlet extractor using multiple solvents to obtain a range of compounds. The samples were analyzed by disk diffusion assay against *E. coli* (gram

negative) along with *B. subtilis* and *M. luteus* (gram positive). Two different compounds known to be in cinnamons, cinnamaldehyde and coumarin, were tested in varying concentrations to find the optimal concentration of each for inhibition.



Academic Showcase Posters/Presentations

Alpha by Subject

Chemistry

Course: CHEM-499 – Chemical Kinetics

Faculty Supervisor: Erin Kolonko, Chemistry and Biochemistry Department

Project By: Mackenzie A. Quirk

Title: “Broader Applications of a Greener Steglich Esterification Reaction”

Abstract: The Steglich esterification is a common synthetic reaction that is often used within both industry and academics. In the reaction, carboxylic acids and alcohols are coupled using a carbodiimide coupling reagent and amine base. Previously, we have described an adaptation of the reaction using acetonitrile as a greener solvent system and alleviating the need for further purification steps. To study the scope of the greener methodology and investigate the mechanistic aspects of the reaction, we synthesized a series of fluorinated esters using various carboxylic acids and alcohols. In addition, we have begun to apply the greener conditions to the synthesis of amide compounds. These studies have demonstrated the broader application of the greener methodology.

Project By: Amanda M. Banach and Dakota E. Wilkinson

Title: “Investigation of Conformational Changes in PRDM2 Catalytic Domain Variants”

Abstract: Histone methyltransferases catalyze the transfer of methyl groups to histone proteins, affecting gene expression. Aberrant methylation has been demonstrated in various disease states; therefore, knowledge of the structure and kinetics of the enzymes can aid in understanding the disease mechanism. PRDM2 is a histone lysine methyltransferase important in cell division and differentiation that has been linked to human cancers. Work on a similar enzyme showed that the formation of a α -helix in the enzyme is needed to create the active site and enable methyltransferase activity. This work uses IR spectroscopy to assess structural changes in kinetically active wild-type and mutant strains of PRDM2 including I188V and A159V, focusing on quantifying the α -helical content of the enzyme. These studies aim to determine the structural changes of PRDM2 and its variants, which could shed light on its role in human cancers.

Project By: Luke J. Rasmussen and Lucian M. Williams

Title: “Kinetic NMR Investigation of the Steglich Esterification”

Abstract: The Steglich esterification is a widely used reaction in industry and academics, but few studies have investigated the rate and mechanism of this reaction. The Steglich reaction uses a carbodiimide and a nitrogen base to couple carboxylic acids and alcohols into esters. Our study focuses on the rate at which different fluorinated carboxylic acids and alcohols react, giving us insight into the mechanism behind the reaction. ^1H and ^{19}F NMR experiments were used to analyze the reaction as it progresses in order to determine the observed rate constants for each pair of acid and alcohol.



Academic Showcase Posters/Presentations

Alpha by Subject

Community Development

Course: COMD-400 – Community Development Capstone

Faculty Supervisor: Ruth Kassel, ACE

Project By: Taylor J. Disco

Title: “Making Creativity Work for Community Development”

Abstract: How can creatives foster community change and how can economic development theory shift to enable them to do so? Community place-making, or economic development through art, enables society to reshape and rethink the role of artists in community development. Creatives have unique ways at looking at community challenges and can increase social capital by expanding on their network of relationships. This research details the creation and implementation of a Photovoice participatory research project in the Hamilton Hill neighborhood of Schenectady. It focuses on the role of this creative research format in creating a community-driven narrative with the goal of increasing community voice to Schenectady's growing economic development.

Project By: Caleb Ryor, Diosmary Perez-Trinidad, Eileen Fitzgerald and Griffin Lawson

Title: “Redesigning of the Seymour Fox Memorial Foundation Website”

Abstract: The Seymour Fox Foundation engaged NEXt Consulting services on a rebranding project. This included an updated functional website and additional marketing tools that would bring their voice into the community and find those in the Capital Region who need their help the most. We worked with the foundation to make sure that every aspect of the website worked seamlessly. We also tested the site to ensure that all functions could be easily maintained and updated by the foundation. We also spent time developing and testing various logo designs to find what best represents the client and integrated this design into the new website.

Project By: Laniqua O. Mack

Title: “The International Experience of a Lifetime: Life Abroad as a Siena Saint”

Abstract: There is need for resources for students to ease their tensions when traveling abroad to be used in all stages of their international experience. However, students are leaving home and returning with a different view of the world. Students experience culture and reverse culture shock and they do not have an effective way to express themselves or process the journey they went on. Proper preparation before traveling out of the country is important to ensure safety, to prevent being offensive, and to have a deeper awareness of the environment that they will be traveling in. The resource created based on this study will serve as tool to assist Siena students on their future endeavors.

Course: COMD-400 – Community Development Capstone

Administrative Supervisor: Christa Grant, Student Life

Project By: Justin Q. John

Title: “Brotherhood & Manhood at Siena College”

Abstract: Research across the nation has shown that men of color are not doing well academically and socially in higher education when compared to women of color, white men and white women, especially on predominantly white campuses (Gardenhire and Cerna 2016). Men of color in higher education face personal, financial, academic, and many more issues that conflict with their ability to succeed. There is a lack of resources directed at the needs of men of color. When more resources are available for men of color, the better their chances are for academic success and involvement on campus increases.



Course: COMD-400 – Community Development Capstone

Faculty Supervisor: Daniel Lewis, Political Science Department

Project By: Laura G. Durham, Christina E. Geddes and Cassidy A. Reid

Title: “Optimizing One-to-One Tutoring Sessions & After School Programs”



Abstract: After school and one-to-one tutoring programs are effective tools that help students improve their study skills, while focusing on reaching their own personal goals, working through their needs, and strengths and challenges. In urban, low income areas, after school programs are essential to counteract the effects of a range of factors that can contribute to youth's lack of educational opportunities and overall ability to succeed academically (Posner and Vandell 1994). Wizard's Wardrobe (WW), a non-profit organization, provides free after school tutoring. The implementation of factors which created success for other programs were suggested to WW to optimize the program, as well as increase their potential for future growth.

Academic Showcase Posters/Presentations

Alpha by Subject

Community Development

Course: COMD-400 – Community Development Capstone

Faculty Supervisor: Daniel Lewis, Political Science Department

Project By: Kylie M. Gilbride, Matthew J. McAuliffe and Cosimo A. Tangorra

Title: “The Capital Region Eviction Process: Policies for Improvement”

Abstract: The primary focus of the collaboration between the Troy Rehabilitation and Improvement Program (TRIP) and CPI is eviction prevention policy and the usefulness of nonprofit networking. To gain an idea of which methods are of the greatest significance for improvement, a combination of in-depth research and an analysis of discussions with several nonprofit organizations closely connected to the issue of eviction policy were utilized. Once all relevant information was gathered the research team was able to develop an idea of which direction to take the project and drafted strong recommendations for TRIP, and the other nonprofit organizations involved, to implement as a way of handling their initial problem.

Course: COMD-400 – Community Development Capstone

Faculty Supervisor: Aaron Pacitti, Economics Department

Project By: Alex T. Pearce, Kyle R. Creech, Justin D. Kenyon and Aedan M. Raleigh

Title: “Fighting Hunger in NYS: A Deep Dive Program Analysis”

Abstract: New York State does not have a coordinated effort to combat food insecurity. This leaves the numerous counties of NYS on their own to address these issues. Because of this, food insecurity rates, policies, programs, and project success varies across the state. While partnering with the Hunger Action Network of NY, both anecdotal and statistical evidence was collected to evaluate different counties’ programs and make policy recommendations around these findings. It is hypothesized that successful food insecurity programs will not only stress collaboration between nonprofits and local leaders, but also will understand the needs of its constituents in areas beyond food such as transportation, employment, housing, and education.

Course: COMD – 410 – Community Development Capstone II

Administrative Supervisor: Allison Schultz, ACE

Project By: Monique A. Lawrence

Title: “It Starts in the Classroom: Investigating Teaching Techniques for At Risk Youth”

Abstract: My research explores teaching styles that are most effective for students who are ‘at risk’ to improve the classroom environment. For the purpose of this study, ‘at risk’ includes students who qualify for free or reduced lunch at school. I am interviewing students to discuss the teachers that they have had, and which ones have had a big impact on them both in and out of the classroom. I am also interviewing the teachers identified by students about the way that they operate their classroom. The data and analysis will be compiled into a handbook for new teachers, so they are able to prepare for success in the long term.

Course: COMD – 410 – Community Development Capstone II

Administrative Supervisor: Carol DiMambro, ACE

Project By: Emma K. Henderschedt

Title: “Increasing Victim Participation in Restorative Justice Practices”

Abstract: Victims of crime often lack roles within the criminal justice system. Without a voice, they can be weighed down by effects of reliving the event through traditional justice processes. Restorative justice practices place emphasis on repairing harm done to victims by including victims within the process of victim-offender conferences. This research project partnered with the Albany County District Attorney’s Office to analyze the needs and education of victims of crime within the Capital Region of New York State through interviews. The goal of the research was to present the DA’s Office with concrete needs of victims that are not being met so that effort can be redirected.



Academic Showcase Posters/Presentations

Alpha by Subject

Community Development

Course: COMD – 410 – Community Development Capstone II

Faculty Supervisor: Elisa Martin, Social Work Department

Project By: Shayla M. Encarnacion

Title: “Corporate Volunteerism and its Impact on Partnerships: The Creation of a Corporate Volunteer Program”

Abstract: Corporate volunteerism has become a trend among companies and is associated with Corporate Social Responsibility (CSR). CSR prioritizes volunteerism leading many companies to create volunteer programs of their own. However, many non-profits lack programs geared towards corporate volunteers. Catholic Charities (CC), a non-profit I am collaborating with, wants to strengthen their relationships with businesses. This project ultimately asks how would corporate volunteerism impact current volunteer practices of a non-profit and their corporate partnerships. Through research and interviews, best practices have been identified and used to create a corporate volunteer program for CC that will further their mission and align with their values.

Course: COMD – 410 – Community Development Capstone II

Administrative Supervisor: April Backus, NASCE

Project By: Alyssa M. Lofaro

Title: “Do The Right Thing.....Even When No One is Looking”

Abstract: Middle school age range is a time when adolescents experience a very critical transition in their lives. Many students face difficulty with self-identity, family circumstances, and relationship development, causing them to turn to social media as an outlet, sometimes translating to cyberbullying. During this study, middle schoolers completed a survey reflecting on their experience with empathy education, peer to peer empowerment, and use of social media. Teachers and staff within the same schools completed a survey about the cyberbullying culture within the school as well. The data collected will help to determine the most effective strategies and make recommendations for best practices to be implemented for addressing cyberbullying.

Computer Science

Course: CSIS-415 – Software Engineering

Faculty Supervisor: Jami Cotler, Computer Science Department

Project By: Luis A. Concepcion Bido, Michael A. Dagostino, Keith W. Grable and Andrew J. Lopez

Title: “Asset Management Inventory System: ITS Siena College”

Abstract: The project is an asset management/inventory system with a web front-end that is mobile friendly (including for data entry), has the ability to track the specific types of information for a piece of equipment with reporting/querying capabilities. There are various levels of access including query, edit only, new/delete record, maintenance, and full control.

Project By: Martin J. McBride, Robert J. Morvillo, Daniel J. Senecal and Tucker H. Tavarone

Title: “WEL”

Abstract: The WEL team helped entrepreneurs in NYC and Cayman Islands design and build a proof of process for a social media platform. This platform incorporates a number of industry firsts and is designed to make the world better! Due to a non-disclosure agreement (NDA) that was signed the team can not discuss or demo the project but can speak in general about their process and what it was like to work at a distance with clients under an NDA.

Project By: Austin M. Crisafulli, Ethan L. DeBernardo, Adarsh S. Kumar, John Lamb and Daniel J. Van Dyk

Title: “Facilities Payroll System”

Abstract: Working with Siena's facilities department this team worked on a project that helped Facilities take information from the paper time slips and capture it into the computer program. The program captures all of the needed data, and produces quick views and reports of what an employee has done (with time worked and time off). Supervisors have access to (read only) this information in order to see patterns

Project By: Timothy D. Cronin, Michael K. LeRoy, Justyn M. McHarg and Sean P. O'Connor

Title: “SaintCue”

Abstract: Working with Siena's Creative Arts Department the SaintCue team developed software that allows their client to cue sound. The software imports sound files and play them back in a list with the ability to edit portions of the file, like fading up, fading down and perhaps adjusting speed and/or pitch as well as linking and following cues while stopping others.



Academic Showcase Posters/Presentations

Alpha by Subject

Computer Science

Course: CSIS-415 – Software Engineering

Faculty Supervisor: Jami Cotler, Computer Science Department

Project By: **TEAM GE GREEN:** Patrick W. Barber, Kaley M. Brindisi, Christopher G. Fall, Luke R. McKenna and Alissa N. Ronca
TEAM GE GOLD: Rachael J. Mahar, Arjol Pengu, Matthew S. Pigliavento, Jonathan A. Pratico and Caleb T. Ryor

Title: “Developer Cheat Sheet”

Abstract: Working with their client - GE Software Engineering Competency Center (SECC), Siena's gold and green teams collaborated to create the Developer Cheat Sheet using Alexa/Developer Search Engine. The teams created an Amazon Alexa skill that integrates with Slack (a team collaboration tool), that allows a user to ask Alexa for information/code examples/specific commands on how to do something in a specific language (using <http://cheat.sh>). Alexa processes the request and then displays it in the user's personal Slack channel.

Project By: Leo L. Dohmann, Conor J. Fallon, Dylan M. Lane, Ryan A. Mikulec and Devante K. Saenger

Title: “Memorability Test – Dumbstruck”

Abstract: For this project the team worked with Dumbstruck (founded by two Siena alumni) to developing a scientific test for memorability or the industry term “brand recall.” Memorability is the quality or state of being easy to remember or worth remembering. Dumbstruck is interested in learning if people retain what they see in an advertisement.

For this project students worked with Dumbstruck's research and development teams to develop a program to show participants a 30 - 60 second advertisement, followed by a few survey type of questions with the last questions showing about 20 images and asking the participant to select the 6 that were included in the 30 - 60 second video they watched. A scoring algorithm, designed by the team gives the advertisement a memorability score.

Dumbstruck is an emotion AI company that combines research in human psychology and neuroscience with AI-powered facial coding technology to analyze how people are feeling as they react to video ads prior to launch, enabling advertisers to ensure only the most effective ads are run in-market. Since launching in 2013, Dumbstruck has emerged as one of the world's most advanced emotion identification platforms for the advertising industry, providing comprehensive behavioral analyses based on AI-driven identification and scoring of complex emotion data patterns.

Course: CSIS-499 – Team Game Design

Faculty Supervisor: Jami Cotler, Computer Science Department

Project By: Leo L. Dohmann, Martin J. McBride and Caleb T. Ryor

Title: “Team Game Design”

Abstract: Being passionate about game design and wanting an opportunity to learn new skills, hone existing skills and develop sought after game development skills this team worked together in this independent team game development study. The team learned C# with Unity Developer through Udemy courses. It is common for aspiring game developers to tackle large-scale projects that they can't handle and never end up being finished. By developing a basic game the students learned how to incorporate their new skills in the game development environment.

Course: CSIS-499 – Student Evaluation Study

Faculty Supervisor: Ting Liu, Computer Science Department

Project By: Yuwei Chen

Title: “Professor Evaluations Study”

Abstract: This study's purpose to learn about the current state of college professors/ college education. This study's data comes from the website ratemyprofessor. This website is the largest online source of student evaluations. We structured our study around the five ratings the website provides to rate a professor. Each evaluation consists of a rating, a comment, and helpful tags that describe the professor. These fields in each evaluation can be studied to get a better picture of what students think of their professors across the US. Some topics focused on in this study are Department, Gender, as well as Native Speakers. Our findings are that in general, overall ratings as well as individual ratings are rather positive. This conclusion is was achieved by filtering our data by professors that had more than ten comments. This was decided on because the more comments/tags a professor got, the more accurate the evaluations are. Some other precautions we took for accuracy is to not include comments that were shorter than five words. By removing comments with five or less words, our yield of meaningful comments increases as well as the comments accurately reflecting the professor's abilities.

Academic Showcase Posters/Presentations

Alpha by Subject

Computer Science

Course: CSIS-499 – FPGA Comp. Arch/Music

Faculty Supervisor: Pauline White, Computer Science Department

Project By: Matthew F. Harrison

Title: “Making Music with Programmable Logic”

Abstract: Field Programmable Gate Arrays are a type of semiconductor device that use configurable logic blocks to implement designs for countless applications, from designing custom integrated circuits to simulating a microprocessor. By studying various methods of creating musical frequencies along with the specifics of programming FPGAs, a variety of electronic instruments can be designed and implemented on FPGA hardware.

Course: CSIS-499 – Independent Study

Faculty Supervisor: John Armitage, Computer Science Department

Project By: Shannon M. Jasiel

Title: “Risk Assessment Methodology for Non-Profit Companies”

Abstract: Using the National Institute of Standards and Technology (NIST), I developed a risk assessment methodology to assess security procedures put in place by non-profit businesses. I had to collaborate with individuals within different sections of the company to better understand the types of data and information that they held, as well as looking at any measures that were put in place to secure this information. I informed the business about possible threat vectors hackers may take, the impact for these attacks, as well as the likelihood that they may occur. Once the risk assessment was implemented, I focused on the major systems within the company and recommended any controls to be put in place that could help prevent both internal and external breaches. I also socially engineered a phishing attack, in which a trusted website alerted employees to update their passwords.

CURCA Summer Scholars

Course: CURCA – Summer Scholars – Computer Science

Faculty Supervisor: James Teresco, Computer Science Department

Project By: Michael A. Dagostino and Abdul Samad

Title: “An Improved User Interface and Code-Level Tracing for METAL Algorithm Visualizations”

Abstract: This poster presents a framework that supports code-level tracing of the algorithm visualization capabilities of the Map-Based Educational Tools for Algorithm Learning (METAL) project. METAL provides graph data based on real-world highway systems and tools to visualize that data and algorithms which operate on it. Data is shown plotted on maps and in text, color-coded to indicate the progress of the algorithm. The new code-level tracing framework allows algorithms to be implemented as a series of actions, most of which correspond to lines of code that can be highlighted during execution. This allows a student to see how specific lines of code affect the data structures and variables as the algorithm makes progress toward a solution.

Course: CURCA – Summer Scholars – Political Science

Faculty Supervisor: Ausra Park, Political Science Department

Project By: Zoe M. Schlesinger

Title: “The First Female Presidents of Eastern Europe”

Abstract: I spent eight weeks, as a 2018 CURCA Summer Scholar, researching five current and past Eastern European female presidents. I collected data in the form of speeches and interviews for all five women. Then, I focused my analysis on the two presidents whose terms have been completed. I performed a close analysis of the speeches of Vaira Vīķe-Freiberga (Latvia) and Atifete Jahjaga (Kosovo) looking for key words and phrases that could have impacted their presidencies and shaped their political agenda.

Course: CURCA – Summer Scholars – Political Science

Faculty Supervisor: Janet Shideler, Modern Languages & Classics Department

Project By: Evan R. Levesque

Title: “Je Me Souviens (I Remember): Preserving Upstate New York's Franco-American Heritage”

Abstract: I intend to present a poster summarizing, in brief, the work that I conducted as a part of a project to digitize the artifacts of the Franco-American community in upstate New York during the summer of 2018. This poster will include photographs of items that I helped scan and upload to a New York Heritage Digital Collections archive, as well as a description of the project as a whole. Paragraphs on the poster will describe the original intent of this project as well as my experience with this project, including a community artifact digitization event that we held in Cohoes, NY in June of 2018.

Academic Showcase Posters/Presentations

Alpha by Subject

Economics

Course: ECON-255 – Comparative Economics

Faculty Supervisor: Elias Shukralla, Economics Department

Project By: Allison E. Mahoney, Alex T. Pearce and Cosimo A. Tangorra

Title: “An Analysis of Political Institutions and Inequality”

Abstract: The project explores the effect of political institutions on a country’s inequality. Specifically, it looks at levels of civil liberties as a measure of political institutions. The aim is to understand the significance that political institutions have in determining inequality. Using a cross-sectional multivariate regression, we determined the effect of political institutions, GDP, openness, and education on inequality. Our results suggest effects from political institutions, with the most significant results coming from GDP and openness. Policy implications include promoting political institutions as a framework for other institutions, while understanding the importance of proper wealth distribution and openness with other countries.

Course: ECON-360 – Economic Development

Faculty Supervisor: Elias K. Shukralla, Economics Department

Project By: Victor Aguiar de Souza Penha

Title: “The Impact of Subsidized Loans in the Brazilian Crisis”

Abstract: Between 2014 and 2016 Brazil has passed by the worst crisis in the history of the Country, worse than the hyperinflation period lived by the Brazilians, the most curious thing is that this crisis follow one of the most prosper times of the country. My theses is that the attempt of maintain this period of prosperity was based on subside loans to stimulate the productive chain of the economy, generating jobs and demand for products and services. The subside loans, however, were responsible to create a distortion of the demand, reflecting later on prices of essential products.

The independent study will help me to explain this theses in details and support it with more technical arguments. Since I am a Brazilian student at Siena, I have all my formation based on Brazilian Economy, I also have work experience at the area of Subsidized Loans so I think I can contribute in research.

The first step is to describe how the Brazilian Government offers this subsidized loans to the market, talk about the banks who offer this kind of loans and the companies who are able to apply for it. Than discuss how the Brazilian Government has manipulated prices in order to keep the economic grown until finally the whole economy been destructed by monetary irresponsibility and prices distortion. We will analyze macroeconomics index, checking for relation between the crisis and the loans, to conclude if it was a determinative factor or not.

Course: ECON-430 – Econometrics

Faculty Supervisor: Scott Trees, Economics Department

Project By: Melissa A. Voerg

Title: “The Effect of C-Sections on Maternal Mortality Rates”

Abstract: Data regarding the cesarean delivery rate, uninsured rate of women, smoking during pregnancy, obesity in women, and publicly funded women's health services were examined in order to determine what improves the maternal mortality rate. Using data from the National Center for Health Statistics and the United Health Foundation during 2016, the model was examined utilizing multiple linear regression. Decreasing the rate of those without insurance was found to be the most significant factor that improves maternal mortality outcomes. After adapting the data to fit the assumptions of regression analysis, public funds was found to be statistically significant; increasing public funds improves maternal mortality outcomes. Smoking during pregnancy came close to being significant; decreasing smoking during pregnancy would decrease the maternal mortality rate. This does not diminish that all the factors have a practical significance on improving maternal mortality rate.

Course: ECON-490 – Seminar in Advanced Economic Theory

Faculty Supervisor: James Booker, Economics Department

Project By: Melissa A. Voerg

Title: “What Affects the Maternal Mortality Rate?”

Abstract: Utilizing panel data of the United States during 2016 and 2018, I hope to find what variables significantly improve maternal mortality outcomes. This could then be utilized in order to improve future health outcomes and potentially save lives. I expect that the uninsured rate of women, smoking during pregnancy, obesity rate of women, and publicly funded women's health services significantly affect the variation in the maternal mortality rate. Overall, as the woman's health improves, the risk of death should decrease. Other variables that may be considered in the study include alcohol consumption during pregnancy and illicit drug use.

Academic Showcase Posters/Presentations

Alpha by Subject

Economics

Course: ECON-490 – Seminar in Advanced Economic Theory

Faculty Supervisor: James Booker, Economics Department

Project By: Weronika Bajsicka

Title: “Poverty and Educational Attainment”

Abstract: This project researches how poverty and educational attainment is related to each other. It allows for us to better understand the gap in poverty rates between races and how education is a major factor to this. This was done by comparing three races (Caucasians, Hispanic, African American) poverty levels to their educational attainment (high school graduate, some college no degree, associate's degree occupational, associate's degree academic, bachelor's degree). We expect to find that with poverty decreasing for a specific race, the educational attainment will increase for that race. Overall, the Caucasian race sees higher educational attainment rates across the board compared to Hispanics and African Americans. From these results we should take notice that poverty is higher for both African Americans and Hispanics because they can't get jobs that are higher paid due to their lower level of education. This is a problem because education is expensive and given that they have higher poverty rates, it is harder to get out of that state without the access to education that is affordable.

Project By: Samuel L. Salvagni

Title: “The Effects of Pollution on Life Expectancy”

Abstract: The effects of air pollution on life expectancy are examined. Other variables such as income, air conditions, and health expenditures are accounted for as well for each specific region, as these variables also play a role in determining life expectancy. Climate policies for the region are also accounted for.

Project By: Tesfu G.Tesfaye

Title: “The Determinants of FDI in Low Income Countries”

Abstract: The paper explores the determinants of FDI in the poorest regions. Building upon previous literature, this paper attempts to expand the geographic bounds and attempts to explore the effects of previously untested factors.

Project By: Jenna L. Fiacco

Title: “Environmental Impacts on Cancer Incidences in California”

Abstract: This project demonstrates the impact of environmental factors on cancer incidence rates in the state of California using yearly data from 1990 to 2015. These environmental factors include the number of wildfires per year and carbon dioxide emissions from vehicles. Since these variables have a consequential impact on pollution levels, I predict that they will both be significant in explaining cancer incidence rates in California. This analysis will be conducted utilizing linear modeling techniques and statistical computations in R.

Project By: Devon O. Wentworth

Title: “The Role of Agriculture in World Economies”

Abstract: Agriculture has implications at both the macroeconomic and microeconomic levels in most countries. Utilizing several variables related to agriculture, predictions of economic GDP/GNI can be concluded. These conclusions can evaluate the past, current, and future role of agriculture development.

Project By: Krista M. Plouman

Title: “Progression of the Wage Gap”

Abstract: Our research focuses on the progress made in the gender wage gap in the United States. Progress will be calculated based on previous research findings from the 1970's and 1980's and comparing it to the same data from recent years. We also plan on testing other variables, such as education rate, to understand if they have any influence over the progress made. We suspect that the gender wage gap has been diminishing, and is due to aspects such as education and increasing the feminist analysis.

Project By: Victor H. de Souza

Title: “The Effect of Internet on Economic Growth”

Abstract: There has been a mass amount of discussions in the scientific community referring to the impact of internet access directly on economic growth, with that in mind, the objective of this paper will be to measure this impact. The data collected is referent to 12 countries, four belonging to the group of high income countries, four belonging to the group of medium income countries, and four belonging to the group of low income countries. The way of testing this is by running a linear regression using GDP per capita as the dependent variable, then the percentage of population with access to internet as the explanatory variable, together with other three based on the Solow-model of growth (population growth, savings, and total investment). It is expected to find a positive relation between internet access and GDP per capita.

Academic Showcase Posters/Presentations

Alpha by Subject

Economics

Course: ECON-490 – Seminar in Advanced Economic Theory

Faculty Supervisor: James Booker, Economics Department

Project By: Kevin J. Degnan

Title: “Hot Shot Theory”

Abstract: This project will break down the theory known as the Hot Shot Theory. What this is, is a belief that basketball players from collegiate to professional, shoot the ball at a high percentage because of the factors around them. From gym size, crowd, home vs away, ball type, etc. Im here to prove that shooters get hot shooting the ball because of their mentality and not outside factors. As a player of the game I can speak for myself and many other players that, once you get hot shooting the ball nothing can distract you from the consistency. I will use data from across the web that comes from the best shooters in collegiate and professional leagues. I will take the data and run it through R to get the best results possible for the truest outcome. For this project I hope to disprove many people that the good shooters, shoot at a high clip because of their own mental toughness, and don't worry about outside factors. This is important to prove because many people not familiar with the game of basketball have always tried to put down shooters if they get in a slump and if they're in a good rhythm, they try to give credit to something or someone else. I think this project will put a lot of the doubt to rest.

Project By: Alessandro Markovic

Title: “An Analysis of Efficient Portfolio Variations”

Abstract: While utilizing monthly data from a ten year period, this project investigates the use of investing in four asset classes to produce an efficient portfolio given three different risk requirements. This project uses a package within the computing environment R to solve for the weights of each asset to maximize returns for a given volatility, essentially creating an efficient portfolio. After finding these weights, comparisons will show how the portions, assets held, vary over the years. The assets involved are the Shanghai Composite Index, the Ten-year Treasury Rate, the S&P 500 and the US Housing Price Index using all transactions. Additionally portfolios involving leverage and equity constraints on certain assets will be considered.

Course: ECON-490 – Seminar in Advanced Economic Theory - Honors

Faculty Supervisor: James Booker, Economics Department

Project By: Jennaleigh S. Buffo

Title: “Factors Affecting House Prices”

Abstract: I will be collecting house prices on sold homes in Saratoga County from July 2018 - December 2018. This data will come from the Greater Capital Region Association of Realtors Multiple Listing Service. I will run a regression using bedroom count, bathroom count, square footage, lot size, taxes, school rating, walk-ability score, and days on market as the explanatory variables to see which variables are significant to house price. I will also run principal component analysis to classify the homes into groups.

Project By: Robert J. Lyall

Title: “Demand Forecasting Using R”

Abstract: A very common and useful technique that is used in the business world is being able to use different types of statistical methods to try and forecast (or predict) the amount of units sold of a particular product for a company by using data from the past. Most of the time, this can be easily done on a spreadsheet like Excel. However this can become difficult when you have sets of data that are very large. Fortunately, programming languages such as R can help make this process much easier to work with. R has a multitude of different functions, commands, and packages that can make working with large data sets much more manageable. Along with this, R also has the ability to create graphs, plots, and other types of visuals that help others visualize the data and are also easy to create. By utilizing R, I will attempt to statistically forecast the amount of sales per unit for a given company that has a large set of data on historical sales.

Course: ECON-490 – Federal Reserve Challenge - Senior Capstone Project

Faculty Supervisor: Aaron N. Pacitti, Economics Department

Project By: Weronika Bajszicka, Sydney E. Geddes, John R. Keenan, Brendan T. Lauth, Kenneth E. Norman, Jacob L. Perry, Krista M. Plouman, Andrew T. Ragosta, John M. Ruquet

Title: “Federal Reserve Challenge 2018”

Abstract: Over the past eight years, the U.S. economy has showed signs of continued improvement, and in turn, we have seen the Federal Reserve raise interest rates beginning in March 2017. We feel that even though the economy is improving, there are certain things that have to be taken into consideration. Real GDP continues to grow in excess of real potential GDP growth, and the Federal Reserve is achieving its dual mandate of full employment and price stability. Because of these factors, we are experiencing accelerating wage growth. Even though the U.S. economy might be facing potential headwinds, we believe that the appropriate course for monetary policy is to raise interest rates gradually and consistently as economic conditions allow.

Academic Showcase Posters/Presentations

Alpha by Subject

English

Course: ENGL-253 – The Short Story

Faculty Supervisor: Stacey Dearing, Teaching Assistant, English Department

Project By: Sam L. King

Title: “The Ethics of Time Travel”

Abstract: My project was on the ethics of time travel, which are brought up in T.R. Darling's micro-fiction tweets which discuss a fictional universe where people can time travel. I will be answering the ethical issues brought up in some of those tweets.

Project By: Joseph M. Sweeney

Title: “The Last Question: An Inquiry into the Mechanical God”

Abstract: The research presented herein focuses on chief questions and points of exploration within Isaac Asimov's "The Last Question" with a primary focus on whether or not Asimov's proposal for the renewal of the universe post heat-death is in anyway feasible. The research features a brief look into the realm of physics with an emphasis on cosmology and thermodynamics, as well as peering into several aspects of the story with a philosophical eye.

Project By: Zoe A. Buscareno

Title: “Machine Driven Society”

Abstract: My research explores the potential for a machine driven society in the future. Additionally, my research paper will convey the various consequences of humans becoming increasingly dependent upon technology. I will be using the short science fiction story, "Mechanopolis" written by Miguel de Unamuno as an inspiration for my paper.

Project By: Desiree A. Nestor

Title: “The Social Construct of Race Tackled in ‘The Comet’ by W.E.B. Dubois”

Abstract: Dubois addresses race as a social construct in his short story “The Comet.” The story is set in 1950's America. After a comet hits New York City, only a black man and white woman are left alive. They look past their racial differences once they realize they are the only two people left alive but once they are rescued, the racial discrimination returns. My research paper centers around the origin of the idea of race, and the way it has been perpetuated in society throughout history. Aside from race, I intend to look at other ways humanity has used distinguishing features as a way to formulate groups, and hierarchies.

Course: ENGL-256 – The Novel

Faculty Supervisor: James Belflower, English Department

Project By: William B. Carmello

Title: “Great Depression: A Comic of my Grandmother’s Story”

Abstract: I recently conducted a personal interview with my grandmother where she provided me with insight into her experiences and lifestyle during the Great Depression, in her hometown of Herkimer, New York. I will be telling her story in comic book form, and will present it on a large poster.

Project By: Natasha H. Nugent

Title: “Highs and Lows”

Abstract: This is a piece of artwork that describes the highs and lows that come with being bipolar.

Project By: Nicole M. Gazdik

Title: “Comics Aren't What You Think: The Graphic Novel”

Abstract: Comics are normally thought of as the type of thing a child would read because people are unaware of the other ways in which comics are used. People should become more educated on different types of novels before deciding not to read them, especially with comics. The graphic novel uses comics to tell a story about events occurring throughout history, or personally. Through the semester, the class has read popular graphic novels that retell the stories of the Boxer Rebellion, the Holocaust, and other wars throughout history. These novels show that comics are not always meant for children, and depict the many ways in which an author can use panels to convey emotion.



Academic Showcase Posters/Presentations

Alpha by Subject

English

Course: ENGL-256 – The Novel

Faculty Supervisor: James Belflower, English Department

Project By: Valerie M. Marcil

Title: “Heartbeat”

Abstract: This project will feature several pages of cartoon illustration of a young woman's journey through several relationships, encountering love, heartbreak, life lessons, and the circle back to young love once again. This narrative concerns identity exploration, as well as the impact of meeting different people and love interests who come to fundamentally shape her life as it is today. This is the graphic narrative for Dr. James Belflower's The Novel, in which we must pull a piece of our personal history out from our memories and present them into the light in an illustrated format. This is my story navigating from my final year in high school to my present relationship now in my sophomore year of college, the story spread primarily between the tales of three different love interests. Without meeting these individuals, I would not be the person I am today, and I would not have learned some of the essential life lessons I now carry with me had I not met these individuals. Their lessons, entwined with my navigation through a life continuously changing, is what I have to showcase, and the story I have to tell.

Project By: Alexandria N. Sullivan

Title: “Almost Heaven, Marion”

Abstract: Ordinarily, people think of a novel as being comprised solely of words. These words are capable of conveying strong messages and stories. A graphic novel is not often thought of in the same nature. However, a graphic novel is more than able to do the same job. The power of words in conjunction with images can demonstrate powerful expression. In this project, I have utilized graphic novel as the media to tell the story of Marion County, SC. It includes a personal history from my experience as a Habitat for Humanity trip member to Marion in 2017 and 2019. Each of these years followed a major hurricane that left the area tattered, Matthew and Florence respectively. With this graphic novel I focus on the stories I was told first hand from those who experienced direct effects and loss from the disaster. Marion County, though, is much more than their losses. It is a unique community of tight-knit individuals who treat friend and strangers alike with the utmost kindness and hospitality. An attitude such as theirs reminds visitors that terrible events do not have to lead to terrible outlooks on the future. Instead, they remain open and determined to remain so. As I was brought into their community, treated like I had lived there my entire life, I gained an appreciation for the little things. By the end of the trip and despite the hardships faced, Marion seemed to be closer to Heaven than anyplace I have been to before.

Project By: Andrew W. Canavan

Title: “Breaking 5”

Abstract: My poster is a presentation of my graphic narrative which tells the story of my first time breaking 5 minutes in the mile run. In the narrative I compare myself to and draw inspiration from Roger Bannister, the first man to break 4 minutes in the mile. I show how the inspiration of a historical figure helped me to achieve my goals.

Project By: Camryn T. Foley

Title: “New Beginnings”

Abstract: This is a comic book about my life. When I was going into my freshman year of high school, my family decided to move. This required my sister, brother and I to have to switch schools. It was hard at first, but eventually we all ended up loving our new home and school!

Project By: Laura G. Durham

Title: “The End or the Beginning...”

Abstract: The Graphic Novel has put a modern spin on my understanding of art, writing and literature. For our final project, we were assigned to create our own, short, graphic narrative. This is the story of me, the story of then. My story tells the tale of the life changing injury which occurred during my senior year of HS. This change spurred my love for academia and changed the way I entered college and pursued my Bachelor's Degree. My narrative is the necessary reminder that what often feels like the end is just the beginning

Course: ENGL-320 – Romantic Literature

Faculty Supervisor: Lisa Nevarez, English Department

Project By: Caitlyn M. Gerardi and Haillie Luft

Title: “The Work, Life, and Inspiration of William Blake”

Abstract: William Blake was an English poet, painter, and printmaker. Largely unrecognized during his lifetime, Blake is now considered a seminal figure in the history of the poetry and visual arts of the Romantic Age. He lived in London for most of his. Although Blake was considered mad by contemporaries for his idiosyncratic views, he is held in high regard by later critics for his expressiveness and creativity, and for the philosophical and mystical undercurrents within his work. His paintings and poetry have been characterized as part of the Romantic Movement.

Academic Showcase Posters/Presentations

Alpha by Subject

Environmental Science

Course: ENVA-400 GIS

Faculty Supervisor: Katherine Meierdiercks, Environmental Studies and Environmental Science

Project By: Alyssa M. Lofaro

Title: “Why are Hurricanes Names Retired? Determining if Population Density has an Effect on the Retirement of Hurricane Names”

Abstract: According to the National Hurricane Center, the time period from June 1st to November 30th is the official hurricane season for the Atlantic Basin. During this period of time, many Americans living along the Eastern seaboard as well as in the Gulf of Mexico, are left on edge wondering whether or not a major hurricane is going to hit there area that year. Most of the time, these residents will only be hit with a minor hurricane or a tropical storm, and if they are real lucky, they will not be hit with a storm the entire hurricane season. However, with hundred year storms occurring more frequency as a result of climate change, many residents within these areas are left feeling unprepared and may not evacuate if they are told to do so. This could have many negative effects on the total damage cost and lives lost during a major hurricane, especially in highly populated areas. This study compares the mean population per square mile affected by retired hurricanes and non-retired hurricanes to determine if there is a correlation between highly populated areas and the retirement of a hurricane name.

Course: ENVA-450 – Conservation Biology

Faculty Supervisor: Mary Beth Kolozsvary, Environmental Studies and Science

Group Project Theme: “Reconciliation Ecology: A Call for Action”

Abstract: This session is devoted to the poster presentations of the final projects by students in the ENVA 450 (*Conservation Biology*) course. The theme of the course project focuses on “Reconciliation Ecology: A Call for Action.” These projects provide students with the opportunity to delve into the topic of reconciliation ecology (i.e., encouraging biological diversity conservation in places where people live). In particular the projects develop innovative plans to incorporate the concepts of reconciliation ecology into the Siena College campus and its community.

Posters Presented By:

Ashley C. Aupperle, Erica J. Perrea, and Kate E. Scimeca

“Campus Rain Gardens as a Tool for Habitat Enhancement and Biodiversity Education”

Melissa A. Calabria, Claire R. McNamara, and Abigail M. Serfilippi

“Mow No Mo’: aka the No Mow Zone”

Samantha P. Lore, Megan A. McNamara, and Erica N. Sullivan

Title to be determined.

Jessica L. Gray, Catherine M. Hill, Kent R. Mohlar, Matthew Prock, and

Carmine J. Romano

“Wildlife on the TV: competition to spot wildlife”

Richard L. Campbell, Alexis M. Hughes, and Kelsey A. Stevens

Title to be determined.

Eileen T. Fitzgerald, Kimberly C. Hoffman, and Alison M. Liguori

Title to be determined.

Lauren E. Gallagher, Aaron M. Melick, James C. Monfils, and Samuel L Upson

Title to be determined.



Academic Showcase Posters/Presentations

Alpha by Subject

Environmental Science

Course: ENVA-460 – Geographic Information Systems

Faculty Supervisor: Katherine Meierdiercks, Environmental Studies and Environmental Science

Project By: Eileen T. Fitzgerald

Title: “Green Infrastructure Potential in the Kromma Kill Watershed”

Abstract: The purpose of this project was to use the EPA's Best Management Practices (BMP) Siting Tool on ArcGIS in order to locate and quantifies areas suitable for different types of green infrastructure in the Kromma Kill Watershed and in Siena College. Green infrastructure (GI) refers to a style of water management that mimics the natural water cycle in order to reduce stormwater runoff and improve water quality. This project focused specifically on green roofs, bioretention practices such as rain gardens, and porous pavement. By uploading land use, percent impervious, soil, stream, and road data layers into ArcGIS, the BMP Siting Tool produced outputs of suitable areas for each GI type within the Kromma Kill Watershed as well as within Siena College. This can be used by future developers in order to gain an idea of best locations for local GI implementation.

Project By: Samantha P. Lore

Title: “Digitization of Siena, Italy”

Abstract: My poster shows my final work in developing a digitized map of Siena, Italy. The work was completed using GIS software and highlights key points of the city for visiting tourists.

Project By: Melissa A. Calabria

Title: “Peregrine Falcons: Range and Sighting Data for Analyzing Distribution Change within the United States”

Abstract: Peregrine Falcons were once a federally critically endangered species because of the effects of DDT on the eggshells of the offspring of birds of prey. The low survivability of their young caused the peregrine falcon population to plummet. By 1964, Peregrine Falcons were extinct in the eastern United States (USFW). The population has recovered considerably since then, following the ban on DDT, and the species was removed from the Federal endangered species list in 1999. Its conservation status is now “Least Concern,” indicating that the population is increasing still. It is difficult to obtain population statistics for a bird species with a range that stretches across the United States, it is important to continue to monitor the Peregrine Falcon population to ensure the population continues to grow. One way to accomplish this countrywide task of bird monitoring is through Citizen Science. eBird is one such project, managed by the Cornell Lab of Ornithology. Birders and participants are able to share data about the species of birds they have seen, as well as when and where they saw them. 2017 eBird data on Peregrine Falcon sightings in the continental United States is the data being used in this project to determine where this species is being seen in the present, compared to their known range, determined by USGS from 2008-2013.



Academic Showcase Posters/Presentations

Alpha by Subject

Environmental Science

Course: ENVA- 499 – Heavy Metal Analysis (Independent Study)

Faculty Supervisor: Katherine Meierdiercks, Environmental Studies and Environmental Science

Project By: Melissa A. Calabria

Title: “Examining Arsenic and Heavy Metal Contamination at a Historic Cemetery: Persistent Environmental Effects of pre-1910 Embalming Processes”

Abstract: Arsenic is a toxic chemical that was used until 1910 as a preservative in the embalming process. As a result, the grounds of many 19th century and older cemeteries run the risk of arsenic contamination. Arsenic cannot be destroyed in the environment (Agency for Toxic Substances and Disease Registry, 2007), so it can persist in cemetery soil for centuries. If a grave containing a body embalmed using arsenic were to be infiltrated by water, the arsenic could then leach into the surrounding environment, according to Harris (2013), contaminating ground or surface water. The intent of this study is to determine the levels of arsenic in a 19th century cemetery soil located in Albany County, New York. By comparing the findings to the EPA standards on arsenic in soil, we can determine the potential for health effects on the local community. This study identifies arsenic and heavy metal contamination in cemetery soil, locates hotspots, and determines possible migration patterns and pathways. Grave sites found to be significantly contaminated with arsenic are sampled radially and analyzed using x-ray fluorescence to show the concentration of arsenic and to assess potential migration pathways. Results highlight the distribution of heavy metals, specifically arsenic contamination, in a historical cemetery, show potential pathways for ground and surface water contamination, and have important implications for local ecosystem and human health.

Course: ENVA- 499 – Sustainable Energy

Faculty Supervisor: George Hassel, Physics and Astronomy

Project By: Nabila Akhter

Title: “3-D Printed Wind Turbine”

Abstract: Sustainable energy has been a "hot" topic in New York. There's a shift towards sustainable energy. We wanted to test out how easy and efficient a 3-D Printed wind turbine would be. We tried connecting the wires in different manners to get a current. We found some electric current but it was not consistent.

Film

Course: FILM-450 - Symposium

Faculty Supervisor: Erich Hertz, English Department

Project By: Andrew M. Astruc

Title: “Synecdoche, New York: Kaufman's Kaleidoscope”

Abstract: The clock is ticking to your inevitable death. Are you afraid? What will you leave behind? How will you be remembered? Caden Cotard, the protagonist of Charlie Kaufman’s Synecdoche, New York, obsesses over these questions and loses himself in a fruitless quest to find meaning. What this film suggests is that meaning is not a treasure to be found but something to be created through choice, connection, and experience. Are you searching for meaning, or are you creating it? My interpretation of this masterpiece might guide you to an answer.

First Year Seminar

Course: First Years Seminar - Media

Faculty Supervisor: Susan Barranca, First Year Seminar

Project By: Elaine C. Gaynor

Title: “People with Anxiety: Listen Up”

Abstract: The study of how music can positively affect people suffering from anxiety.

Project By: Michael T. Averill

Title: “DACA: Here to Stay”

Abstract: Deferred Action for Childhood Arrivals (DACA) is an executive order announced by Barack Obama in June of 2012. My research looks at the legality of the executive order, who qualifies for the program, the complications of applying, and why the program was created in the first place. The premise of DACA is that children brought to the United States illegally as children did not intentionally break the law, but rather, came here with their families. These people have created lives for themselves here and have families of their own. In the United States, children are held to a different legal standard than adults. Legislation such as the DREAM Act would solidify the protection of DACA recipients into law. With such legislation, DACA could finally stop being used as a pawn in a greater political debate.



Academic Showcase Posters/Presentations

Alpha by Subject

First Year Seminar

Course: First Years Seminar - Media

Faculty Supervisor: Susan Barranca, First Year Seminar

Project By: Allison M. Carter

Title: “Anxious or Depressed? Drop the Phone”

Abstract: Using social media too much will damage people's mental health and will lead to anxiety and depression. Being on social media leads to comparison of lives and can also result in cyberbullying. Social media leads to the lack of face-to-face conversations because most people talk to each other through their phones. Comparison of lives results in looking at how perfect other people's lives are on social media, but in reality their lives are not actually like that. There are sexualized images out in public that not only affect women and children, but also affects how society views women and their high expectations for them. There are apps being created to help people limit their time on social media by giving them warnings when they are getting close to using the average amount of social media per day. We are using social media too much and need to drop our phones and live in the moment more often. We need to limit our time on social media because it damages one's mental health and in particular anxiety and depression.

Project By: Carson I. McLenithan

Title: “Twitter: The Great Divider”

Abstract: This presentation showed how the new use of Twitter as a form of media in the United States is fueling the political divide. This new form of media allows everyday people to enter the conversation and add their voice to issues. My claim is that political parties and news entities are using Twitter to divide the nation by posting large amounts of biased content and misguided information.

Project By: Maxwell H. Schindler

Title: “Media Encourages Substance Abuse”

Abstract: This project will display the effects that current day media has on teens in regards to alcohol and drug use. Teens are encouraged to try these substance at a very young age by what they are seeing on TV and social media platforms such as Instagram and Snapchat.

Project By: Morgan K. Camarda

Title: “Women's Soccer Kicks Men's Soccer”

Abstract: My poster is about the wage discrimination between the Women's National Team and the Men's National team. I talked about how the women have proved themselves to make more money than they do and how they can utilize their money if they had more.

Course: First Years Seminar – Moving On

Faculty Supervisor: Nichole Krisanda, First Year Seminar Instructor

Project By: Amy R. Peguillan

Title: “Why Prescription Drug Costs Should Remain Affordable”

Abstract: Research paper presentation on why the increase on prescription drug costs should remain affordable. Must follow the CURCA poster guidelines for presentation at the Academic Showcase.

Project By: Lydia Williams

Title: “Aiding the Water Crisis”

Abstract: Aiding the Water Crisis was the topic of my research paper this semester.

Course: First Year Seminar – Defining Success

Faculty Supervisor: Hope Pearlman, Lecturer in First Year Seminar

Project By: Devyn A. Beliveau-Gale

Title: “How Your Childhood Can Determine Your Future Success”

Abstract: Through researching the relationship between secure attachment and success, I found that they are highly correlated. The attachment that a child has with their parents is the basis for how they will handle future emotional and occupational stressors in their life. They are able to approach these problems without it reflecting on themselves and who they are as a person. They have an inner confidence that allows them to excel with interpersonal relationships which is beneficial for both their emotional and occupational success. By exploring Mary Ainsworth and John Bowlby's research surrounding the secure attachment theory, and current scientists who are furthering this work the beneficial relationship was clear. It is important for our society to understand how critical this parent-child relationship is in shaping who your child becomes and what they achieve.

Academic Showcase Posters/Presentations

Alpha by Subject

First Year Seminar

Course: First Year Seminar – Defining Success

Faculty Supervisor: Hope Pearlman, Lecturer in First Year Seminar

Project By: Jennifer M. Sierra

Title: “Learning About Racism at an Early Age”

Abstract: As a person who has been surrounded by diversity all her life, I know how difficult it can be for minority students to feel accepted in academic and/or social settings. My major (Psychology) has intensely sparked my interest to make further claims on how society can help improve the way minority children see themselves in the future. Racism is absurd. Unfortunately, it won’t go away any time soon unless diversity education is increased. With the help of diversity education and racism awareness, minority children will have an easier time accepting themselves and those surrounding them. Overall, all children, whether black or white, must get educated on racism by trusted adults for a future filled with confidence, acceptance, and success.

Project By: Samira M. Ahmed

Title: “Women of Color in Higher Education”

Abstract: With the ample history of gender inequality and racial oppression in the United States, there is reason to believe that women of color may have a more arduous experience in academia than men or women of a Caucasian background. The United States is regarded as one of the few nations throughout the world in which obtaining a degree in higher education is attainable if so desired. Yet when observing the impacts of the enforcement of Affirmative Action policies in the mid-nineteen hundreds, the feelings of anonymity amongst women of color in academia, and the idea that there is a lack of representation for minority women in higher education that can provoke feelings of not belonging, it seems as though women of color are undermined in their respective academic institutions. After the implementation of Affirmative Action, which allowed for more minority students to have equal opportunities in education throughout the country, Caridad and Lydia came across troublesome experiences in their respective academic programs. The trouble with these microaggressions Caridad, Lydia, and nearly all other minority women face is that it creates an emotional distance between them and their white faculty and peers. “Multiple researchers emphasized the importance of peer group interaction and mentoring to women of color in STEM but noted students’ difficulty in finding others with whom to identify with; as a result, students often kept separate their STEM peers and friends with whom they socialized.” (Ong) This can result in women of color feeling as though they need to alter their personalities in order to present themselves in a way their white counterparts would be willing to perceive them. “W.E.B. Du Bois coined the concept of double consciousness, whereby a black people are essentially forced to have two identities and pressured to view themselves as they’re perceived by their non-black peers.” (Green) Concealment of one’s true identity can take a great psychological toll on students who already have a challenging workload from their academic programs. “Overwhelmingly, the research findings demonstrate that women of color, among other underrepresented groups, do not persist in STEM at the same rates as their white male counterparts due to social or interpersonal factors; in other words, women of color struggle and leave because they do not experience a sense of social belonging” (Ong) This phenomena of minority women being isolated in their respective fields of higher education due to the absence of an encouraging and psychologically supportive environment creates an endless loop of scarcity in women of color in academia.

Project By: Caroline R. Clickman

Title: “Why Are Women Still Underrepresented in Senior-Level Positions Within Companies?”

Abstract: In recent years, women have been joining the workforce and getting higher educations in greater numbers than before. For the class of 2015-2016, women earned more than half of bachelors, masters, and doctoral degrees. Women have actually been earning more degrees than men since 1982. Women also make up almost half of the labor force. Yet, with all of these statistics, women are still under-represented in higher-level management positions within companies. This leads to question why women, despite all these statistics, still are not getting the higher management positions in companies, and wonder what can be done to increase the number of women in positions of higher management levels? Possible reasons include stereotyping and the pay gap.

Project By: Hannah M. Gallagher

Title: “Playing the Game: The Mental Side of Athletic Injury”

Abstract: Injuries are prevalent in athletics, from over use to contact injuries, things happen. Physically the rehabilitation and prevention of injuries is fairly cut and dry, there’s protocols and exercises set in place. However, the mental side of injury rehabilitation and prevention has been long overlooked. Mental health problems can greatly affect how athletes perform, train and live, and the toll that physical injuries take on athlete’s mental health can cause further problems in the future. Sports psychologists and psychiatrists need to be better utilized to help athletes to perform to their best potential, just like how athletic trainers and strength/conditioning coaches help athletes with their physical strength. The use of sports psychologists and psychiatrists can help reduce and prevent the major effects injuries have on athletes’ mental health, as well as notice mental illness that may be a risk in gaining new physical injuries or unhealthy habits.

Academic Showcase Posters/Presentations

Alpha by Subject

First Year Seminar

Course: First Year Seminar - Relationships

Faculty Supervisor: Janet Shideler, Modern Languages and Classics and Instructor in First Year Seminar

Project By: Lea M. Sopok

Title: "Depression and Awareness"

Abstract: Awareness of Depression needs to be brought to the forefront so that more people may seek the help they need, as well as making others aware that this is not a small issue. There are many gaps that need to be filled with respect to the awareness and treatments of depression. Most people do not understand where the depression sufferer is coming from, and there is much miscommunication. My research will provide some true stories of depression, symptoms and help the reader to understand this topic better. The more we all know about depression and are aware of its systematic issues, the more we are all capable of assisting someone in crisis, and we just might save a life in the process.

Project By: Destinia I. Tolliver

Title: "Invisible Women and Undisclosed Issues of Police Mental Health"

Abstract: This paper explores police brutality in the Black community highlighting the lack of coverage of violence against black women and the mental health of police officers. It is important to focus on Black women because mainstream media tends to focus more on men when it comes to police brutality and many people are not aware of the experiences between police and Black women. In addition, people do not discuss the mental health aspect of police officers. Police officers go through trauma that may affect how they interact during encounters with the black community. The research examines whether they are trained to act biased to certain groups. In Black and Blue by Jeff Pegues, he analyzes the tactics of police officers and examines if their trainings are to act biased towards minorities. Adding to the book, series of articles showed many different cases of police officers killing black women. In conclusion, this paper shows a change in compliance and might show discomfort, but this might spark a change in society.

Project By: Steven Brant Bickham

Title: "The Gender Wage Gap"

Abstract: This research paper will cover the wage gap in the United States between men and women. I questioned why this gap is so eminent and what caused this gap to become so large. This research is important to help close the gap as it could lift millions out of poverty along with making the lives of women equal. I'm reading different articles and sources about this topic that are mainly statistical documents and I'm trying to find unbiased books to add some of their analysis of this epidemic. Through reading my sources I have learned how large this problem is and how it only gets worse with age. The "Parental" role which woman have in society also contributes much more to the wage gap than I would have imagined as paid leave isn't truly regulated. We need to get congress more involved and show the American people how bad this truly is to change it. Simple things like a collection of national pay data could help regulate wages and diminish this gap.

Project By: Thomas T. Awad

Title: "Religious War: Muslims vs Coptics"

Abstract: My research problem behind the project is the religious war between Coptic Christians and Muslims, specifically in the country of Egypt. This specific problem is important because it is the root of all problems caused in the Middle East and cause of thousands of deaths. The gap between Christians and Muslim's is huge especially in the Middle East when it comes to decisions. I am conducting my research by reading articles viewed from both religions and comparing the two. Sources I will be using will consist mainly of books due to lack of articles on this specific topic. Conclusions I have reached with this topic is that the main problem is the differences in religion and morals of each religion. Not just morals of each religion but with the mind of a Middle Eastern person and their stubbornness, ways of thinking...all together causes a major controversy we have been dealing with for decades. By fixing the root of the problem, which is the religious war, we can end this chaos in the Middle East simply by agreeing with one another and stride the intention of destroying the opposing religion.

Project By: Georgia L. Vargas

Title: "Abortion Wars: Struggle in Our Country"

Abstract: Exploring the complexity of Abortion including the opposing views present in society which continue to divide the county.

Academic Showcase Posters/Presentations

Alpha by Subject

First Year Seminar

Course: First Year Seminar - Relationships

Faculty Supervisor: Janet Shideler, Modern Languages and Classics and Instructor in First Year Seminar

Project By: Taylor Roadarmel

Title: "From the Dust: The Effects of Nature on the Human Mind"

Abstract: The effects of nature on the human mind are largely studied and developed through research studies and surveys. It is important to understand just how the world around us can allow for healing and prosperity. Through research studies, medical novels and news sources, this presentation attempts to uncover the truth about how the human body reacts when immersed in the natural world. Preliminary research shows that nature is a medicine to physical and mental health concerns. Current studies are well versed in information regarding children and adults, specifically at risk youth and veterans. The research is done through the study of emotions and representations of physical health such as blood pressure and illness symptoms. However, much research is still to be done in implementing nature into the busy and stressful lives of college aged students. Information pulled from both ends of the research will help to provide relevant solutions to the need for change in college life around the country.

Project By: Abigail M. Altimonda

Title: "The American Working Culture and the State of Mental Wellness"

Abstract: This research project is an exploration of the relationship between the American working culture and the state of mental wellness among American workers. The average American will spend 92,120 hours working over the course of their adult life, but many exceed this number as a way of getting ahead. For its entire history, America, has been a place that people have migrated to in search of opportunities to make their dreams come true through hard work. Many Americans today work more hours in the week than any other country which contributes to America being one of the leading countries for mental illnesses. People want to be successful and they believe that the only way to do that is through working more hours than their co-workers. This presentation will address the idea of success, how American society defines it and how Americans are expected to comply with that definition. This project reinforces the idea that the American working culture has taught people that success is measured in monetary value and that the only way to get ahead is through vigorous competition that includes many hours of work. It will argue that the social-cultural factors of workplace pressure and lack of recognition of mental health have resulted in an overworked American public. The presentation will draw from texts about occupational psychology, working environment including long working hours, workplace competition, and workplace aggression. It will also explore the amount of recognition mental illnesses in America receive and how many workplaces provide mental health support or prevention of mental illness.

Course: First Year Seminar – The Idea of War

Faculty Supervisor: Margaret Woolbright, English Department, Director, FYSM

Project By: Julia Bryant

Title: "Video Games and War"

Abstract: First-person shooter video games, like the popular Call of Duty, are not just a hobby! The U.S. Military is using specialized video games to train soldiers for war. In today's technological society, the various benefits video game training provides will help to make our Army even stronger.



Project By: Christopher M. Barra

Title: "The Dual Nature of Drones"

Abstract: The utilization of drones in warfare will provide numerous benefits, but as warfare and society continue to interbleed, drones will lead to a compromised civilian life.

Project By: Nathaniel Kim

Title: "War in Sports"

Abstract: The sports scene creates a safe environment for civilians to experience their longing for the rush of a war like experience, by serving as an extension of the battlefield.

Project By: Hailey Cowles

Title: "Eating Disorders in the Military"

Abstract: I will be presenting about my research on eating disorders in the military and the many ways that they are caused and can be prevented. I have looked at reasons for these eating disorders such as the military's weight requirements, the stigmas that soldiers face, and exposure to combat which poses problems for soldiers during service. Essentially, I have concluded that soldiers are treated more like machinery than human beings, thus causing problems like eating disorders.

Academic Showcase Posters/Presentations

Alpha by Subject

First Year Seminar

Course: First Year Seminar – The Idea of War - Honors

Faculty Supervisor: Margaret Woolbright, English Department, Director, FYSM

Project By: Sarah E. Duggan

Title: “Increasing VA Funding will Lead to Less PTSD in Veterans”

Abstract: In my paper, I am going to argue that the long-term effects of PTSD and mental health disorders among veterans will decrease only if the United States allots more funding to the Department of Veterans’ Affairs to help veterans.

Project By: Irelan A. Fricke

Title: “War and Art”

Abstract: Art possess more than aesthetic value. Though it is often minimized or even entirely overlooked, art plays an essential and multifaceted role with regard to war. In fact, art is our most essential tool when it comes to cultivating empathy for those involved in and impacted by war. In viewing and developing a greater degree of appreciation for art that is linked to war, we as civilians without firsthand experience ourselves are able to more fully grasp the entirety of war. Art’s capacity to effectively document and record war related history, provide insight to the realities of war, and influence public perception and understanding of war culminates in the overall creation of empathy. Art is essential in the creation of empathy linked to war. War art gives the general public greater access to insights on war which in turn allows for understanding and empathy to germinate and bud where it previously did not exist.

History

Course: HIST-401 – Historical Archaeology

Faculty Supervisor: Andrew Beaupre, History Department

Project By: Kyle R. Creech

Title: “Understanding Forensic Archaeology: From Crime Scene to Courtroom”

Abstract: One often overlooked member of crime scene investigations is the forensic archaeologist, who does not appear in most televised portrayals of crime investigations. This poster’s main purpose is to walk one through what a forensic archaeologist is and why it is such an important field of work. I will explain what roles they play from the moment they appear at a scene to when there is a trial in court, along with the techniques and practices performed by forensic archaeologists. Since the work of forensic archaeologists is to help in the excavation and preservation of evidence at crime scenes, which ultimately will bring a criminal case against someone, it is vital to understand the work they do and the significance of it to our society.

Project By: Erin N. Delwiche

Title: “Exploring Daily Life at Valley Forge During the Winter of 1777-78”

Abstract: On December 19, 1777, George Washington and his army reached Valley Forge, Pennsylvania, where they remained for the duration of the season. During George Washington’s encampment at Valley Forge, soldiers left behind their mark on the environment. This poster will analyze the archeology completed at the site, in order to gain an integrative picture of what daily life was like at the encampment. While many first-hand accounts from the soldiers still exist today, the archeology completed at the site provides for a further look at daily life. Furthermore, in history discussions today there may be a romanticized view of Washington’s time here, with a focus on how he “transformed” the troops. Therefore, the archeology provides for insight into the harsh reality. In particular, the two cases which this poster will focus on will be animal and faunal remains, in an analysis of the food soldiers had access to, and second the huts which they lived in during their stay.

Project By: Paul J. Bellucci

Title: “The Alamo”

Abstract: This is a poster describing the battle of the Alamo. It also describes some of the features of the old mission where the battle took place.



Academic Showcase Posters/Presentations

Alpha by Subject

History

Course: HIST-401 – Historical Archaeology

Faculty Supervisor: Andrew Beaupre, History Department

Project By: Nathan C. Simons

Title: “Lost History, Lost Participation: Native Americans in the History and Legacy of Fort Stanwix”

Abstract: The construction of Fort Stanwix and the events surrounding its role in the colonial era of New York are of importance to American history and the general public of upstate New York. The legacy of the fort and particularly the siege of the fort in 1777 highlights the role of Euro-American racial policy towards Native Americans based on economic and military factors and also highlights the crucial roles that Native Americans played as combatants in the Revolutionary War. The importance of these factors is demonstrated in the fort’s archaeological history and in historical documentation.

Project By: Andrew W. Canavan

Title: “Pottery of the Helderberg Castle”

Abstract: In my poster I show the interesting history of the Helderberg Castle and the pottery of its builder, Bouck White. Located not far from the capitol region perched upon the Helderberg Escarpment, the Helderberg Castle was a place that has drawn curiosity for generations. Bouck White was an eccentric philosopher and artist who lived as a hermit in the home he constructed. He lived a life of solitude selling his pottery and preaching his wisdom from this mountain retreat. In this presentation I chronicle the pottery that was his livelihood and the mysterious processes he used to create it.

Project By: Holly E. Delwiche

Title: “Launching the Search: Exploring Archaeology Done at the Lost Colony of Roanok”

Abstract: Beginning in the late 16th century, various efforts were carried out by the English to establish a permanent settlement in North Carolina. The first successful venture would occur at Roanoke Island, where a fort and settlement would eventually be established. Known as the “lost colony” today, the mystery of the colony is centered around its Mayor, John White, who quickly had to return from the colony to England to get needed supplies. Upon his return, he found a cryptic message and the settlement abandoned. Today, the settlement continues to be a lasting area of study as historians and archaeologists search for clues as to what happened to the deserted settlement. This poster will review the archeology which has been done to try and identifying what occurred to the colonists on the island. Additionally, it will examine archeology done at two different sites where various groups have tried to piece together clues as to potential locations where settlers could have moved to between White’s visit to England and subsequent return.

Project By: Kristen F. Berger

Title: “Archaeology at Fort Edward and Roger's Island”

Abstract: My poster displays archaeological evidence from Roger's Island and Fort Edward, as well as discusses historical context from the site. I talk about Native American involvement at the site as well as its role in several wars, including the French and Indian War and WWI.

Project By: Jonathon Fretto

Title: “Proving the Agency of the Colonized Through Historical Archaeology”

Abstract: How do archaeologists tell the story of the colonized that has been overtly silenced in many academic resources due to systemic oppression by the elites of the time? The answer to this dilemma lies in the soil by uncovering and interpreting the material culture of target social groups. Author Michael Given puts this concept expertly into words in his study “The Archaeology of the Colonized” How can we use material culture such as tools, structures and waste materials to investigate how the colonized chose to resist, subvert, or accommodate colonial rule? Examining its context is crucial: it is not enough to pick out a few items sites which seem to suit a particular argument. People’s actions need to be understood across the whole landscape, to include their farming, hiding and travelling just as much as their living in the ‘sites’ to which archaeology often limits itself.

Project By: Wesley J. Whalen

Title: “The Restoration of Fort Ticonderoga”

Abstract: Fort Ticonderoga was built in 1755 by the French on a peninsula that overlooked Lake Champlain. The Fort was built on a strategic position due to its ability to command the narrows of the lake and the entrance to Lake George. Four years after its construction, the fort was taken by the British in 1759. The fort did not fall again until the American Revolutionary War; when it fell to Ethan Allen in 1775. Only to be recaptured by the British two years later. After the war was over, the fort was abandoned and did not see the care it deserved until William Ferris Pell purchased the grounds in 1820.

Academic Showcase Posters/Presentations

Alpha by Subject

History

Course: HIST-401 – Historical Archaeology

Faculty Supervisor: Andrew Beaupre, History Department

Project By: Kathleen S. O'Brien

Title: "Traces of Poison Gas in World War I"

Abstract: The subject of poison gas has been studied numerous times throughout history, with many books and articles being produced about how the weapons were used and the effects it had on those exposed to it. Though the archaeological study of poison gas has only been brought into the light in recent years. The subject of this poster will be examining the archaeological study of poison gas; looking for traces of poison gas in the trenches on the Western Front during World War I. Finding traces of poison gas has proven to be a difficult task due to the weapon not existing in a solid form. The method of research will include looking through the battlefields of World War I, in areas where it is known that poison gas has been used; conclusions can be drawn on these areas based on findings of objects such as gas shells and gas masks. There will also be an examination of medical research through blood tests that were done on those who came in contact with poison gas. This is done in order to find if poison gas chemicals existed in the bloodstreams of any of these people. Through these methods of research, conclusions can be drawn about the existence of poison gas in World War I.

Project By: Robert Mailloux

Title: "The History and Importance of Sheffield Castle"

Abstract: Sheffield Castle is an archaeological site in Sheffield, England at the river junction of the River Sheaf and River Don. The castle itself is a motte-and-bailey castle that was constructed sometime after the Norman invasion and conquest of England in either the 11th or 12th centuries. Excavations in 1999 and 2001 informed us that it was one of the largest castles in medieval England. It's an important archaeological site because of the amount of information it gives us because of its rich history. It informs us on early Norman/English castle designs, was the prison of Mary, Queen of Scots from 1570-1584, and is said to be the home of a knight by the name Sir John Talbot, 1st Earl of Shrewsbury, who helped England fight in the Hundred Years' War. It's also important because in August 2018 it was being excavated by students from the University of Sheffield showing that it's still used by modern archaeologists to learn more about archaeology.

Course: HIST-497 – Proseminar

Faculty Supervisor: Jennifer H. Dorsey, History Department

Project By: Michael A. Bellucci, Emily L. Biernacki, Aileen C. Burt, Kelly Chaney, Matthew Cooper, Justine Guinaw, Rosella J. Hren, Evan R. Levesque, Audrey L. Mahoney, Tyr J. Morford, Robert A. Nolan, Matthew C. Pierce, Sabrina Piper, Taylor N. Rotondo Medina, Austin T. Sadosa, Alicia M. Sala, Brianna N. Thomas and Lukas E. Whitehouse

Title: "Erie Canal Research Project"

Abstract: History 497 is a class that introduces history students to both the methods and philosophical problems of history. This class aims to teach history students the fundamentals of historical research, including how to locate and access historical sources from the Standish Library. Dr. Dorsey, with the help of Siena's librarians was able to teach us this process hands on. The students in history 497 helped the New York State Canal Corporation to create a dynamic bibliography of all digitized publications of the New York State Canals Board, New York State Canals Commission, New York State Engineer, and related primary sources for the New York State Canal System. This "one-stop-shop" for online resources relating to the New York State Canal System (Erie, Champlain, Oswego, Cayuga-Seneca Canals) helps the state agency save time, money, and resources. It will also serve as a valuable research resource for researchers world-wide.

Course: HIST-499 – History Capstone

Faculty Supervisor: Jennifer H. Dorsey, History Department

Project By: Thomas A. Ruhl

Title: "Education for Liberation: The Mississippi Freedom Schools"

Abstract: The 1964 Mississippi Freedom Schools were catalysts for change—yet they are an often overlooked or understudied aspect of Freedom Summer. Most of Freedom Summer scholarship focuses on voting rights, but this paper aims to further contribute to Freedom School scholarship by including accounts from student and teacher perspectives. These primary sources make it possible to understand the schools from the perspective of the people that experienced them first hand. This paper will show that the Freedom Schools were catalysts for personal change and growth for those involved. Additionally, this paper hopes to encourage further research by drawing more attention to Freedom Schools as important agents of change in the civil rights movement.

Academic Showcase Posters/Presentations

Alpha by Subject

Health Studies

Course: HLTH-450 – Seminar in Health Studies - Senior Capstone

Faculty Supervisor: Daniel White, Director of Health Professions/Health Studies

Project By: Paris R. Archung, Tara E. Campbell, Victoreya A. Chenette, Caden J. Durham, Uwaoma F. Okwu-Uwa, Mary S. Thomas and Alyssa L. Wickham

Title: “Family-School Navigator Model: Connecting Health Care and Education for Childhood Health and Wellness”

Abstract: The Family-School Navigator Model (FSN) is an innovative and relatively low cost way for connecting the families of children between the ages of 0-5 years old with both elementary education and clinical resources for childhood wellness. The FSN model was developed as a collective impact network whose backbone organization is the United Way of the Valley and Greater Utica. Community leaders recognized that disadvantaged members of the communities of Oneida and Herkimer Counties in New York State were not routinely connected with the educational and health resources that were available. In light of recent and growing scientific evidence that psycho-social health is critically important in the earliest years of brain development, the collective impact network resourced and implemented an embedded family-school navigator whose role is to visit, educate, and support families with 0-5 year old children to connect with local and regional services. This student panel will discuss the neurological and psychological background, the evaluation strategies, and the public health strategies that are being employed in this new intervention.

Honors

Course: HNRS-410 - Honors Thesis

Faculty Supervisor: Lois Daly, Director, Honors Program and Maureen Hannah, Psychology Department

Project By: Nicole T. Alex

Title: “Catharsis through Creativity: Investigating the Effectiveness of Creative Arts Therapy for Domestic Violence Survivors”

Abstract: The trauma of domestic violence (DV) contributes to the poor mental health experienced by survivors. In some cases, psychotherapy may not only be inadequate for dealing with this trauma but also may be re-traumatizing. Creative arts therapy presents an auxiliary treatment, as it allows survivors to express their emotions safely, gain agency through creation, regulate their stress response, and facilitate the re-integration of traumatic memories. This project investigates the applicability of art therapy for female DV survivors, using a community-engaged and feminist methodology to empower the voices of the women involved. The researcher conducted a study with five survivors, examining their experiences in an art group at a DV organization.

Management

Course: MGMT-515 – Responsible Global Leadership – Graduate Course

Faculty Supervisor: Jessica R. Salmon, Management Department

Project By: Jessica R. Salmon

Title: “Universal Healthcare in Kenya, Presentations to Kenyan Community Leaders”

Abstract: The President of Kenya, H.E. Uhuru Kenyatta, and his Cabinet have constructed what they refer to as the Big Four Agenda. Based on the feedback of the Kenyan citizens, it is designed to “create jobs, which will enable [the] people to meet their basic needs” (<http://www.president.go.ke/>, retrieved December 15, 2018). In doing so, the Big Four Agenda is designed to create opportunities and business.

Scholars worked towards the second agenda item - ensuring 100% Universal Health Coverage. These presentations reflect the culmination of their work as they present a Business Strategy Plan for the private sector and a Policy Brief for the public sector based on their feasibility analyses.



Academic Showcase Posters/Presentations

Alpha by Subject

Master of Science in Accounting

Course: MACC-512 - Research and Communication

Faculty Supervisor: Erik Eddy, Management Department

Project By: Anthony M. Bonacio

Title: “The Consequences of AI in the Accounting Industry”

Abstract: This presentation will explore artificial intelligence and the consequences it will have on the accounting industry. As technology advances, the way we handle business matters will change. The accounting profession is no exception. The hypothesis of my research is that artificial intelligence will not replace accountants, but mitigate their mundane tasks. By ridding accountants of the tedious aspects of their work, they will be enabled to be more efficient. Accountants will be able to analyze financial trends quicker and focus on more important matters than tasks such as data entry, scanning files, and creating data graphs.

Project By: John K. Kasprzak

Title: “Artificial Intelligence in Accounting”

Abstract: As a future accountant, I decided to do my research project on the effects that artificial intelligence will have on the accounting profession. This is of the utmost importance to me, because I will be using this in my future career. This presentation will explore the ways artificial intelligence will affect accounting both positively and negatively. Some of this information is shown in popular media such as movies and novels. This is important, because artificial intelligence will make accountants’ jobs easier, especially with regards to simpler tasks. One example of a task is completing audits. If accountants are spending less time doing audits, then more time can be spent completing more complex and time-consuming tasks that come with a management and supervisory role.

Project By: Liam C. Rowland

Title: “The Effect of Busy Season Burnout on Auditor Job Performance”

Abstract: Each year from January to March, auditors work an excess of 60 to 70 hours a week to complete testing before an audit report is issued. This presentation will explore the effects of these long hours on auditors’ mental health and their ability to effectively carry out their day to day tasks. The research question is “Are the long hours of busy season actually decreasing productivity, and what effect are these long hours having on auditors’ physical and mental health?”

Course: GBUS-540 – Masters in Accounting

Faculty Supervisor: Necip Doganaksoy, Accounting and Business Law Department

Project By: Katelyn McMahon

Title: “Data Analytics to Guide Donor Development at Catholic Charities”

Abstract: Catholic Charities of Albany has been collecting data on their donation history over the last 19 years. The donor data set involves over 31,000 donations, 9,000 donors, and 270 variables. Catholic Charities hoped to be able to use their donation history to help determine who they should target for future contributions, in an effort to reach their \$1 million annual donation goal. In this state however, the data did not offer much actionable insight. The variables that had been tracked were not easily correlated to information that would provide the type of direction being sought. For example, I could not easily delineate which donors donated the largest amounts of money, which donated the most frequently, or how long a donor had been donating for. After understanding what exactly the data tracked and how it could be adapted, I was able to determine the 7 out of the 270 variables that would be of interest to my analysis. As a starting point, I used clustering analysis to categorize historical donation patterns of donors into three distinct clusters. From this I was able to determine key characteristics that placed a donor in each cluster, and what the most likely outcome of a donor in each cluster was. I determined that there are medium to high monetary value donors, high frequency donors, and low frequency donors. Based on my further analysis, I identified a small subset of donors who are most likely to become committed donors through targeted donor development. Moreover, the methodology and implementation guidelines are transitioned to Catholic Charities to enable sustainable growth for their future annual donations.



Academic Showcase Posters/Presentations

Alpha by Subject

Marketing

Course: MRKT-336 – Marketing Research Methods

Faculty Supervisor: Russell Zwanka, Marketing Department

Project By: Aurelie J. Daeron, Kate A. Gagnon, Diosmary Perez-Trinidad and Dylan M. White

Title: “CBD Awareness and Attitudes”

Abstract: Cannabidiol, or CBD, is one of the many cannabinoids found in the cannabis plant. When derived from hemp, CBD contains no Tetrahydrocannabinol (or THC), the element from the cannabis plant that creates the feeling of “being high”. The high that is prevalent with use of THC often causes negative stigmas towards the marijuana plant altogether due to the culture that has grown with popularity of the plant. These negative stigmas have prevented many people from understanding the positive aspects of the plant, and the medical benefits that are available. The cannabidiol portion of cannabis has the ability to provide relief to medical issues, including anxiety, migraines, seizures, muscle conditions, depression and other disorders. The goal of this research was to discover perceptions in college students of CBD before and after being exposed to a learning video and document about the benefits.

The sample size returned was $n=148$. The awareness of CBD was high amongst the college students who responded to the survey. Additionally, many students were already open to using CBD, if they were not already doing so. Figure 2 shows the responses to the question asking if the respondents knew the various forms for CBD delivery to the body. There was awareness of all forms, and a significant response when given the choice “all of the above”.

From our survey (and shown in Figure 3), it was found that 53.7% of the students knew what CBD is. This means that of our 147 respondents, 79 knew what CBD is, and understand the benefits that are available with usage.

Once acquiring information on this, we then asked the following question: “Have you used CBD before?” Although more than half our respondents knew what CBD was, only 22.1% have actually used CBD products. Figure 4 shows the majority of our responses, about 58.5%, said they would be interested in trying CBD products. Figure 5 shows the majority of the students stated that they would recommend using CBD to others. After learning the positive aspects that cannabidiol has to offer, most would recommend to a close friend or family member.

Cannabidiol has previously been combined by consumers under the negative stigmas that are attached to the entire marijuana plant. However, as it appears within our data collected, and secondary data found, the two sides of the cannabis plant are becoming clearer to the population as a whole. After surveying 148 students, more than half of respondents knew what CBD is, and around 20% of them have used in it in the past. Figure 6 shows that the perception of CBD did not change, because most college students responded that they already knew the difference between CBD and marijuana.

Mathematics

Course: MATH-314 – Modeling in Biology

Faculty Supervisor: Scott Greenhalgh, Mathematics Department

Project By: Paulina E. Murray

Title: “Invasion Analysis of Tick Species”

Abstract: A recent focus for public health officials is the growing epidemic of tick-borne pathogens in the United States. Such pathogens are responsible for numerous human diseases, such as Lyme disease, human babesiosis, Rocky Mountain spotted fever, Powassan virus, ehrlichiosis and many more. According to the Centers for Disease Control and Prevention (CDC), 60,000 cases of tick-borne diseases were reported in 2017. Many of these diseases threaten the health and livelihood of individuals across the nation, and although the number of reported cases increases, there are still numerous individuals who remain undiagnosed, and therefore, unreported. In an effort to address the concerns between tick-borne pathogens and public health, this study investigates the invasiveness of ticks. To do this, we use the Lotka-Volterra model that describes the ecological interaction of multiple tick species. Our findings indicate that interventions such as biological control agents or pesticides may have the ability to promote or inhibit the ability of ticks to invade new environments. Thereby, our work suggests using these control measures with caution.



Academic Showcase Posters/Presentations

Alpha by Subject

Mathematics

Course: MATH-314 – Modeling in Biology

Faculty Supervisor: Scott Greenhalgh, Mathematics Department

Project By: Joseph S. Kuehner

Title: “Modeling the Briggs-Rauscher Reaction”

Abstract: The law of mass action has a rich history in both applied mathematics and chemistry. This law in both fields describes how well mixed species interaction. However, does/do the mathematical models that use this law truly reflect the physical properties of their chemical counterparts? Herein lays the goal of this study: to understand quantitatively and theoretically the particular chemical reaction, known as the Briggs-Rauscher Reaction. To do this, first we created a compartmental model comprised of differential equation that was solved for the limiting reagent. The model was then adjusted to attempt the estimation of the number of colorimetric oscillations that would occur before the reaction ran to completion. This model was then compared to the physical trials of the experiments that were carried out. This experiment exemplifies the work of different disciplines through the mathematical modeling of a chemical system for results that are actually seen.

Project By: Jada N. Hawkins-Hill

Title: “HIV/AIDS Diagnosis in New York City Area”

Abstract: HIV is a major public health concern in New York City due to the city’s cultural diversity. The virus, which is passed between humans through sexual contact or other methods of exchanging bodily fluids, attacks a person's immune system and ultimately enables infection with viruses and bacteria that healthy individuals typically fight off... However, when the HIV virus is introduced into the body, it destroys the white blood cells in vast numbers over several years and lowers a person's ability to combat illnesses. Statistically, this virus is found predominantly amongst homosexual males (66% of cases reported) and within the African American (43%), Hispanic (26%), and Caucasian (26%) races. To predict if the prevalence of HIV within the African American demographic will fall in line with all other demographics in New York City, I developed a deterministic compartmental model, and evaluated it over a 10-year time period. The outcomes from my model illustrate how the 26.6% African American population in New York City living with HIV/AIDS compares to all other demographics there, which suggests access to HIV therapies/interventions are sufficient within the African American demographic, but there is a possibility that increased therapies could decrease or match the rate at which HIV and AIDS are diagnosed and treated between African Americans and the rest of the racial demographic of New York City.

Project By: Sandy A. Spicer

Title: “Predicting the Incidence of Parkinson’s Disease in the United States”

Abstract: Parkinson's Disease (PD) is a neurodegenerative disease that affects nearly 10 million people worldwide. The disease mainly affects dopamine-producing neurons in a specific area of the brain leading to balance problems, rigidity, tremors and more complications. The cause of the disease is unknown and symptoms generally develop slowly over years. Although there is no cure for PD, extensive research is being done to better understand the changes in disease diagnosis rates. In this project, I predict the rate at which PD increases in the United States, particularly in cases where the disease is transmitted genetically, over an X-year time horizon. To do this, I develop a trait selection model, as described by a system of differential equations. Using this model, I compare the rate of disease spread between the dominant, heterozygous, and recessive PD traits for both early-onset Parkinson’s (developed before the age of 70) and Parkinson’s developed after the age of 70. Anticipated findings will likely illustrate an increase in PD diagnosis for those 70 years old or older. By answering these questions, we can understand more about the prevalence of Parkinson’s, how genetics play a role, and how this changes over time. Furthermore, the magnitude of the increase in PD diagnosis can inform public health officials the amount of preparation and investment that is needed to combat the disease.

Multi-Cultural Studies

Course: MULT-200 – Race and Identities

Faculty Supervisor: Lisa Nevarez, English Department and Christa Grant, Damietta Cross-Cultural Center

Project By: Kwada k. Bodkin, Richard K. Bratton, Matthew R. Costello, Laura G. Durham, Ryan Ennis, Sophia R. Henneman, Abigail R. Hoekman, Jasmeen K. Johal, Daniel O. Morales, Patrick M. Moran, Mariah J. Perdomo, Erik Salazar Sanchez, U-Leea A. Santos-Fabian, Kadeem L. Smithen, Imani L. Strickland, Gabrielle L. Tangorra and Kaitlyn B. Winkler

Title: “Intergroup Relations at Siena College”

Abstract: Two posters will be presented outlining why Intergroup Relations (IGR) courses would benefit Siena College.

Academic Showcase Posters/Presentations

Alpha by Subject

Nursing

Course: NURS-305 – Nursing Research

Administrative Supervisor: Jennifer Thate, Nursing Program

Project By: Lindsay Hall

Title: “The Benefit of Palliative Care for Cancer Patients and Their Families”

Abstract: The purpose of this literature review was to explore the efficacy or perceived benefits of palliative care. The primary focus was with patients with incurable cancers. A secondary focus was the impact of this diagnosis on family members and caregivers and the benefits of palliative care for family members and caregivers. One of the primary aims of palliative care is enhanced quality of life. This type of care helps patients with human responses to illness such as anxiety, depression, and lack of appetite. A literature search was conducted using the PubMed and Wiley databases. An ancestral approach was used to identify additional relevant literature on the benefits of palliative care for this population. The search was limited to primary research studies. This review of the literature showed that implementing early palliative care has had a positive impact on quality of life for patients with terminal illnesses. Findings from the studies suggest that palliative care had positive outcomes for patient’s as well family members. Though, found to be beneficial, there are significant gaps in the research and further research is required to determine if there should be changes made to treatment plans. Furthermore, additional research is needed regarding education for physicians, nurses, patients, and the families about end of life care.

Philosophy

Course: PHIL-330 –Philosophy of Science

Faculty Supervisor: Nora Boyd, Philosophy Department

Project By: Andrew D. DiCorpo, Olivia M. Fleming, Ryan A. Mikulec, Kevin G. Murphy, Andrew T. Tessman and Kevin G. Ziobrowski

Title: “Epistemic Attitudes toward Nuclear Energy”

Abstract: In our poster presentation, we have tried to show various arguments towards framing an epistemic attitude with regards to nuclear energy. Arguments included pertain to the fields of environmental science, social science, health studies, and physics. We display different philosophical viewpoints on these scientific fields for a general audience to understand the epistemic significance of scientific results related to nuclear energy.

Project By: Andrew D. DiCorpo, Olivia M. Fleming, Ryan A. Mikulec, Kevin G. Murphy, Andrew T. Tessman and Kevin G. Ziobrowski

Title: “The Viability of Nuclear Energy”

Abstract: The Goal of our presentation is to educate the Siena public on the benefits and possible drawbacks of Nuclear Energy. We will focus on broad areas of this topic ranging from the Science behind it to the economic benefits, to the effects on the society and environment. Presenting our findings by looking at public academic works and presenting them to faculty and peers in a fun and interactive scientific communications way. We believe it is important to present our data in an unbiased way and allow individuals to create their own interpretations of Nuclear Energy so unbiased reporting will be at the forefront of this project. Also, we understand that a lot of our viewers will have preconceived notions about our topic so we will try to debunk false notions about this energy source. Many people have concerns about the safety of nuclear energy that are both legitimate and exaggerated depending on how much knowledge each individual has. We will address the future of nuclear power and discuss whether or not it is viable long term.

Project By: Mahima Dhanekula

Title: “The Epistemic Significance of Benjamin Libet's Experiments on Free Will”

Abstract: Benjamin Libet’s famous 1983 experiment tested cerebral activity in response to simple voluntary acts that involved muscle motion. The test subjects reported that they made a decision to flex their wrist on average 0.15 seconds before the muscles flexed. However, the brain showed electrical activity preparing to flex the wrist an average of 0.55 seconds before the muscles flexed. Thus, brain activity preparing to flex precedes the conscious decision to flex, and this result may undermine the idea of free will. Although many have used Libet’s experiments as proof that free will does not exist, the subjects’ limited ability to record the exact time of their conscious decisions, the ambiguity in the meaning of the readiness potential, and the limited generalizability of the results show that no definite conclusions about free will can be drawn from Libet’s experiments.

Project By: Miranda G. Almodovar, Mahima Dhanekula, Shelby E. Davis, Caleb D. Messinger, Lauren E. Sawicki and Lyndse M. Texier

Title: “Epistemic Significance of Sleep Studies”

Abstract: Our team, The Dreamers, will present our website. Our website provides abstracts and additional information pertaining to the epistemic significance of sleep studies in the realm of science. Studies range from nightmares to lucid dreaming and seek to answer the question of why we should care about the implications resulting from these studies.

Academic Showcase Posters/Presentations

Alpha by Subject

Physics

Course: PHYS-410 – Electromagnetic Theory

Faculty Supervisor: Mark Rosenberry, Physics and Astronomy Department

Project By: Stefano G. Mainella

Title: “Is it Worth Chasing the Sun?”

Abstract: It is quite evident that in ideal weather conditions, having a solar panel follow the sun's path would be more advantageous than having a stationary solar panel. But what about areas like Upstate New York where the weather is not so ideal? We compare and analyze the power drawn from a stationary solar panel to the net power of a mobile solar panel and its rotor.

Course: PHYS-440 – Quantum Physics

Faculty Supervisor: Rose Finn, Physics and Astronomy Department

Project By: Coley M. Stillman

Title: “Spectroscopic Analysis using Siena’s 0.7 Meter Telescope”

Abstract: Siena College recently installed a new 0.7 meter telescope. Currently it is set up to only obtain photo metric data. It has the capabilities and components, however, to take spectroscopic measurements of bright sky objects. Photo metric data does not give us a complete picture of a system. Spectroscopic analysis can give us a lot of new science opportunities.

Course: PHYS-470 – Wind Energy Engineering

Faculty Supervisor: Rose Finn, Physics and Astronomy Department

Project By: James Agostino

Title: “Transient Follow-Up Using the Siena 0.7m Telescope”

Abstract: Siena College installed a 0.7m telescope recently which began operation in early fall, 2018. Calibrating, working through technical errors, and starting to accumulate data to begin to narrow down the capabilities of the telescope which is limited by both Siena and Albany's light pollution is an important step to being able to use the telescope at full capacity. Thus, I undertook a project that would tackle these problems, while also stimulate my scientific interests. Transients’ short-term astronomical events ranging from asteroids, to variable stars, to supernovae. They are defined as any object that changes brightness in the sky. The Zwicky Transient Facility, a precursor to the upcoming LSST, records these changes in brightness each night, and disseminates useful information on each event such as magnitude and coordinates. Using these public sets of data and Siena's 0.7m telescope, we have been able to follow up on these transient events at a range of magnitudes, and in turn are developing a standard for observing with and reducing data taken with the telescope.



Course: PHYS-472 – Advanced Laboratory II

Faculty Supervisor: Michelle McColgan, Physics and Astronomy Department

Project By: Shannon V. Sweet

Title: “Making Bio Batteries with Winogradsky Columns”

Abstract: The goal of this project is to find out which type of proton exchange membrane (PEM) enables a bio battery made from a Winogradsky column to generate the highest voltage. Twenty batteries were made with four batteries for each PEM type; No PEM, felt, foam, paper, and coffee filter. The batteries were put out in the sunlight for the bacteria to grow. Voltage of the batteries was measured after a couple of months.



Academic Showcase Posters/Presentations

Alpha by Subject

Physics

Course: PHYS-472 – Advanced Laboratory II

Faculty Supervisor: Zuleyha Yuksek, Physics and Astronomy Department

Project By: Julie A. Lattanzio

Title: “Using FRET to Analyze the Structural and Functional Characterization of CFTR”

Abstract: The cystic fibrosis transmembrane regulator (CFTR) is a member of the adenosine triphosphate (ATP) binding cassette (ABC) superfamily, the largest and most diverse transporter family providing the translocation of a variety of substrates across the cell membrane by using ATP hydrolysis as the source of free energy. CFTR is the only ABC transporter that functions as an ion channel (chloride channel) and its loss of function results in the genetic disease cystic fibrosis (CF). The CFTR channel is composed of two transmembrane domains (TMDs) that form the channel pore, two cytoplasmic nucleotide-binding domains (NBDs) that control the opening and closing of the channel, and a unique regulatory domain (RD). In this work, we have analyzed the recorded fluorescence signals representing directly different conformations. We are calculating the FRET efficiencies within the cell to correlate the results of those optical recordings with the gating mechanism of CFTR.

Course: PHYS-499 – Independent Study

Faculty Supervisor: Matthew Bellis, Physics and Astronomy Department

Project By: Lauren A. Wood

Title: “Harnessing the Power of Visible Light to Disinfect Cosmetic Applicators”

Abstract: Many people do not realize how dirty their cosmetic brushes and compacts are. Although skin care is important, it is counterintuitive to be cleaning your face and then using infected products to apply makeup. This study focuses on the disinfection of bacteria such as e.coli, salmonella, MRSA, as well as acne causing bacteria from these surfaces, using Vital Vio’s patented visible light technology. The use of visible light as opposed to UV as a disinfectant is advantageous because it is completely safe for animals and humans, uses less energy, and is non-destructive (does not cause products to fade with time). The study specifically focuses on the effect that intensity and exposure time have on rate of killing in order to determine the most effective way to use the disinfecting light. A vanity case/organizer for makeup brushes will be designed using these lights giving it the power to disinfect them after each and every use. Consumers will no longer have to worry about what is living and growing on their cosmetic applicators, providing them peace of mind during each subsequent use.

Course: PHYS-499 – Obs Exoplanet Transits

Faculty Supervisor: Rose Finn, Physics and Astronomy

Project By: Danielle J. Allspach

Title: “Observing Extrasolar Planet Transits with the Breyo Observatory”

Abstract: Extrasolar planets (exoplanets) are planets outside of the solar system that orbit stars other than the Sun. Since exoplanets are too faint to be seen directly, observations have to be made indirectly, limiting the methods of detection. A common technique, called the transit method, analyzes the light output of the host star; periodically when the exoplanet passes in front of its host it will occlude some of the light emanating from that system. This could be compared to the moon blocking the Sun during a solar eclipse just on a different scale. Using this tool the Breyo Observatory can isolate and discern many interesting properties of detected planets.

Course: PHYS-499 – Astro Image Processing

Faculty Supervisor: Rose Finn, Physics and Astronomy

Project By: Sandy A. Spicer

Title: “Astronomical Image Processing at the Breyo Observatory”

Abstract: Astronomical image processing allows us to visualize some of the most beautiful objects in the cosmos. To do this, images must be taken in different filters from a telescope and stacked. In this project, I image nebulae and galaxies at Siena College's Breyo Observatory using the red, green, blue, H-alpha, and OIII filters. Examples of objects imaged include the Crab Nebula, Veil Nebula, Horsehead Nebula, and more. Through these images, we are able to get a different glimpse of the objects. Some filters show us the structure of the celestial object while others show us where stars are actively forming. After data collection is complete, we establish a pipeline in Python for reducing, stacking and processing astronomical images. Essentially, we take the raw telescopic data and remove the additive and multiplicative noise. Once this is complete, we adjust the image's brightness, contrast, and color to create realistic images. Our final stacked images enhance our understanding of the object's structure, composition, and history.



Academic Showcase Posters/Presentations

Alpha by Subject

Physics

Course: PHYS-499 – Observing Asteroids

Faculty Supervisor: Rose Finn, Physics and Astronomy

Project By: Tyler C. King

Title: “Observing Near-Earth Asteroids with the Breyo Observatory”

Abstract: Observing Near Earth Asteroids is important because if we can detect and track them, then we can watch out for potential collisions with Earth. Observations can also tell us about their composition and rotation periods. Current surveys of Near Earth Asteroids are discovering and confirming NEA’s, but there are many asteroids that still need to be confirmed and characterized. I am currently working on an effective method of data reduction for CCD images taken with the Breyo Observatory. The observatory features a brand new 0.7 meter telescope from the Sherman Fairchild Foundation named after John J. Breyo and his wife Marilyn Breyo. The Breyo Observatory is still new so one of the challenges is to figure out how best to operate it. Some observations of asteroids have already been taken with different filters, red, green, and blue. The goals for this project are to work on obtaining a light curve and aperture photometry of several near earth asteroids.

Political Science

Course: WGSS Minor – Political Science and International Studies; Women’s, Gender, and Sexuality Studies Minor

Faculty Supervisor: Laurie E. Naranch, Political Science Department

Project By: Kala S. Lomnicki and Emily X. Radigan

Title: “WGSS Roundtable: Student Research, Advocacy, and Leadership”

Abstract: This roundtable showcases the work, leadership skills, and engaged research of Women's, Gender, and Sexuality Studies Minors. Students on the panel will speak about their original research, internships in the area, and leadership skills gained as part of being in the program.

Course: POSC-339 – Nature, Technology, and Politics

Faculty Supervisor: Laurie E. Naranch, Political Science Department

Project By: Hugo S. Castro

Title: “Deep-fakes: A New Wave of Disinformation in Politics”

Abstract: The goal of this research paper is to fully understand deep-fake technology and the threats the rising use of the AI software imposes on the public’s trust in political communication. As the United States approaches the 2020 presidential election, deep-fake technology is being used to fabricate false and misleading videos of the country's most prominent politicians in order to sabotage their positions in politics. In a new era of AI software spreading disinformation, believing in what you see and hear on the Internet is becoming an increasing issue, particularly with the rise of deep-fake technology.

Project By: Jacob B. Mantey

Title: “The Fukushima Nuclear Disaster: Consequences and Governmental Response”

Abstract: Fear of radiation, sometimes referred as radiophobia, has shaped imaginations of nuclear energy in the wake of nuclear disasters. This research project uses the 2011 Fukushima Nuclear Disaster as a case study of popular perceptions of nuclear power, analyzing the response of the Japanese government and looking into social and economic consequences of the disaster.

Course: POSC-497 – Senior Capstone

Faculty Supervisor: Leonard M. Cutler, Political Science Department

Project By: Jacob R. Miller

Title: “War Crimes in the Islamic Republic of Afghanistan”

Abstract: The War in Afghanistan started after the attacks on 9/11/2001. The retribution performed by the United States and their NATO allies was swift and forceful, but left destruction and death in their wake. Now the US’ only result was a loss of over a trillion dollars and a possible investigation by the International Criminal Court (ICC) for alleged war crimes. The research focuses on the factuality of war crimes and the ICC’s ability to prosecute a nation that isn’t under their jurisdiction. The methods used analyzed fact-finding missions that looked into potential crimes committed and US military tribunals regarding war crimes, as well as news and journal articles regarding the subject. The goal is to find recommendations for the United States and the ICC going forward regard the Afghan situation.

Academic Showcase Posters/Presentations

Alpha by Subject

Political Science

Course: POSC-497 – Senior Capstone

Faculty Supervisor: Leonard M. Cutler, Political Science Department

Project By: Richard K. Bratton

Title: “Virginity Testing in the 21st Century, an International Law Perspective”

Abstract: TBD

Project By: Nicholas W. Marasco

Title: “Destruction of the Uyghurs: Annihilation through Assimilation”

Abstract: The current situation in the Xinjiang Uyghur Autonomous Region (XAR) is one in which a number of ongoing human rights abuses are being committed by the Peoples Republic of China (PRC). In order to secure regional stability, beginning in 2014 President Xi and the Communist Party launched the “Strike Hard Campaign”. In an attempt to eradicate the “three evil forces, extremism, separatism and terrorism, the campaign has resulted in upwards of 800,000 to potential 2,000,000 Uyghurs and other ethnic minorities detained indefinitely in what the country is calling “vocational training institutions”. Initially denying their existence, government officials and the state-owned media have attempted to portray the facilities as educational opportunities designed to facilitate the transition of Uyghurs into the rapidly developing Chinese society. In practice, the camps have become host to a number of atrocities, including deaths, mental and physical abuse, torture and the imposition of the Chinese language and communist values onto those who are captive. For those not detained, they find themselves under constant state surveillance and oppressive policies designed to active assimilate the Uyghurs into the dominate Han culture. Relying on first-hand accounts from within and outside of the region, this study examines the human rights violations being committed by the PRC and seeks to answer whether they amount to the crime of genocide under international law.

Project By: Brandi A. Roberts

Title: “Recruitment of Children by Boko Haram”

Abstract: What are the human rights violations that occur when children of Nigeria and other countries in Africa are recruited by Boko Haram.

Project By: Emily X. Radigan

Title: “Nationalism in the Post-Brexit UK Human Rights Framework”

Abstract: I explore the potential implications of Brexit on the human rights framework within the United Kingdom. While the UK will continue to be a part of the Council of Europe and thus adhere to the European Convention on Human Rights, Brexit will indicate the UK’s discarding of the EU Charter of Fundamental Rights. In particular, this may change and weaken the economic and social rights that people may claim. The impact of Brexit on the human rights framework within the UK is especially interesting because of the lack of a single formal constitutional document governing the UK. During the Brexit referendum, nationalist discourse played a large role, with proponents of exiting the EU promoting nationalist rhetoric and raising concerns about the role of the EU in British legislation, including those on human rights. In particular, pro-Brexit forces voiced concerns about within-EU open borders and the effect of the EU laws (such as the Charter of Fundamental Rights) on British sovereignty. Thus, nationalist discourse may continue to influence legislators as they negotiate the terms for the EU Withdrawal Bill and nationalist concerns may have an effect on the human rights framework in the UK post-Brexit. In this paper, I take a socio-legal perspective on how nationalist concerns may affect human rights within the context of Brexit.

Project By: Connor A. Mallon

Title: “The International Criminal Tribunal for the former Yugoslavia(ICTY): A New Era in International Criminal Justice”

Abstract: The International Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law Committed in the Territory of the Former Yugoslavia since 1991, also known as the International Criminal Tribunal for the former Yugoslavia (ICTY), was a body of the United Nations created to prosecute crimes committed during the Yugoslav Wars. The court was established on May 25th 1993, and given jurisdiction over four areas: breaches of the Geneva Convention, violations of the laws or customs of war, genocide, and crimes against humanity. The ICTY set a number of new precedents in international law, and gave rise to the establishment of other prominent international courts. Overall, due to the accomplishment of the proximate goals that its mandate outlined, the ICTY can be deemed a success.

Project By: Daniel J. Casey

Title: “The Precarious State of Tiny Houses”

Abstract: When everything in our immediate environment is essential to our contented survival, home and the life within will take on a truly essential quality. The motivation to make homes smaller is to eliminate the unessential aspects of a home, creating a highly sustainable space which lacks the large footprint and price tag of a typical home. Currently both developed and undeveloped countries are facing a housing crisis, one in which there is a lack of affordable housing for a growing population. The right to adequate housing is guaranteed in the United Nations Universal Declaration of Human Rights, tiny houses need to be protected as an individual’s right to security and freedom of residence. In recent discussions of the Tiny House Movement, a controversial issue has been whether to categorize tiny homes as dwellings, temporary structures or recreational vehicles. Some argue against these structures due to a lack of practicality, building codes, and fear of decreasing land value. However, others argue that tiny houses due to their efficiency, sustainability, and small footprint are the solution to the international housing crisis.

Academic Showcase Posters/Presentations

Alpha by Subject

Political Science

Course: POSC-497 – Senior Capstone

Faculty Supervisor: Leonard M. Cutler, Political Science Department

Project By: Benjamin B. Knoll

Title: “Structural and Political Conditions Limit the Possibility of a Peaceful Solution to the Current Human Rights Crisis in Venezuela”

Abstract: My presentation is on the political and human rights crises in Venezuela since Nicolas Maduro assumed office in 2013. Since then, the three branches of government in Venezuela have become illegitimate and lacked independence. The rights of civilians have diminished and the economy has weakened.

Project By: Tyler J. Del Giudice

Title: “Legal Implications of the United States Withdrawal from the U.N. Human Rights Council”

Abstract: This report will analyze the legal implications following the 2018 decision of the United States to withdraw from the United Nations Human Rights Council. It will first analyze the precursor to the Council and trace the development of the United Nations commitment to human rights protections. Arguments will be weighed that the Council has failed to live up to its founding principles, ignores human rights controversies around the world, while focusing its efforts on condemning Israel.

It is in this light the United States withdrew from the Human Rights Council, citing a 'cesspool of political bias'. The focus of this report will then focus on the legal implications of the United States withdrawal. It will analyze how membership of the Council may change, how the focus and attention of the Council may change and whether there will be any substantive changes on the enforcement of human rights protections around the globe. This will be analyzed in the context of military resolutions in the United Nations Security Council and charges brought to international mechanisms such as the International Criminal Court.

Project By: Kaitlin R. Urtz

Title: “Human Rights Violations in the Philippines”

Abstract: The human rights violations in the Philippines conducted under their current President Rodrigo Duterte, have been occurring since the beginning of his reign in 2016. His attempt to stop the drug war in his country has led to violent means to the end in which he seeks. Thousands have been killed in the 2 years he's been in power and many more have volunteered to go to jail in order to save their lives or the lives of their families. Those that have committed the killings were directed under Duterte in an attempt to stop any and all associations with drugs in his country. The love he claims to have for his country trumps the right to life as laid out in their Constitution and within the international community. The purpose of this project is to see what can realistically be done with Duterte. He's been charged with human rights violations, but nothing substantive has been done about his actions especially when he has the backing of the United States, Mexico and others. The idea is to find a country or pack of countries with substantial influence over the international community and see what they can do to try and stop Duterte or discourage other countries from supporting him or following his lead. Imposing economic sanctions and cutting off trade would be the ideal, but will that because more harm than good? What can actually be done about Duterte and his violent, anti-drug policies?

Project By: Christina C. Balli

Title: “Hungary's Requirement to Uphold EU Ban on Sexual Orientation Testing”

Abstract: This study explores the European Court of Justice's ban on sexual orientation testing for asylum seekers, and Hungary's requirement to uphold this ban. Through analyzing primary sources such as EU treaties and court press releases, it is concluded that Hungary is politically obligated to cease all sexual orientation testing for asylum seekers. This study also analyzes the political repercussions that should be put in place by the European Union if Hungary fails to do so.



Academic Showcase Posters/Presentations

Alpha by Subject

Psychology

Course: PSYC-400 – Advanced Research Methods in Psychology

Faculty Supervisor: Karen Boswell, Psychology Department

Project By: Alison K. Condon

Title: “The Effects of Conformity on Different Types of Interactions”

Abstract: The purpose of this study is to see if the level of conformity has more of an influence on face-to-face interactions or virtual communication. The behaviors of individuals are often influenced by conformity because people have a desire to be liked or fit in with a group of people. An individual’s behavior might change when using technology to communicate with others compared to a conversation in real life. We predicted that conformity would have a greater impact on those in the face-to-face condition compared to the virtual condition. Participants were asked to rate a total of 10 photos on specific traits using a 1-10 scale. Participants would either be in the face-to-face group or the virtual group. The results showed that although conformity had a greater impact during the face-to-face condition, participants in both groups were influenced by the responses given by the confederates.

Project By: Oliva K. Nop

Title: “Religiosity of Victim and Perpetrator: Victim Blaming in a Sexual Assault”

Abstract: This study examined how Christian religiosity of the victim and the perpetrator impacts attitudes toward a scenario of a college students’ date that ends in sexual assault. Of specific interest is the effect of these variables on victim blaming. College student participants (N = 84) read vignettes describing a sexual assault with the victim (female) and perpetrator (male) described as religious or not. An independent groups design (n = 21) was used; participants were randomly assigned to read one of four possible versions of the scenario. Participants then answered questions related to the vignette. The most victim blaming was predicted to occur when the female was not religious and the male was; the least amount of victim blaming was predicted to occur when the female was religious and the male was not. In contrast to these predictions, it was found that victim blaming was highest when the victim was religious and the perpetrator was not. Across all conditions, participants thought the victim could not have anticipated the sexual assault, and that the perpetrator did intend it. Perceived victim regret was high for all conditions, while perpetrator regret was higher when he was religious. This study found that victim blaming is highest when the victim is religious. The findings can be understood in the context of the beliefs of purity culture, in that such beliefs may, to some extent, represent attitudes among people who do not explicitly embrace this doctrine. Future studies should examine whether this is the exception or the norm and whether religiosity of participant impacts levels of victim blaming.

Project By: Morgan T. Shaw

Title: “Gay Sexual Ageism in College Students”

Abstract: Ageism is the “process of systemic stereotyping and discrimination against people because they are old” (Butler, 1995, p. 35). There are several subtypes of ageism, including a novel form examined in the present study: gay sexual ageism, or the increasing condemnation of the sexuality and sexual orientation of people as they age. The present study assessed the gay sexual ageism endorsed by Siena College students. The results suggest that Siena College students do not possess gay sexual ageist bias.

Course: PSYC-400 – Advanced Research Methods in Psychology

Faculty Supervisor: Michael Jarcho, Psychology Department

Project By: Emily K. Nicki

Title: “Impact of Multitasking on Students Ability to Focus”

Abstract: The purpose/ goal of this study is to determine if there is a significant effect of media multitasking on a student’s ability to focus. This is my project for my research methods II class that we have been working on for the entirety of the semester. Once I am done running participants I will compile the data into a research paper and use it to create a poster for the academic showcase. My study included two groups of Siena students who were either multitasking (watching a video) or not while completing a mock GRE exam. I am predicting that the results will show there is a significant difference between those who multitask and those who don't when it comes to performance on the exam. I hypothesize that the multitasking group will do worse on the mock exam than the not multitasking group.

Project By: Andrea J. Sicina

Title: “Caffeine Effects on Stroop Task Performance”

Abstract: The purpose of this study was to assess the effect of caffeine on Stroop test performance, a test of selective attention. Participants were either given caffeinated or decaffeinated coffee. After a 30-minute uptake period, participants completed the Stroop test. In this test, words/color pairings are presented in either a congruent (color matches word) or incongruent (color does not match word) fashion. Typically, reaction times are slower for the incongruent condition. It was expected that caffeine would decrease reaction time across both conditions.

Academic Showcase Posters/Presentations

Alpha by Subject

Psychology

Course: PSYC-499 – Independent Study

Faculty Supervisor: Stefanie Simon, Psychology Department

Project By: Stephanie Fattorusso and Francesca L. Tinucci

Title: “Is Caring About Injustice Girly? How Conceptions of Manhood may Inhibit Men's Willingness to Confront Racial Prejudice”

Abstract: Precarious manhood describes how men view masculinity as something that is earned and must be defended from potential threats. Our studies examined how perceptions of manhood affects a man's inclination to confront racial prejudice. Since those who confront prejudice are often viewed as possessing stereotypically feminine qualities, we hypothesized that men who believe manhood is precarious would be more likely to view themselves- and think others would view them- negatively after they confronted someone making racist comments. Results from both studies supported our predictions, suggesting a novel barrier to confronting racism: precarious manhood.

Project By: Nicole T. Alex

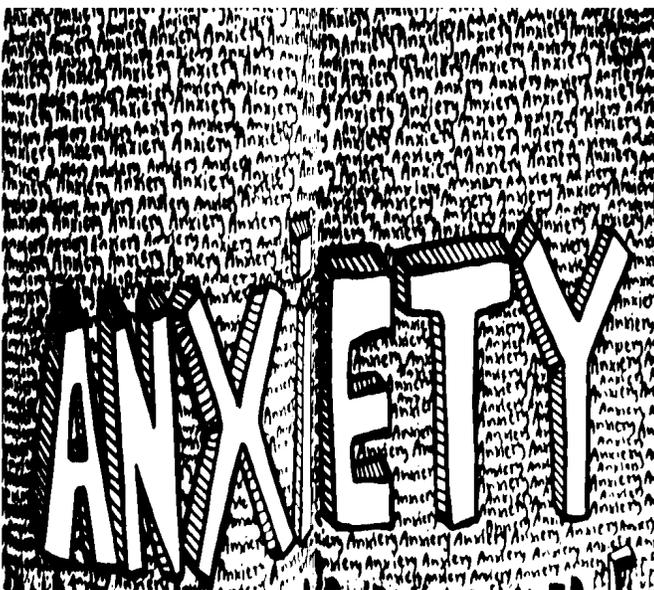
Title: “Social Perceptions of the #MeToo Movement: Examining how Social Beliefs and Gender Beliefs Predict People's Support”

Abstract: Despite the fact that the #MeToo movement intends to bring awareness to the prevalence of sexual violence and support survivors, reactions to this movement have been mixed. This study seeks to investigate what kind of people are supportive or unsupportive of the movement, specifically focusing on which belief systems they endorse. We hypothesized that people who identify with belief systems more oriented toward equality will be more supportive of the #MeToo movement than those who endorse the maintenance of the status quo and societal inequalities. The responses from about 200 participants support this hypothesis and shed light on why people support or do not support the movement.

Project By: Nicole T. Alex, Brielle Champagne, Danielle E. Heck and Nicole Villavieciencio

Title: “Potential Interventions for Sexual Assault and Violence”

Abstract: For this intervention, we are focusing on educating college students about sexual violence, due to the high prevalence of sexual assault in this age group. Specifically, we intend to debunk rape myths, educate about the various forms of sexual violence, and the role of masculinity in sexual assault. Further, we hope to educate about the different forms of sexual violence, including but not limited to sexual assault, sexual harassment, and acquaintance rape, in order to help students recognize and identify these dangerous situations. In addition, seeing as we plan to keep all genders together during our intervention, it was imperative to discuss the role of men in sexual violence and how masculinity can play an integral part of rape culture on campuses. Thus, our intervention seeks to empower and educate individuals in order to prevent future sexual assaults on college campuses.



Course: PSYC-499 – Independent Study

Faculty Supervisor: Kristin Miller, Psychology Department

Project By: Samantha C. Maguire

Title: “Test Anxiety: How to Recognize and How to Cope”

Abstract: Many have heard the phrase “choked under pressure” (Ramirez and Beilock, 2011) in the academic context, but what does that actually refer to? Test anxiety can be defined as an individual's heightened physiological, cognitive, and/or behavioral symptoms when in or prior to being in a test-taking environment that adversely affects their performance (Sawka-Miller, 2011). The fundamental argument of the Yerkes-Dodson Law (1908) is that while a certain level of arousal in a test-taking environment can serve advantageous, once that level is passed, performance will regress. Therefore, it is not only important to be able to recognize test anxiety, but be well equipped to manage it. The following presentation discusses not only how to recognize test anxiety in one self, but methods of coping as well. Furthermore, preliminary findings of a study of nearly 200 undergraduate students at Siena College in which test anxiety levels were evaluated will be briefly discussed.

Academic Showcase Posters/Presentations

Alpha by Subject

Social Work

Course: SWRK-255 – Social Policy without Borders

Faculty Supervisor: Dirk de Jong, Social Work Department

Project By: Amelia E. Butler, Sawyer R. Kane, Daniel O. Morales, Erik Salazar-Sanchez and Brendan D. Savage

Title: “Healthcare in the US and Canada”

Abstract: This project explores the similarities and difference between healthcare systems in the United States and Canada. This project was conducted in order to allow for critical thinking to be possible in order to perpetuate reform within our own healthcare thinking.

Project By: Damian Comulada, Alex Guerra and Kevin G. Ziobrowski

Title: “Immigration Project”

Abstract: This project consists of comparisons between Canadian and American Immigration and Refugee policies.

Project By: Gabrielle L. DelBrocco, Gianna M. Di Gregorio, Liam Evans, Gabriella Y. Franjeh and Gary Thompson

Title: “American Social Security vs. Canadian Public Pensions”

Abstract: The purpose of our presentation is to educate our fellow classmates and peers at Carleton University about the differences and similarities between American Social Security and Canadian Public Pensions.

Project By: Antonio Clarke, Dante S. D’Ambro, Hayley J. Pijanowski and Tess E. Snyder

Title: “The Decriminalization of Marijuana”

Abstract: For the purposes of our Social Policy without Borders class, we researched the decriminalization of marijuana in Canada in comparison to decriminalization policies in the United States and compared aspects of the legalization of recreational use in both countries. Through the Policy Analysis Model, we focused on the historical background, the problem the policy addresses, the goals of the policy, and the subsequent implications. We will be presenting these findings at Carleton University in Ottawa, Canada to a class of social work students.

Project By: Victoria R. Brodeur Sime, Alexia Moreno Zambrano, Katie O’Brien and Christopher J. Offermann

Title: “Maternity and Paternity Leave”

Abstract: We are presenting on the history and effects of maternity and paternity leave policies in the United States and Canada, and we elaborate on how this individually effects mothers, fathers, children, and employers.

Course: SWRK-250 – Death, Diversity, and Pop Culture

Faculty Supervisor: Carla Sofka, Social Work Department

Project By: Christopher J. Lechevet, Gabrielle E. Scauri and Jenna N. Smith

Title: “Digital Death Survey 2018: Social Media, Technology, Death, Loss, and Grief?”

Abstract: In addition to defining than at echnology and digital footprint, this project presents findings from the 2018 Digital Death Survey. This survey, conducted by students in Social Work 250 in conjunction with the Digital Legacy Association in the UK from November 2018 to March 2019, gathered demographic information and data to learn about familiarity with planning for one's digital legacy, beliefs about technology and its impact on death in today's society, and to understand the role that social media and technology play in dealing with death and grief. Findings also focus on the impact of social media and technology on one's experiences with planning for one's own death and funeral rituals.

Course: SWRK-315 – Social Work Practice with Organizations and Communities

Faculty Supervisor: Donna McIntosh, Social Work Department

Group Project By: **Social Work Class of 2019** - Francesca Barone, Taylor Blanco, Cara M. Bryant, Nicole A. Bulger, Stephanie Capone, Katelyn Guarino, Emma Henderschedt, Kaspian Lasell, Isabel Kaczegowicz, Mikayla Lansing, Grace Lavertu, Stephanie R. Lopez, Charlotte J. Miller, Christopher J. Offermann, Nicholas M. Pantelides, Kenia R. Ramirez, Imani L, Strickland, Gary Thompson, Sadie Ventura and Melissa Zamora-Texis – and **Class of 2020** - Lily A. Baker, Tiana Brackin, Camryn G. Carstensen, Kayley M. Flynn, Alyssa M. Gilroy, Shannon P. Gizzi, Grace K. Harris, Courtney Howes, Stacy L. Lauver, Elizabeth G. Lumia, Ako Matsumura, Davina L. Mayo-Dunham, Alexandria N. More, Issis Pietri, Hayley J. Pijanowski, Kirsten M. Spero, Kayla D. Sweet and Zoe E. White

Title: “Community Organizing and Change Efforts by Social Work Students”

Abstract: Students participate in fundraising, public education and awareness, and recruitment of volunteers for the Alzheimer's Association Annual Walk to End Alzheimer's which is held on the Siena campus at the end of September. Social Work students raise more approximately \$2000-\$3000+ in just three short weeks after the fall semester starts. Many also volunteer to help with the registration table and other tabling and set-up activities for the Walk. Students also engage in a range of community change efforts throughout the semester which are showcased in this presentation. Finally to end the semester students participate in the Annual Joseph's House and Shelter Winter Walk for the Homeless, held in early December in Troy, New York.

Academic Showcase Posters/Presentations

Alpha by Subject

Social Work

Course: SWRK-420 – Field Education II

Faculty Supervisor: Elisa Martin, Social Work

Project By: Francesca Barone, Taylor Blanco, Cara M. Bryant, Nicole A. Bulger, Stephanie Capone, Katelyn Guarino, Emma Henderschedt, Kaspian Lasell, Isabel Kaczegowicz, Mikayla Lansing, Grace Lavertu, Stephanie R. Lopez, Charlotte J. Miller, Christopher J. Offermann, Nicholas M. Pantelides, Kenia R. Ramirez, Imani L. Strickland, Gary Thompson, Sadie Ventura and Melissa Zamora-Texis

Title: “The Power of Social Work Field Education”

Abstract: This poster will highlight how students' social work field experience has helped students grow professionally, made connection between classroom knowledge and social work practice, and personal insight.

Course: SWRK-440 – Social Welfare Policy

Faculty Supervisor: Donna McIntosh, Social Work Department

Project By: Nicole A. Bulger, Stephanie Capone, Emma Henderschedt, Katelyn Guarino, Isabel Kaczegowicz, Mikayla Lansing, Kaspian Lasell, Grace Lavertu, Stephanie R. Lopez, Charlotte J. Miller, Christopher J. Offermann, Nicholas M. Pantelides, Kenia R. Ramirez, Imani L. Strickland, Gary Thompson, Sadie Ventura and Melissa Zamora-Texis

Title: “Policy Advocacy with the NYS Legislature”

Abstract: The Social Work Class of 2019 participated in three policy advocacy events this spring which included going to the NYS Legislature to talk to our district representatives as well as participating in two different rallies. The first advocacy project conducted on February 20, was a \$10.6 million ask for funding for runaway and homeless adolescents and young adults in New York State. We developed a legislative gimmick gift of a luggage tag with the logo of the statewide advocacy organization, The Coalition for Homeless Youth, to accompany a flyer that was designed to look like a passport and boarding pass with information about services, a story of a homeless youth, and the tag line "Get On Board with Funding for Homeless Youth". Every single state legislator received this material on the date we went down to the Legislature. Due in part to our advocacy efforts, an additional \$500,000 was added to the funding stream in the state budget that passed April 1. On March 5, we went again to the NYS Legislature to join with more than 700 BSW and MSW students and faculty from across the state to advocate for the Racial Equity Assessment Law, which would create a screening process for all proposed bills to determine the impact on communities of color. We also advocated for Social Work Investment which includes an increase in social work loan forgiveness funding. Finally on March 13 we participated in The Mental Health Matters Day sponsored by the Mental Health Association in NYS to support a wide range of mental health policy and funding initiatives including the implementation of the recently passed legislation mandating mental health education in schools, a COLA for direct line staff, more specialized housing for persons with mental illness, the elimination of solitary confinement for inmates with mental illness, and resumed Medicaid coverage for those inmates discharged from jail who were receiving Medicaid when incarcerated.

Course: SWRK-499 – Senior Capstone in conjunction with ACE

Faculty Supervisor: Cynthia Bott, Social Work Department

Project By: Kenia R. Ramirez

Title: “Student Mobility and Academic Success”

Abstract: This research focuses on adult reflections of the impact housing and school mobility had on their academic success as children. A family that has one full-time worker who is paid minimum wage cannot afford a 2- bedroom apartment in the United States (Housing and Urban Development, n.d.). High residential mobility rate has an adverse impact on children’s academic performance. It is crucial to conduct research that focuses on adults lived experiences to analyze the correlation between housing stability and academic success. The outcome of this study will provide information used by housing programs like TRIP, a community development non-profit, to apply for grants and to show the importance of housing stability and academic success.



Academic Showcase Posters/Presentations

Alpha by Subject

SCDV – Science Division

Course: SCDV-499 – Science Writing

Faculty Supervisor: Daniel Bogan, Environmental Studies and Environmental Science

Project By: Maria R. Gigliello

Title: “Environmental Studies and Sciences”

Abstract: Over the course of my independent study, I have been learning how important urban wildlife species are to the spaces they inhabit and how best to interact with these species if you do spot them in areas like a backyard, park or wooded area. Communicating scientific research by the media remains an important task and can help get timely information out to the general public such as how to safely interact with wildlife. This is particularly important when communicating applied environmental issues as the benefactors of the research are often the general public, and yet they typically do not read scientific papers (so they need the media as a bridge). For example, urban wildlife populations continue to increase and even thrive in urban settings, it is important for the general public to understand how to interact with these species and why they are important to urban settings. One urban dwelling species that seem to be spotted more and more is the coyote. Urban coyote populations are steadily increasing as they are capable of thriving in urban and suburban conditions. Human injury from urban coyote is rare, but when it happens the incident is quite alarming for local communities. Wildlife managers, and the way we respond to each situation is different. It is important for the public to know how to handle seeing a coyote, how to avoid problems with coyotes, what to do when they do occur and more.

In addition to understanding urban wildlife, particularly urban coyotes, it is also important for the public to be aware of how coyotes are portrayed in the media. Often times this species is misrepresented and in turn misunderstood by the general public. This poster will also critique the ways in which various media outlets (newspapers, magazines, documentaries, etc.) have portrayed coyotes in their publications and the negative effects this has on the public’s overall perception of the species.

Sociology

Course: SOCI-304 – Research Methods I

Faculty Supervisor: Rong Fu, Sociology Department

Project By: Colleen M. Kromrey and Olivia Leland

Title: “Impact of Cohabitation on Perceived Quality of Life in Chinese Elderly”

Abstract: This paper investigates whether co-habitation status impacts self-reported quality of life among Chinese elderly. Using data from the 2014 wave of the Chinese Longitudinal Healthy Longevity Survey, we use SPSS to analyze the data. We find that elderly persons living with family report much higher quality of life than those living alone or within institutions. We further explore whether having children in the household under 18 years of age has a positive or negative effect on perceived quality of life. Finally, we look for a connection between independent care and assisted care and self-reported quality of life. Our results show that quality of life perception is still higher among those living with relatives regardless of their level of independent care.

Project By: Morgann E. Barker, Clair D. Bazar and Rachel L. Butrico

Title: “The Influence of Education on Negative Health-Related Behaviors”

Abstract: Research in China has shown that having an education affects whether or not a person participates in negative health-related behaviors. This study wanted to specifically examine how education influences smoking and how smoking then influences the likelihood of a person drinking. We hypothesize that education level will decrease negative health-related behaviors. Using the 2014 wave of the Chinese Longitudinal Healthy Longevity Survey, the researcher determined through structural models that education directly influences the health-related effects. The participants included 7,192 Chinese adults aged 47 to 117. The study reported that 4,009 participants, or 56%, did not receive any formal education. When examining the graphs, it is clear that people with more years of schooling are more likely to smoke. To add to this, non-smokers are less likely to drink than smokers. Based upon the results, the data proved to be opposite of what we anticipated. The findings suggest that more education leads to a higher rate of smoking. Further research as to why higher education leads to more smoking should be looked into. The education curriculum should be studied to a further extent to determine why safe health-related behaviors are not encouraged. While people are receiving an education, they should be taught the negative health effects that smoking and drinking play on a person’s body.



Academic Showcase Posters/Presentations

Alpha by Subject

Sociology

Course: SOCI-304 – Research Methods I

Faculty Supervisor: Rong Fu, Sociology Department

Project By: Nicole A. Barrington, Alexis E. Pugliese and Jordan L. Rose

Title: “Dietary Choices and Mental Health Among Older Adults”

Abstract: This research examines the impact of nutrition on mental health and how healthy dietary choices benefit older adults who suffer from mental illnesses. It is hypothesized that adequate nutrition can provide a positive mindset, enabling a healthy lifestyle. Based on the 2014 wave of the Chinese Longitudinal Healthy Longevity Survey (CLHLS), results show that there is a direct correlation between healthy dietary choices and positive mental health. The implications of this study will inform the public of the benefits of healthy dietary choices, in turn enabling increased mental health status across populations.

Project By: Kaitlyn E. Lembo and Marissa A. Smith

Title: “The Dietary Habits of the Elderly and Their Effects on the Elderly’s Diagnosis of Cancer Abstract”

Abstract: Research in China has shown that the elderly have developed specific dietary habits of consumption of fruit. The data examines the frequency of fresh fruit consumption, the average age people consume fruit at each frequency and their cancer risk. These variables can be used to identify how dietary habits at specific ages affect cancer risk. Using the 2014 Chinese Longitudinal Healthy Longevity Survey, the researcher estimated logistic and multinomial regression models of frequency of fruit consumption and diagnosis of cancer for a nationwide sample of people aged 80-105 years old.

Project By: Taras Korostil, Tyler-Marie Leggett and Jordan P. Waite

Title: “Relationship Between Smoking Habits and Stroke and CVD”

Abstract: The purpose of our research was to see the correlation between the frequency of being a smoker or not, and suffering from cardiovascular disease (CVD) or stroke, and to take it one step further, how does the frequency of smoking affect ones probability of suffering a stroke, or being diagnosed with CVD. The data used in our sample comes from the 2014 Chinese Longitudinal Health Longevity Survey (CLHLS, 2014). The final sample includes 7,192 older adults in China aged 47 to 117 years (average age: about 85 years). 3,876 participants (53.89%) were women and 3,316 participants (46.11%) were men. Our initial findings showed that those who are suffered from a stroke, or have CVD are mainly those who are no longer smokers, but perhaps were smokers in the past. Additionally our study also showed that those who are suffering from CVD or have had a Stroke had smoked or do smoke more per day. However those who are unaware if they have CVD or stroke smoke the most per day.

Project By: Dayna R. Joyce

Title: “The Role that Substance Use Plays on the Mental Health of Senior Citizens in China”

Abstract: This paper investigates the role that substance use, such as drinking and smoking, has on the development of depression and anxiety among Chinese elderly. Using the 2014 wave of the Chinese Longitudinal Healthy Longevity Survey (CLHLS), this study uses statistical analysis to analyze structural relationships between multiple variables. The sample used includes 7,192 older adults in China aged 47 to 117 years (average age: about 85 years). 3,876 participants (53.89%) were women and 3,316 participants (46.11%) were men. In China, alcohol and tobacco use is the norm for some citizens, especially among the older populations. Furthermore, this study examined the gender differences among the participants and their involvement with these substances. Among the senior citizens in China, the data suggests that men were much more likely to partake in substance use such as drinking alcohol and smoking cigarettes than women. Our results propose that individuals who start to smoke at a younger age have a relationship with developing symptoms of depression such as feeling sad or blue for at least two weeks in the present. Our findings suggest that intervention programs that educate individuals on the negative health impacts and risks of consuming alcohol or smoking, may significantly reduce the number of mental illness cases among seniors in China.

Project By: Karla M. Perez

Title: “Demographics, Socioeconomic Status, and Heart Disease”

Abstract: The purpose of our research project is to investigate whether an urban birthplace increases heart disease problems in adult life in comparison to a rural birthplace and to determine if socioeconomic status is associated to heart disease. For data, this study used the Chinese Longitudinal Healthy Longevity Study (CLHLS), 2014. In the pie chart, 18.90% of respondents who were born in urban areas suffer from heart disease whereas, 12.72% of respondents who were born in rural areas suffer from heart disease. This data indicates that people were born in urban areas are more likely to have heart disease than people who born in rural areas. Data from our side-by-side plot supports the claim that socioeconomic status is associated with heart disease problems. The data specifically shows that individuals with a median income of \$30,000 suffer from heart disease whereas, individuals with a median income of \$20,000 do not suffer from heart disease. This also implies that people with a higher household incomes are more likely to have heart disease than people with lower incomes.

Academic Showcase Posters/Presentations

Alpha by Subject

Sociology

Course: SOCI-304 – Research Methods I

Faculty Supervisor: Rong Fu, Sociology Department

Project By: Ian P. Dorsey, Nicole Preuss and Eliezer Vazquez

Title: “Effects of Smoking on Health among Elderly in China and how Socioeconomic Status Influences Smoking Habits”

Abstract: Our research investigates whether smoking affects health, specifically the chances of developing hypertension and whether socioeconomic status has any correlation with smoking among Chinese elderly. We used the Chinese Longevity Health Survey from 2014 to test our variables for this study. Based on the tests we conducted, there seems to be no correlation between smoking in old age and rates of hypertension in the elderly population. In addition, there seems to be no association between household income and smoking habits. We can use this research to further explore how smoking affects health and how other factors might influence smoking habits.

Course: SOCI-315 – Sociology Epidemiology

Faculty Supervisor: Rong Fu, Sociology Department

Project By: Maryrose Myers & Ryan C. Nolan

Title: “The Link Between Self-Reported Health of Smokers and Non-Smokers and Their Actual Age”

Abstract: With the data provided, we are attempting to prove: 1. that those that smoke have a tendency to think that they are in better health than those that do not smoke. 2. A link between those that smoke at present and their reported health within the last year, as well as the average age of those that do and do not smoke at present. Using the 2014 wave of the Chinese Longitudinal Healthy Longevity Survey, we analyzed the given data concerning age, reported health, and present smoking habit through SPSS in order to find a correlation between these variables. People that smoke have self-reported that they are either feeling the same or in some cases better than they felt within the past year. In actuality, we see that those that smoke have a lower life expectancy, or a lower average age, which could lead to the conclusion that they have a shorter life expectancy than those that do not smoke. Those that do not smoke are self-reporting that they feel worse, and are more honest and critical of their own health, but are shown to actually live longer than those that do smoke. We believe that those that smoke do not want to admit that this has caused poorer health, as they will have to stop smoking. This leads to the difference in the results of self-reported health status and average age of subjects.

Course: SOCI-490 & 495 – Senior Capstone

Faculty Supervisor: Suvarna Cherukuri, Sociology Department

Project By: Habiba Menko

Title: “Socioeconomic Status and Healthcare Disparities”

Abstract: Socioeconomic Status (SES) continues to be an accumulating factor in the care individuals receive. Despite the many suggestions from other research conducted on how providers can distribute effective quality care, there continues to be other problems arising from SES. In order to understand the reason why SES continues to be a rising problem in our society, we compare and contrast a structured research on some of the barriers individuals from both lower and higher SES encounter. We focused on different aspects of framework to categorize the

extracted barriers into (a) an individual’s earnings (income) and how providers treat them and (b) attaining access to health care and (c) level of education affecting the communication between the provider and the individual and (d) perception of individual based on ethnicity. These are some of the present problems that arise when we look at the effect of socioeconomic status and healthcare disparities. The structure of this paper will explain how these barriers affect the livelihood of individuals, which in turn can help in determining ways to combat these barriers. Keywords: Socioeconomic status, health, health disparities, education, access, income, ethnicity,

Project By: Jess Weber

Title: “Tech for Teachers”

Abstract: Research project designed to determine which form of classroom instruction (traditional vs online) is more beneficial to the academic success of students at Siena College.



Academic Showcase Posters/Presentations

Alpha by Subject

Sociology

Course: SOCI-490 & 495 – Senior Capstone

Faculty Supervisor: Suvarna Cherukuri, Sociology Department



Project By: Jonathon Duran

Title: “Non Profit Charities: Their Goals, Funding Sources, and the Served Population”

Abstract: Oftentimes it is thought that non-profits are helping those in need, especially charities. While this may be a notion believed by many, it is actually not true. Most non-profits tend to help middle and upper-class individuals. On top of that, there has been documented history of charities performing their duties in a discriminatorily manner where African-Americans and LGBTQ individuals have received the short end of the stick. It is becoming increasingly important that people do research into the charities which they are considering donating to, it is not enough to just take for granted what one is told from the organization. What if the organization is falsely using or reporting information and then using most, if not all, of the donation for personal reasons with none of the money helping towards their cause? Central to this research is looking at two non-profit charities in the Albany region and comparing how these two charities treat the different people whom they service. It will be the main topic to look for discrimination in how the charities are conducting themselves. Using detailed interviews data will be collected from the two non-profits with the same basic questions. It is highly probable that annotated and unscripted questions were used to dig deeper after the basic questions are used.

Project By: Shanley M. Carpenter and Danielle M. Chizek

Title: “The Impact of Social Media on Emotional Well-Being”

Abstract: This present study will examine the effects social media has on a person’s emotional well-being. The term emotional well-being in this study refers to not only a person’s physical health; such as body image, but their mental health as well; such as anxiety and depression. The term social media refers to different online sites such as Facebook, Twitter, and Instagram. The report will contain the importance, methods, and results of the study with the intended hypothesis that young adult’s emotional wellbeing is diminished by the use of social media. Various surveys are handed out and their answers are analyzed for patterns and relationships. Social media is said to have an impact on many young adult’s emotional health. This study will pursue this investigation. The importance is understanding that social media can change your emotional health and it can have different impacts on everyone. Social media can persuade people to be a person they are not actually in real life and this can affect others by believing it can be true. Even though social media does not affect all, it effects a majority and those majority have a hindered emotional and physical well-being. Your well-being has the ability to be changed and challenged. This study seeks to prove how social media impacts the emotional well-being of young adults by focusing on different social media sites and different emotional effects such as depression, anxiety, and body image.

Project By: Aaliyah M. Jones

Title: “Maternity Leave Impact Life Experiences of Child and Mother”

Abstract: The proposed research is designed to explore the impact that early return of working mothers has on the early childhood development from the perspectives of mothers, advocates and doctors. In New York State, there is no maternity leave law, however workers; men and women are entitled to request up to 12 weeks of unpaid leave per year to provide for a newborn child. Many women in America rely on the federal law which has a Family and Medical Leave Act to guarantee protection for their job for up to 12 weeks after birth or adoption. Maternity leave is the time that a mother (or father) is granted from work for the birth or adoption of a child. Often your maternity leave can be extended depending on what your job offers. Doctors and advocates often recommend that mothers take at least 12 weeks away from office to recover physically and bond with the baby. The focus of the study is based on the lack of time and care a mother can offer to her child because she has to return to work. Mothers lack time to nurture and hence are unable to create a strong physiological relationship with their child in the early years of their life. Mothers are normally considered as the primary caregivers in the early childhood. Establishing a strong bond between mother and her newborn is important to the infant growth and development. Maternal employment throughout a child first years become evident to a negative effect. The negative affect are low cognitive test scores and behavioral problems. Also, maternal employment decreases the mother duration and ability to perform frequency of breastfeeding. It is stated that breastfeeding is a great help when it comes to child’s health, and cognitive development. The two major concept in this study, are Maternity leave and the child development (being the cognitive, health or socio-emotional development of a child). The overall purpose of the study is to bring awareness that new mothers need more support from their work place in order to raise healthy children. The maternity leave that employers are legally obligated to provide mothers are to be used for recovery from birth, and to facilitate breast-feeding which may help prevent some adverse health consequences for the mother and child. The maternity leave can be limited due to the employers’ discretion which is a major problem, and needs to be addressed for the sake of child development.

Academic Showcase Posters/Presentations

Alpha by Subject

Sociology

Course: SOCI-490 & 495 – Senior Capstone

Faculty Supervisor: Suvarna Cherukuri, Sociology Department

Project By: Sophia R. DaCosta

Title: “The Pursuit of a Stem Career: Gender Differences in Educational Background”

Abstract: The following research was conducted at Siena College. The goal of this research is to understand how gender differences in educational background influence why an individual continues to choose a STEM career path. The survey will address educational experiences of students throughout high school and college. The participants being studied are senior undergraduate students in the following STEM majors: mathematics, physics, biology, chemistry and computer science.

Project By: Camille Valenza

Title: “Nutrition and Emotional Wellness”

Abstract: This research examines the link between nutrition and emotional wellness. Participants were exclusively college students and the research indicated that there is a positive association between proper nutrition and emotional health.

Project By: Antonija Ivanovic

Title: “Serbian Immigrants Settlement in Albany, NY”

Abstract: The purpose of this study is to examine the levels of satisfaction among Serbian immigrants in Albany, New York. Serbian Immigrants fulfillment with their new homes from the moment when they arrived in the United States. Better life in the United States, as the land of opportunity, had attracted many people including Serbian population to move out from their native country. Financial difficulties, low employment rates, and poor country as Serbia is had influenced many people to move out from Serbia and start their life in the United States. Serbian new settlement in the Albany, New York had changed lives of five families, and they have been decently adapted to a new environment. The markers of accomplishments in moving actions such as growth in educational abilities, higher employment rates, war problems; all affected newcomers to stay longer and pursue their carriers in well-established city as Albany.

Project By: Claudia M. Cellucci

Title: “The Sociolinguistics of Language: The Importance of Learning American Sign Language in American Culture”

Abstract: This sociological research project discusses the importance and benefits of learning American Sign Language (ASL) in American culture today. Diving into many background topics, it is discovered that with the help of sociolinguistics and through the developments in the history of language, that these aspects are crucial in examining why individuals speak and learn languages the way that they do. Becoming bilingual is a huge asset in a person’s life, giving them more leverage in speaking with other people from different countries with various cultural backgrounds. This newfound skill, opens up a person's worldview and perspective.

It is also discovered in sociology, that through the development of technology and methodology, the discussion on sociolinguistics is fairly important in American culture today. This division of sociology has become a major area to study, especially due to the everyday climate in America. This study is very much about examining other people’s cultures and backgrounds in language, and helps others to see what their community is like. In ASL, these cultural differences become very prominent, mainly by the main form of language being signed instead of spoken. In ASL and in the Deaf Culture, sign language is the main form of communication, giving the members of its community the freedom to “speak” through sign and gesture. Through the use of the media, ASL is getting a platform it never had before, gaining popularity in language classes in schools around the country.

Project By: Deborah K. Moore

Title: “Elderly Residents Quality of Life in Nursing Homes: Factors Leading to Abuse and Neglect”

Project By: Mai-Linh H. Le

Title: “The Important of Identity in Family Structures: Vietnamese Adoptees in the United States”

Abstract: Children, all over the world, are being adopted every day. Adoptive parents share the joy with their families and friends to greet a new arrival to their own family. However, as adoptees grow up in transracial family structures, social identity is then complicated. Adoptees face many challenges but one of them being self-identification with their birth culture or the culture they are raised in. Social identity is an important aspect to how one sees him or herself in society. The social position of themselves allows for them to fully understand culture. Culture can affect one's upbringing as it develops ones' decision making. By surveying and interviewing adult Vietnamese adoptees, I am able to examine the question of: Do cross-racial adoptees identify racially different in family structures? The hypothesis is that adoptees of a single culture entering another family structure will identify ethnically similarly to their adoptive family. The survey and interviews will indicate how adoptees in transracial families racially identify. The study’s goal is to evaluate the missing need for how adoptive parents balance multiple cultures within a family unit. But if to include a birth culture, to what method will it be incorporated. The findings will support that transracial adoptees and their families need more support. The support can be during or after the adoption process via culture camps, social work, etc. Areas of which this research can expand is by studying adoptees in transracial families who eventually had their own families, and how their family dynamics are affected.

Academic Showcase Posters/Presentations

Alpha by Subject

Sociology

Course: SOCI-490 & 495 – Senior Capstone

Faculty Supervisor: Suvarna Cherukuri, Sociology Department

Project By: Maya I. Gentile

Title: “Relationship between College Stress and Illicit Drug Use”

Abstract: This research aims to discover the correlation between college stress and the use of illicit drugs as a coping method. For this purpose, surveys were filled out by anonymous students as well as confidential interviews held with Siena College employees that can relate to the field of working with students and medical conditions and stress. The purpose of this research was to determine whether or not college stress is an actual thing, what types of stress there are amongst college students, and the use of illicit drugs as a coping method.

Project By: Emerald H. Power

Title: “Education System’s Role in Minority Success”

Abstract: The mission of the education system is to serve and provide all students with equal opportunity to learn and have success. However, that has not always accurately depicted the experiences for students who fall in minority categories, specifically English Language Learners and race minorities. This paper looks at policies, structures, and student experiences through a historical and contemporary lens. It also analyzes the role and responsibility of the teacher in a minority student’s educational experience. This research uses qualitative methods to collect data from parents and teachers of minority students (ELL and race) through focus groups to understand the attitudes and knowledge of the education system and how it affects students.

Project By: Daniel O. Morales

Title: “Sentiments Towards the Recruitment and Retention of Racially Diverse Students at Siena College”

Abstract: This research is a mixed methodology investigation into the sentiments of the Siena College community regarding the racially diverse student recruitment and retention efforts carried out by the Siena College Administration and is concluding whether or not anything more can be done to increase the level of racial diversity in the future. The data for this research was collected through qualitative semi-structured interviews and quantitative surveys administered to Administrators, Faculty, and Undergraduate Students at Siena College. Siena College is a predominantly white institution (PWI) in Loudonville, New York, and is a Franciscan college, following in the values of Saint Francis; one of these being diversity. Diversity is a subject that the faculty and administration have been pressured to pay much attention to and address. On the Siena College website, the administration has released the following statement on diversity. “Siena is a community that commits to and values diversity including but not limited to race, ethnicity, sexual orientation, gender, gender identity and expression, religion, faith, ability, age, veteran status, nationality, disability and economic status. Siena seeks to celebrate the unique ideas, values, beliefs and experiences that individuals bring to our community.”

Project By: Daniella Fuertes

Title: “Athletes Coping with Learning Disabilities”

Abstract: There are more-larger issues in education based on student athlete with learning disabilities. How do student athletes with learning disabilities meet ends with the added stress and pressure that comes with upholding a certain ideal as a competitive athlete? For example, this study will show how multiple student athletes with different learning disabilities have road blocks to go through. In the research, there is information and thoughts shared about how athletes are impacted by labels, NCAA, academics and more. With this information, the research will be able to provide information for those such as coaches, and teachers to understand the complications that student athletes with learning disabilities.

Project By: Naw Eh Ku

Title: “Challenges Faced by Karen Refugees in the Capital Region”

Abstract: The study documents Karen Refugee Community and the challenges faced in their new countries of resettlement due to forced migration from their homeland. Interviews are conducted with members of the Karen Refugee (internally displaced persons) groups in the Capital District area. The study identifies, documents, and analyzes the obstacles that refugees faced as they relocated to the United States. It also looks at how refugees coped with the challenges faced in their new surroundings as they rediscovered who they are in their new home of resettlement. In order to better serve this population, information from this study is used to raise awareness about refugees’ resettlement experiences and challenges they face in the interaction with their neighbors, teachers, staff, and administrators in school systems, and people who interact with refugees in community-based organizations



Academic Showcase Posters/Presentations

Alpha by Subject

Spanish

Course: SPAN-400 – Topics in Spanish

Faculty Supervisor: Marcela T. Garces, Modern Languages and Classics Department

Project By: Meghan E. Lemelin, Cristina Pinto, Mackenzie A. Quirk, Sara A. Rauschendorfer, Stephanie Ruano Maldonado and Diego Ruiz Hernandez

Title: “Bringing Art from Spain Alive in Local Museum Visits”

Abstract: Throughout the spring semester, our class has made visits to three local museums, a project generously supported by CURCA. In January, we visited the Williams College Museum of Art in Williamstown, MA where we viewed and discussed works from medieval Spain as well as a still life from the 1600s. We also enjoyed seeing a contemporary spin on Diego Velázquez's "Las meninas" at the museum. In March, we visited the Albany Education Building to view the work of architect Rafael Guastavino, who designed many famous buildings with his famous arches that are inspired by those found in architecture in southern Spain. Finally, in April we went to the Tang at Skidmore College to view a number of works of Salvador Dalí and Picasso. We will discuss what we learned about the different pieces we viewed, and also what we learned by seeing works of art in person.

Student Designed Interdisciplinary Major (SDIM)

Course: SDIM-350 – Senior Capstone – Student Designed Major

Faculty Supervisor: Bridgit Goldman, Biology Department

Project By: John D. Proper

Title: “Hope for Alleviating and Possibly Curing Diabetes through Diet”

Abstract: Current pharmacology treatment options and dietary recommendations are failing many individuals that suffer from chronic diseases. Diabetes affects millions of people who are on constant medications with serious side effects. The traditional recommendation of a high-carbohydrate/low-fat diet has left diabetics more and more dependent on insulin which makes these patients have an increased risk for obesity, heart disease and cancer. Recent research has shown the positive effects of a low-carbohydrate diet for both Type I and Type II diabetic patients, including, improved glycemic control, decreased triglycerides and decreased insulin needs.

Course: SDIM-400 – Senior Capstone – Student Designed Major

Faculty Supervisor: Rose Finn, Physics and Astronomy Department

Project By: Kimberly M. Conger

Title: “The Leaking Pipe: The Shortcomings and Successes of Environmental Ethics for Combating Climate Change”

Abstract: Climate change is occurring, and the Western World's reaction is lacking. The literature calls for a new environmental paradigm, one that fosters a sustainable relationship between humans and the natural world, and not one that permits mass harvesting of resources. The cost of a paradigm shift, however, is time - a crucial commodity as the effects of climate change progress. To quickly treat the symptoms of an ill framework, I propose reframing climate change to appeal to our species' biological traits, such as the tendency to react to anecdotes and personal events. Paradigms reclaim relevance in the search for a more permanent fix, and Native American communities show the doability of a more responsible relationship with our common home.

Course: SDIM-400 – Senior Capstone – Student Designed Major

Faculty Supervisor: Duane Matcha, Sociology Department

Project By: Noah M. Usiatynski

Title: “A critique of Emergency Department overuse in the US”

Abstract: The overuse of Emergency Departments (EDs) has been an issue for many years and has been seen in multiple countries with varying healthcare systems. In exploring the overuse of EDs, a multitude of questions have arisen in regard to different demographics and their use of EDs. Much of the research on ED overuse attempts to isolate one of these groups and determine what underlying mechanisms are leading to ED overuse. However many of the mechanisms assumed to be associated with ED overuse are either disproven or point to another problem or need that is beyond the scope of the healthcare system alone to fix. The US healthcare system presents a peculiar challenge to the effective analysis of underlying factors that influence both the overuse of EDs and Non-Urgent use of EDs. The overuse of EDs is a multi-faceted problem and that complexity is only exemplified when considering the current disjointed state of the US healthcare system. This paper will explore the limitations within the US healthcare system that prevents effective analysis and potential solutions to this problem on a national level.

Academic Showcase Posters/Presentations

Alpha by Subject

Writing

Course: WRIT-100 – Rhetoric and Writing

Faculty Supervisor: Stacey Dearing, Teaching Assistant, English Department

Project By: Dakota Jackson

Title: “Bush and 9/11”

Abstract: This paper will explore 9/11 conspiracy theories. As American citizens we have a right to know if our government, who is supposed to promote the general welfare, is hiding pertinent information in relation to our public safety. Although I do believe that the heinous terror attacks were in fact perpetrated by an extreme Islamist group, I however, cannot accept the fact that the United States government had absolutely no inkling as to what was going to happen, and further that there was no monetary reason that the US entered Iraq.

Project By: Kristen E. Burger

Title: “Conspiracy Theories: Harmless or Powerful Agent to Extremist Groups?”

Abstract: Extremism and terrorists are known threats to the peace of the social space but attacks by extremists are often explained by mental illness. However, the role of conspiracy theories in extremism is not being adequately considered. My paper looks to demonstrate the connection between conspiracy theories and extremism. I argue that conspiracy theories play a crucial role in extremism and they negatively fuel extremism and extremist beliefs.

Project By: Cheyenne C. Lufkin

Title: “Conspiracy Theories: How Voters Are Impacted”

Abstract: When watching the evening news or scrolling social media, it is very difficult to not see some sort of political conspiracy theory. During the 2016 election alone, there were conspiracies relating to nearly every aspect of the candidates’ campaigns. The broad spectrum of conspiracy theories is not new to politics. However, the presence of them is still impacting the lives of citizens. I believe it is important to study how voter’s political participation is being impacted from hearing conspiracy theories.

Studying the impact of conspiracy theories on politics is important because our daily lives are being affected by a belief that an influential politician may or may not have conspired against our well-being, this can be threatening to democracy. I will look into what kind of political conspiracy theories exist, who is most likely to believe conspiracies, and draw conclusions from that about how many people believe them. By doing this research, I will understand how widespread political conspiracy theories are, and what impact they have on our politics.

I decided to study conspiracy theories and politics because when I can better understand the impact of conspiracies, on political opinions, I will adding value to the field. Then political scientists or politicians can account for this while running campaigns, and making legislative decisions. I believe this is also crucial information for civilians to be aware of because they are the ones who are being influenced by conspiracy theories. By saying this, I mean that if people are informed about how easily influenced they are by political conspiracies, they can protect themselves against them in the future. Therefore, both political scientists, and anybody impacted by United States politics, should be invested in my research.

My research question is, how do conspiracy theories impact the way voters participate in politics? I already know that there is a correlation between the two, I hope to learn more about what that correlation is. I still need to research more about the connection between people being impacted by the conspiracy theories, and how they perceive a political person or institution. For now, my thesis is that conspiracy theories impact the opinions people have on politics.

My topic is valid in today's culture and will provide new insight into a phenomenon that has been around for a long time. When I successfully finish my research, my findings will introduce a new perspective into the topic, and that will be a positive outcome.



Fulbright Awards for 2018-2019

Siena College is very pleased to announce that

Samantha P. Lore '19 and Thomas A. Ruhl '19

have been selected for the Fulbright Award.



Samantha Lore is a current senior at Siena majoring in Environmental Studies, with minors in International Studies and Italian Studies. Throughout her time she has completed two internships with the Attorney General's Environmental Bureau and Clean and Healthy New York. She also held a fellowship with the McGuire Society on campus and three on-campus jobs. In her sophomore year, Samantha went abroad to Siena, Italy where she spent 5 months going to school and teaching English, all while living with a host family.

After graduating from Siena College she will be in Italy, once again. Samantha had been awarded a prestigious Fulbright English Teaching Assistantship. Through this government funded grant she will be spending 10 months in a city of Southern, Italy teaching English to high school students.

Thomas Ruhl is a Senior History Education major and Bonner Service Leader. He is currently student teaching at Troy High School, and previously student taught at Averill Park. After Graduation, he will be accepting a Fulbright grant to be an English Teaching Assistant in Malaysia for 10 months. While there, he will immerse himself into a Malaysian community, and work closely with a secondary school to improve the English skills of its students. He is incredibly excited for this amazing opportunity!



The Fulbright U.S. Student Program offers research, study and teaching opportunities in over 140 countries to recent graduates and graduate students. The Fulbright **U.S. Student Program** is the largest U.S. exchange program offering opportunities for students and young professionals to undertake international graduate study, advanced research, university teaching, and primary and secondary school teaching worldwide. The program currently awards approximately 2,000 grants annually in all fields of study, and operates in more than 140 countries worldwide. Fulbright U.S. Student alumni populate a range of professions and include ambassadors, members of Congress, judges, heads of corporations, university presidents, journalists, artists, professors, and teachers. Bose Corporation founder Amar Bose, actor John Lithgow, composer Philip Glass, opera singer Renee Fleming and economist Joseph Stiglitz are among notable former grantees.



Siena College Honors Program

The Honors Fellows complete a combination of Honors courses, service activities, and a culminating Honors Thesis.

Siena College Honors Fellows

Class of 2019

Nicole T. Alex
Shelby V. Crespino
Shelby E. Davis
Loryn E. DeFalco
Garrett M. Dempsey
Olivia M. Fleming
Matthew J. Garlo
Caitlin S. Muir
Olivia K. Nop
Michaila E. O'Brien
Tianny S. Ocasio
Liam F. Peterson
Emily X. Radigan
Emily J. Rhoades
Domenic P. Roberto
Emily A. Roff
Morgan T. Shaw
Elizabeth M. Vinal
Kimberly I. Vish



Honors Program

Siena College Honors Program

Honors Theses

2018-2019

Nicole T. Alex, “Catharsis through Creativity: Investigating the Applicability of Creative Arts Therapy for Domestic Violence Survivors”

Shelby V. Crespino, “Fluidity: How the Anti-Masonic Party Stretched Across More than a Century of United States History”

Shelby E. Davis, “The Haqqani Network: Success in the Shadows”

Loryn E. DeFalco, “Defining the Middle Class: How the Term has Become a Rhetorical Tool for the Political Elite”

Garrett M. Dempsey, “Meiji to MacArthur: Japanese Authoritarianism and Constitutional Crisis in the Modern Era”

Laura G. Durham, “The Jury, the Media and the Celebrity Defendant – Can They Constitutionally Coexist?”

Olivia M. Fleming, “Stand Your Ground Law in Florida: An Examination of Legislation and Two Case Studies of Unequal Application”

Matthew J. Garlo, “Media Mayhem: The Race to Report Hate & Terror”

Zachary S. Girvin, “Beating Target Date Funds at Their Own Game”

Caitlin S. Muir, “What to Select When You're Expecting: The Ethics of Reproductive Selection”

Erin T. Noble, “The Effects of Personality, Religiosity, and Sexual Orientation in Response to Sexual Appeals in Advertising”

Olivia K. Nop, “A Disguised Christian Catastrophe: How Purity Culture Inadvertently Promotes Rape Culture”

Michaila E. O'Brien, “Exploring the Reaches of Egoism in Human Moral Motivation”

Tianny S. Ocasio, “Influence of Gender Socialization on Reaction to Gender Norms”

Liam F. Peterson, “Sex Differences in Pharyngeal Pumping Rate in *C. elegans*: A Link to Lifespan?”

Emily X. Radigan, “Intersectionality and Sexual Violence on College Campuses: A Critique of Framings of Sexual Violence”

Emily J. Rhoades, “‘I Never Wanted to Be Your Mother’: Maternal Ambivalence in Post-2000 Horror Film”

Domenic P. Roberto, “Lousy Communication Skills: Pheromone Mediated Aggregation in Pigeon Wing Lice (*Columbicola Columbae*)”

Emily A. Roff, “Phylogeography and Taxonomic Revision of the African Wading Rat (*Colomys goslingi*) in Sub-Saharan Africa”

Morgan T. Shaw, “‘Like to the Earth Swallow Her Own Increase’: The Fear of Re-Merging with Monstrous Mother Nature in *Titus Andronicus*”

Jenna N. Smith, “Prevention, Not Suspension: College Student Experiences with School-Wide Positive Behavior Supports vs Traditional Disciplinary Policies”

Jamila L. Taylor, “Academic Resilience in African Americans Attending Higher Education Institutions”

Elizabeth M. Vinal, “Documents in Transition: The Politics of Gender Marker and Name Change Policies in the U.S.”

Kimberly I. Vish, “Steady-State Comparison of Peroxidase Activity from Horseradish Peroxidase and Myoglobin”

2019 Honor Societies

SIENA COLLEGE

ALPHA KAPPA ALPHA

2019 Inductees

Alpha Kappa Alpha membership is the highest award granted to our graduates. Alpha Kappa Alpha members are students who have achieved academic excellence throughout their college years. They also have demonstrated an awareness of the problems facing society and a sincere concern for others. AKA members have contributed in a special way to Siena and to the broader community by active participation in extracurricular activities. In other words, these students embody the Franciscan traditions that are the foundation of every Siena graduate's education. They have been selected upon the recommendation of a select committee of faculty, students, and administrators.

Amy A. Abraham
Ifeoluwa T. Adelugba
Nicole T. Alex
Brendan J. Boutin
Megan A. Bouyea
Richard K. Bratton
Jason T. Chicoine
Paige M. Cobb
Loryn E. DeFalco
Ethan M. DiMura
Ta'Shay T. Gordon
Madeline E. Hagen
Emma K. Henderschedt
Sophia R. Henneman
Samantha P. Lore
Kristin E. Ludwicki
Allison E. Mahoney
Emily X. Radigan
Julianna C. Rauf
Sandra A. Spicer
Aidan D. Sullivan
John P. Teixeira
Tyler A. Tsang
Michael A. Zakher

Note: The Alpha Kappa Alpha Induction Ceremony will be held on Saturday, May 11, 2019. By invitation only.

Alpha Kappa Delta

International Honor Society in
Sociology



Emily K. Nicki

Emily X. Radigan

Alpha Mu Gamma

National Foreign Language

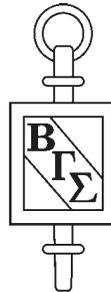


John P. Cote
Lorenzo R. Cotugno
Coral A. Cruz Rodriguez
Shaina Degroult-Elias
Caitlyn M. Gerardi
Mallory V. Heflin
Bryn N. Judkins
Ellie M. Lockhart

Connor A. Mallon
Lauren A. Martelli
Cristina Pinto
Mackenzie A. Quirk
Sara A. Rauschendorfer
Thomas J. Schlinck
Julianna M. Sebastian
Matthew W. Woodworth
Elkin H. Zuniga

Beta Gamma Sigma

International Honor Society for
Students of AACSB-Accredited Business Schools



Nicholas Amodio
Emily J. Andolina
Nicholas C. Andrade
Wesley M. Benoit
Tessa Betz
Leonore A. Brun-Cosme-Bruny
Allison E. Caligiuri
Karly A. DeLorenzo
Timothy R. Fenton
Madeleine M. Fitzgerald, MSA
Thomas J. Gallagher
Molly J. Hagen, MSA
Brittany E. Kane
Alexander T. Kayser
Lauren M. Kelly
Eric L. LaPointe

Emily M. Lombard
Alexis T. Margroff
Molly M. Mittler
Gianna S. Paris
Olivia R. Pastrana
Jillian Pickens
Alexandra H. Polsinelli
Kelly M. Rasulo
Liam C. Rowland, MSA
Colman J. Schliff
Jacob R. Smith
Samantha A. St. Germain
Tiffany M. Tournier
Thomas R. Woods

BETA ALPHA PSI

Nu Xi Chapter

The International Honor Organization for Financial Information Students and Professionals

Trajan A. Artt
Amber R. Alfonzo
Robyn L. Burke
Allison E. Caligiuri
Owen G. Clark
Karly A. DeLorenzo
Sarah M. Ellis
Gabriella Ferrao
Rachael A. Hackett
Matthew D. Hartmann
Michael E. Lynch



Deanna A. Macchia
Emma D. McGeown
Neha Meshal
Maya E. Nicholas
Brooke A. Paddock
Agatha N. Permalino
Ryan Sgroi
Wayne K. Sharp
David R. Smith
Ethan T. Terrio

Delta Epsilon Sigma

National Scholastic Honor Society
for students in Catholic Colleges and Universities



Amy A. Abraham
Maria R. Brown
Zachary C. Clouse
Shelby V. Crespino
Shelby E. Davis
Joseph F. Donahue
Kaitlyn G. Gaboriault
Ta'Shay T. Gordon
Kristin E. Ludwicki
Emily K. Nicki
Olivia K. Nop
Michael R. Ramsey
Sara A. Rauschendorfer
Sandra A. Spicer
Dakota E. Wilkinson
Samantha R. Williams
Alexander M. Zurlo

**Financial Management Association
National Honor Society**



Ethan M. DiMura
Michael B. Rautter
Emily Sample
Nicholas Sapienza

Kappa Delta Pi

Education Honor Society



Alexandra R. Bonardi
McKenzie H. Bradley
Kaley M. Brindisi
Aileen C. Burt
Marissa A. Calcutti
Stephanie R. Cambrea
Margaret A. Canty
Angela M. Cappelli
Meghan E. Conboy
Olivia N. Daby
Shaina Degroult-Elias
Lauren A. DeLor
Garrett M. Dempsey
Morgan G. Dunkle
Amanda M. Ferro
Sara R. Fritz
Agnes M. Gault
Rebecca R. Goldstein
Alicia L. Goodman
Brian S. Harat
Brandon M. Huyck
Samantha M. Jaeger
Sydney M. Johnson
Aaliyah M. Jones
Caitlyn E. Ketcham

Kiara Kruger
Alyssa A. Lewis
Alyssa M. Lofaro
Christopher N. Lyskawa
Jacob M. Mahoney
Briannah C. Maloney
Jazmin A. Melendez
Coby J. Merkle
Julia C. Montgomery
Esmeralda Ortiz
Andraya H. Perez
Alessandra L. Petrucci
Victoria E. Remi
Jennifer M. Renter
Alicia M. Sala
Jonathan W. Schewe
Thomas J. Schlinck
Nikayla R. Schlosser
Meryl C. Smith
Brianna N. Thomas
Sarah R. Tobias
Sadie Ventura
Tristan J. Verdone
Drew Ziehnert
David R. Zimmerman

Omicron Delta Epsilon

International Honor Society in Economics

Beta Nu Chapter



James P. Ardito
Weronika Bajszicka
William B. Carmello
Jonathan S. Davis
Alexander W. Ferrer
Devon J. Hebert
Taylor M. Huemmer-Harnett
German A. Jimenez
Robert Lyall
Paul J. MacFarlane
Andrew T. Ragosta
John M. Ruquet
Haleigh M. Schanz
Wayne K. Sharp
Melissa A. Voerg
James G. Weimer
Elkin H. Zuniga

Phi Alpha

Social Work Honor Society



Francesca Barone
Stephanie R. Capone
Katelyn M. Guarino
Emma K. Henderschedt
Mikayla B. Lansing
Kaspian I. Lasell
Grace D. Lavertu
Christopher J. Offermann
Nicholas M. Pantelides
Kenia R. Ramirez
Gary Thompson
Sadie Ventura
Melissa Zamora-Texis

Phi Alpha Delta

Honor Society for Students
Studying Law



Tom P. Alex
Priscilla Capuano
Danielle J. Dreyer
Hunter L. Galpin
Connor A. Mallon
Christina M. Noeldechen

Phi Alpha Theta

Omicron Xi Chapter
National Honor Society in History



Samuel C. Allard
Michael A. Bellucci
Gabriel C. Byrne
Tyler J. Del Giudice
Benjamin B. Knoll
Hieu V. Le
Connor J. LeMay
William J. McTague
Nicholas M. Pantelides
Cosimo A. Tangorra
Nicholas Verboys

Phi Sigma Gamma Sigma
National Honor Society in Biology



Amy A. Abraham
Elizabeth M. Allegretti
Elizabeth M. Fournier
Veronica B. Lammardo
Margaret A. Moisan
Caitln S. Muir
Michael R. Ramsey
Lesley Y. Santos
Mason K. Soeder
Michael K. Tram

Pi Mu Epsilon
National Honor Society in Mathematics



Kaley M. Brindisi
Stephanie R. Cambrea
Keith W. Grable
Bailey M. Pratt
Spencer J. Tibbitts

Faculty Inductees

Dr. Scott Greenhalgh
Dr. Daniel Smitas
Dr. Kursad Tosun

Phi Lambda Upsilon
National Honor Society
in
Chemistry



Jessica L. Barnett
Alec L. Dorfner
Jeska Guirguis
Matthew A. LoBiondo
Kenneth W. Lucas
Liam F. Peterson
Collin J. Timony
Dakota E. Wilkinson

Pi Sigma Alpha
National Honor Society in
Political Science



William B. Carmello
Marissa R. Hochberg
Michael D. Potter
Zoe M. Schlesinger

Phi Sigma Tau

Honor Society in Philosophy



Andrew M. Astruc
Christina C. Balli
George J. Bushey
Kristina Cherubino
Zachary R. Coderre
Jeska Guirguis
Michaila E. O'Brien
Tyler A. Tsang
Noah M. Usiatynski
Trista A. Zawartkay

Pi Gamma Mu

International Social Science Honor Society



Ashley E. Alba	Hieu Van Le
Michael A. Bellucci	Kala S. Lomnicki
Richard K. Bratton	Connor A. Mallon
Peter G. Conti	Charlotte J. Miller
Haley E. Cowlin	Matthew J. McAuliffe
Kyle R. Creech	Caitlin A. Murphy
Taylor L. Dorado	Clare M. Nee
Jessica L. Elbin	Grant W. Norton
Ryan Ennis	Nicholas M. Pantelides
Kaitlyn G. Gaboriault	Blaise A. Piotrowski
Taylor M. Green	Zoe M. Schlesinger
Katelyn M. Guarino	Bridget T. Schoendorf
Taylor M. Huemmer-Hartnett	Zoe E. White
Caroline G. Isabelle	Kaitlyn B. Winkler
Unushah Khan	Melissa Zamora-Texis
Naw Eh Ku	

Psi Chi

International Honor Society in Psychology



Michael D. Carroll
Meghan E. Conboy
Jubilee Contreras
Joseph F. Donahue
Sarah E. Forman
Meghan C. Hooley
Kelsey A. Hughes
Samantha C. Maguire
Karissa L. Massicott
Emily K. Nicki
Grant W. Norton
Kathryn E. Parkhurst
Benjamin W. Pello
Francesca L. Tinucci

Sigma Pi Sigma

National Honor Society
in Physics



SIGMA PI SIGMA
The Physics Honor Society

Nabila Akhter	Christian J. Montero
Daniel J. Allspach	Samuel A. Morrison
Cassandra E. Billings	Lauren R. Pecora
Kimberly M. Conger	Abril I. Pejuan Martinez
James A. D'Annibale	Zainab Raza
Camila Davila Gutierrez	Carmine J. Romano
Keith W. Grable	Andreas Rosnes
Vanessa N. Havens	Brandon A. Smith
Catherine M. Hill	Thi My Phung Thai
Aurelien S. Hong	Daniel E. Whinnery
Kristen A. McAndrew	Austin A. Winter
Kent R. Mohlar	Abbi N. Wright

Sigma Tau Delta

English Honor Society



Kylie M. Gemeasky
Caitlyn M. Gerardi
Ta'Shay T. Gordon
Clare M. Nee
Serena M. Rizzo
Julianna M. Sebastian

Upsilon Pi Epsilon

International Honor Society
for the Computing and Information Disciplines



Upsilon Pi Epsilon
International Honor Society for the Computing and Information Disciplines

Patrick W. Barber
Eileen P. Bohlen
Logan J. Brandt
Kaley M. Brindisi
Eamonn M. Conway
Tyler J. Czuprinski
Brianna K. Davis
Christopher G. Fall
Steven P. Gibson
Tyler R. Gorman
Rajshree Marhatta
Jonathan A. Pratico
Bradley J. Ricciardiello
Abdul Samad
Thomas P. Talasco

The National Society of Leadership and Success



Tamarapreye J. Akangbou
Danielle N. A'Brial
Nicole T. Alex
Marykate T. Anderson
Leanne M. Austin
Morgan E. Bennett
Yaira R. Brito Jimenez
Sheila Carpenter
Danielle M. Chizek
Madeline G. Duncan
Sarah C. Federation
Kaitlyn G. Gaboriault
Ta'Shay T. Gordon
Jasmine A. Higgins

Naw Eh Ku
Monique A. Lawrence
Alexander M. Lee
Morgan A. Leo
Junae D. Manderson
Uwaoma Faith Okwu-Uwa
Brooke A. Paddock
Paige G. Plumley
Cassandra Lynn Reed
Elise C. Seifritz
Samantha A. St. Germain
Kaitlin R. Urtz
John T. Wall
Kelsey Wasson

ACADEMIC *Excellence*

The Political Science Civic Leadership Award

This award is presented to students who demonstrate excellence in the appreciation of politics and have a strong basis for knowledgeable and concerned citizenship throughout their college career.

2019 Recipient

Gloria S. Rosario

Political Science & International Relations Civic Leadership Award

This award is presented to students who demonstrate excellence in Political Civic Leadership.

2019 Recipients

Olivia M. Fleming

&

Emily X. Radigan



**The 13th Annual
Siena College International Studies Conference
Held November 2018**

Charting the Trajectory of Globalization

Moderator: Chingyen Mayer, Ph.D., Associate Professor of English, Director, International Studies Minor

Caring for Our Planet Earth

Title: “Globalization and Sustainability: The New IPCC Climate Report”

Presenters: Sofia R. DaCosta, Sociology Major; Katina A. Pagones, History Major; Fredrick J. Genier, Physics Major and Shannon K. Knott, Marketing Major

Title: “Globalization and Finance”

Presenters: Alex T. Pearce, Economics Major; Cosimo A. Tangorra, Political Science Major; Donald P. Nash, Biology Major and Benjamin C. Klouse, Marketing Major

Carving Out a Competitive Edge

Title: “Is Being Monolingual Enough?: Expanding Cultural and Linguistic Boundaries and Employment Opportunities”

Presenters: Kathleen B. Collins, Sociology Major; Tessa Betz, Management Major and Courtney Wranosky, Exploring Arts

Title: “Gender Disparities in Migration”

Presenters: Daniel O. Morales, Sociology Major; Jessica L. Vollmer, Psychology Major; Noah McLean, Environmental Studies Major and Benjamin B. Knoll, Political Science Major

The Push and Pull of Cultures

Title: “Duty and Desire in *Joss and Gold*”

Presenters: Gianna M. DiGregorio, Social Work Major; Kayli A. Farrell, Biology Major; Gabrielle L. Delbrocco, Social Work Major and Sarah H. Prairie, History Major

Title: “Cultural Appropriation and Globalization”

Presenters: Marilena Gerostergiou, Sociology Major; Sabrina Piper, History Major; Melissa Cooper, Political Science Major and Naw Eh Ku, Sociology Major

Women and Urbanization

Title: “Women and Globalization in India”

Presenters: Gismy S. Warnakulasuriya, Psychology Major and Andrew V. Lieu, Computer Science Major

Title: “Urbanization in the Developing World and its Effects on the Environment”

Presenters: Caitlin S. Muir, Biology Major; Garrett M. Dempsey, History Major and Marisa Ferrotti, Biology Major

Globalization and Sustainability

Title: “Environment, Globalization and Sustainability”

Presenters: Alexia Moreno Zambrano, Economics Major; Adam P. Blanchard, Business Major; Brian Baker, Environmental Studies Major and Benjamin Allegro, Environmental Science Major



The 2019 Ted Winnowski '63 Student Conference in Business

This event was held in April 2019

BEST PAPER AWARDS

BUSINESS ANALYTICS AND ACTUARIAL SCIENCE **QUALITY AND PERFORMANCE: AMBULANCE DIVERSION**

Authors: David W. Le Blang and Sierra L. Juneau
Faculty Mentor: Dr. Manimoy Paul

COMMUNITY ENGAGED RESEARCH **DATA ANALYTICS TO GUIDE DONOR DEVELOPMENT AT CATHOLIC CHARITIES**

Author: Katelyn R. McMahan
Faculty Mentor: Dr. Necip Doganaksoy

ECONOMICS **AN ANALYSIS OF POLITICAL INSTITUTIONS AND INEQUALITY**

Authors: Allison E. Mahoney, Alex T. Pearce and Cosimo A. Tangorra
Faculty Mentor: Dr. Elias Shurkalla

MARKETING **BUSINESS PLAN RECOMMENDATION FOR A STUDENT-RUN MARKETING AGENCY AT SIENA COLLEGE**

Author: Sophia R. Henneman
Faculty Mentor: Dr. Cheryl Buff

MASTERS OF SCIENCE: ACCOUNTING **EVALUATING PARTISANSHIP IN THE 2018 MIDTERM ELECTIONS: ANALYSIS OF NEW YORK TIMES UPSHOT/SIENA COLLEGE RESEARCH INSTITUTE 2018 LIVE POLLING DATA**

Author: Travis M. Brodbeck
Faculty Mentor: Dr. Don Levy

BEST PRESENTATION AWARDS

Economics, Policy & Community Based Research Track **AN ANALYSIS OF POLITICAL INSTITUTIONS AND INEQUALITY**

Allison E. Mahoney, Alex T. Pearce and Cosimo A. Tangorra

Marketing and Management Track **A PRELIMINARY ANALYSIS OF INFLUENCER MARKETING**

Sarah E. DiCaprio, Danielle DiGiacomo and Kelly C. Dokmecián

Masters of Science in Accounting Track **EVALUATING PARTISANSHIP IN THE 2018 MIDTERM ELECTIONS: ANALYSIS OF NEW YORK TIMES UPSHOT/SIENA COLLEGE RESEARCH INSTITUTE 2018 LIVE POLLING DATA**

Travis M. Brodbeck

BEST INVESTMENT AWARD

EMPOWERU

Yumi Kageyama



The 2019 Ted Winnowski '63 Student Conference in Business

PAPERS PRESENTED

BUSINESS ANALYTICS AND ACTUARIAL SCIENCE

2018 SUPER BOWL COMMERCIALS: ARE THEY WORTH THE EXPENSE?

Author: Elizabeth M. Glusko and Paul F. Liguori
Faculty Mentor: Dr. Manimoy Paul

QUALITY AND PERFORMANCE: AMBULANCE DIVERSION

Authors: David W. Le Blang and Sierra L. Juneau
Faculty Mentor: Dr. Manimoy Paul

ECONOMICS

AN ANALYSIS OF POLITICAL INSTITUTIONS AND INEQUALITY

Authors: Allison E. Mahoney, Alex T. Pearce and Cosimo A. Tangorra
Faculty Mentor: Dr. Elias Shurkalla

FEDERAL RESERVE CHALLENGE

Authors: Sydney E. Geddes, John R. Keenan, Brendan T. Lauth, Kenneth E. Norman and Jacob L. Perry
Faculty Mentor: Dr. Aaron Pacitti

MIGRATION, THE DIASPORA, AND THE PRESENCE OF NEOLIBERAL REFORMS

Authors: Veronika Gillis, Bard College
Faculty Mentor: Dr. Aniruddha Mitra, Bard College

THE EFFECTS OF C-SECTIONS ON MATERNAL MORTALITY

Author: Melissa A. Voerg
Faculty Mentor: Dr. Scott Trees

WHO HAS OWNERSHIP OF THE LAND IN WEST VIRGINIA?

Author: Nicole F. Pazarecki
Faculty Mentor: Dr. Todd Snyder

ENTREPRENEURSHIP

EMPOWERU

Business Developer: Yumi Kageyama
Faculty Mentor: Prof. Michael Hickey

FUNLETZ

Business Developers: Vincent J. Mills and Zachary D. Mills
Faculty Mentor: Prof. Michael Hickey

AMAR ATTA

Business Developer: Sureet Pabbi
Faculty Mentor: Prof. Michael Hickey

HONEYPOT

Business Developers: Nicholas R. Desautels, James M. Schaible and Kathryn T. Sovie
Faculty Mentor: Prof. Michael Hickey

MARKETING

A PRELIMINARY ANALYSIS OF INFLUENCER MARKETING

Authors: Sarah E. DiCaprio, Danielle DiGiacomo and Kelly C. Dokmecián
Faculty Mentor: Dr. Cheryl Buff

The 2019 Ted Winnowski '63 Student Conference in Business

PAPERS PRESENTED

MARKETING

BUSINESS PLAN RECOMMENDATION FOR A STUDENT-RUN MARKETING AGENCY AT SIENA COLLEGE

Author: Sophia R. Henneman
Faculty Mentor: Dr. Cheryl Buff

CANNABIDIOL (CBD) AWARENESS AND ATTITUDES AMONGST COLLEGE STUDENTS

Authors: Aurelie J. Daeron, Kate A. Gagnon, Diosmary Perez-Trinidad and Dylan M. White
Faculty Mentor: Dr. Russell J. Zwanka

PERCEPTIONS AND ATTITUDES OF INDIAN-AMERICAN CONSUMERS OF FINANCIAL SERVICES IN THE USA

Author: Daniel Chacko, SUNY Old Westbury
Faculty Mentor: Dr. Raj Devasagaym, SUNY Old Westbury

THE EFFECTS OF PERSONALITY, RELIGIOSITY, AND SEXUAL ORIENTATION IN RESPONSE TO SEXUAL APPEALS IN ADVERTISING

Author: Erin T. Noble
Faculty Mentor: Dr. Michael Pepe

MASTERS OF SCIENCE: ACCOUNTING

AN EXPLORATORY ANALYSIS OF DRUG REHABILITATION DATA AND THE NEED FOR EVIDENCE-BASED POLICY REFORM

Author: Liam C. Rowland
Faculty Mentor: Dr. Necip Doganaksoy

DATA ANALYTICS TO GUIDE DONOR DEVELOPMENT AT CATHOLIC CHARITIES

Author: Katelyn R. McMahon
Faculty Mentor: Dr. Necip Doganaksoy

DIGITAL WALLETS: WHAT'S IN YOUR WALLET?

Author: Logan S. Bordiga
Faculty Mentor: Prof. Bruce Bonacquist

EVALUATING PARTISANSHIP IN THE 2018 MIDTERM ELECTIONS: ANALYSIS OF NEW YORK TIMES UPSHOT/SIENA COLLEGE RESEARCH INSTITUTE 2018 LIVE POLLING DATA

Author: Travis M. Brodbeck
Faculty Mentor: Dr. Don Levy

IMPACT OF MACROECONOMIC NEWS ON FOREIGN EXCHANGE MARKET

Author: Cody W. Shafer
Faculty Mentor: Dr. Erik Eddy

INTRODUCTION TO BLOCKCHAIN: INCORPORATING EMERGING TECHNOLOGIES IN THE CLASSROOM

Author: Travis M. Brodbeck
Faculty Mentor: Dr. Necip Doganaksoy

THE BENEFITS AND RISKS OF ABSORPTION COSTING, FROM INTERNAL AND PUBLIC PERSPECTIVES

Author: Shane J. Beauchamp
Faculty Mentor: Dr. Erik Eddy

THE CONVERGENCE OF IFRS AND GAAP

Author: Julianne Finnucan
Faculty Mentor: Dr. Erik Eddy

BLOCKCHAIN TECHNOLOGY AND THE FIGHT AGAINST OCCUPATIONAL FRAUD

Author: Andrew R. Van Woert
Faculty Mentor: Dr. Erik Eddy

SUMMER SCHOLARS

Summer Legal Fellows

Siena College's Summer Legal Fellows Program offers Siena students the opportunity to work under the direct supervision of a law school professor while undertaking original legal research with second and third year law students. Students can apply to this program during their junior year at Siena College.

The legal research that Siena's students work on may be published by the respective law school sponsor and provide the basis for legal action in State and Federal jurisdictions.

2019 Summer Legal Fellows and Placement Law School

Albany Law School

Zachary R. Coderre
Marissa R. Hochberg
Michael D. Potter
Austin A. Winter

American University

Peter R. Potter
Diamond I. Moorehead

Feerick Center for Social Justice

Gabrielle M. Agostino
Davina L. Mayo-Dunham

Pace University School of Law

Emily L. Biernacki
Kayla C. Spohr

Touro Law Center

Kylie M. Gilbride
Mark D. Rodriguez

Western New England College of Law

Sierra E. Leitten
Evan R. Levesque

Leonard M. Cutler, Ph.D., Director



Juried Student Art Show

Held - April 2019

The Creative Art Department's Juried Student Art Show features the best work created by students on campus at Siena College. Students work in media ranging from oil paint, assemblage sculpture, fabric, and photography. Each year an external Juror selects work, from the many submissions, for the exhibition and names our award winners. The exhibition is supported by the Creative Arts Department, and by the Center for Undergraduate Research and Creative Activities (CURCA).

Faculty Advisor: Scott Nelson Foster, Associate Professor of Studio Art

Juror: Emily Vallee, M.F.A. Lecturer in Art, Skidmore College



Best in Show
Igor M. Baldez Silva
Girl in the Blue Sky



First Place
Rae C. Nooney,
Untitled



Second Place
Julianna A. Place
Social Distortion



Third Place
Leopold L. Dohmann
9/5/18?
(Figure Drawing)



CURCA Artistic Achievement Award
Kelvin Zheng
Lime Green House

**School of Liberal Arts
Creative Arts**

Irene Ryan Acting Award Nominations for 2018-2019

The Irene Ryan Acting Scholarship competition is a program of the Kennedy Center American College Theatre Festival (KCACTF), a national program of the Kennedy Center that strives to showcase and celebrate college theatre.



Who is Irene Ryan? Before becoming known to millions as Granny Clampett on “Beverly Hillbillies” (1962), Irene Ryan was already an established vaudeville, radio and movie actress, though not as famous prior to her television stint. She accompanied Bob Hope on his famous military tours and she was known as “the gal who makes Bob Hope laugh.” After being cast as Granny, she became famous overnight. When the Hillbillies ended, she co-starred in the Broadway musical 'Pippin' with Ben Vereen. Unfortunately, despite wonderful reviews from critics, Ryan took ill, was discovered to have an inoperable brain tumor and died soon after at the age of 70.

2018-2019

**Irene Ryan Acting Award Nominees for Siena Colleges production of
*Frankenstein***



Hunter T. Frederick
Scene Partner: Heather A. Frederick

Max B. Adelman
Scene Partner: Claudia M. Cellucci

Stage Management

These students were invited to attend and present their work:

Alyssa N. Bergman
Marcel D'Aprile

Merit Award
Sarah J. Wilson
Assistant Director

Ensemble Case Recognition

Max B. Adelman
Liam A. Antonopoulos
Hayleigh N. Arthmann
Claudia M. Cellucci
William T. Curley
Dominic R. DiCaprio
Heather A. Frederick
Hunter T. Frederick
Fiona Hoye
Lulama F. Nyembe
Connor G. Rock
Megan A. Stuart



Moot Court/Mock Trial Competition

The Honorable James P. King Moot Court/Mock Trial Team would first like to thank their Coaches. Their knowledge and dedication and continuing support to our students and Siena College is most invaluable.

The Siena College Moot Court/Mock Trial team competed at Princeton University at the Regional Competition in February 2019. With a roster of ten students for our competing team, six of our students were freshmen and seven of our students have never been to an AMTA Regional Competition before. As a young team, they faced fierce competition at this regional. They competed against Brandeis University, Amherst College, Ursinus College, as well as a bye-buster team.

The team diligently worked toward gaining as much experience as they could before coming to Regionals. In order to prepare themselves, they competed in scrimmages against SUNY Albany, St. Rose, Williams College as well as SUNY Oneonta. Their dedication and hard work was exemplified in the competition. The Princeton Regional Competition was a valuable experience for Siena's budding team and will allow us to flourish and mature in the near future.

Coaches

Kevin Burke, Esq. '85
Richard R. Maguire, Esq. '86
The Honorable Patrick Monserrate
Louis Renzi, Esq. '78
David J. Szalda, Esq. '06

Captain

Jenna L. Jewell '19

Gabrielle M. Agostino '20
Peer Mentor

Team Members

Rebecca L. Arnold '19
Roseline R. Bello '20
Cameron Bishop '20
Sean P. Buff '21
Priscilla Capuano '21
Chrissy A. DeMarco '21
Samantha J. DeRagon '21
Jacob E. Drayer '21
Taylor M. Green '20
Samantha J. Fazio '21
Jenna L. Jewell '19
Evan R. Levesque '19
Jared E. Page '21
Zoe M. Schlesinger '20
Devon R. Sweatt '22

SIENA COLLEGE

Academic Showcase

Concurrent Sessions

2019

Academic Showcase 2019
Concurrent Sessions
8:30AM-9:30AM

Ace Community Engagement Talks

Location: Roger Bacon Hall, Room 202

Moderator: Ruth Kassel, ACE

Historic Spaces: Purposes and Potential

Location: Siena Hall 220

Moderator: Bruce Eelman, History Department

Presenters: **Nora C. Collins and Ino M. Bus:** "The Myers Residence and the Underground Railroad"

Jonathan C. Burns and Elizabeth S. Cullinan: "Ten Broeck Mansion"

Rachel Murphy and Dante S. D'Ambro: "Albany Rural Cemetery"

The Power of Seeing Art in Person: Museum Visits in Spanish 400

Location: Rosetti Hall 226

Moderator: Marcella Garces, Modern Languages and Classics Department

Universal Health Care in Kenya I: MBA Presentation to Kenyan Officials

Location: Standish Library, Room L26

Moderator: Jessica Salmon, Management Department

Faculty Development - Student Evaluations: What do They Mean?

Location: Standish Library, Room L02

Moderator: COTFD

Health Care

Location: Sarazen Student Union, Molinari Room

Moderator: Erik Eddy, Management Department

USNA Leadership Conference

Location: Siena Hall 308

Moderator: Frederick J. DeCasperis, Management Department

Sociology Capstone Presentation I

Location: Rosetti Hall, Room 120

Moderator: Suvarna Cherukuri, Sociology Department

Advanced Laboratory II in Physics

Location: Roger Bacon Hall, Room 136

Moderator: Graziano Vernizzi, Physics and Astronomy Department

(Exhibits below run all day from 8:30AM to 8:00PM)

Exhibition: Student Capstone Projects and Selections from the Juried Student Art Show

Location: Foy Hall, Inner Lobby

Moderator: Denise Massman and Scott N. Foster, Creative Arts Department

Exhibition: Student Capstone Projects

Location: Foy Hall, Rooms 102, 107

Moderator: Denise Massman, Creative Arts Department

Exhibition: Franciscan Texts Illuminated

Location: Foy Hall, Inner Lobby

Moderator: Scott N. Foster, Creative Arts Department

Exhibition: Selected Works from Studio Art Class

Location: Foy Hall Basement

Moderator: Scott N. Foster, Creative Arts Department

Academic Showcase 2019
Concurrent Sessions
9:30AM-10:30AM

Session I of First Year Seminar Conference

Siena Hall - 105, 106, 119, 121, 123

See Available Program at Location

Building Bridges: An International Dialogue

Location: Sarazen Student Union, Room 243

Moderator: Br. Brian Belanger, Director, International Programs

ACE Community Engagement Talks

Location: Roger Bacon Hall, Room 202

Moderator: Ruth Kassel, ACE

Economics and Finance

Location: Siena Hall 308

Moderator: Aaron Pacitti, Economics Department

Community and Public Health

Location: Rosetti Hall, Room 226

Moderator: Daniel White, Director Health Professions and Health Studies

Universal Healthcare in Kenya II: MBA Presentations to Kenyan Officials

Location: Standish Library, Room L26

Moderator: Jessica Salmon, Management Department

Faculty Development: Pedagogy Speed Round

Location: Standish Library, Room, L02

Moderator: COTFD

Modern Languages and Classics

Location: Sarazen Student Union, Molinari Room

Moderator: Lisette V. Balabarca-Fataccioli, Modern Languages and Classics Department

Undergraduate Research at the Frontiers of Chemistry and Biochemistry

Location: Roger Bacon Hall, Room 226

Moderator: Erin Kolonko and Kevin Rhoads, Chemistry and Biochemistry Department



Academic Showcase 2019
Concurrent Sessions
9:30AM-10:30AM
(continued)

Sociology Capstone Presentations II

Location: Rosetti Hall 120

Moderator: Suvarna Cherukuri, Sociology Department

Phi Alpha Theta Honor Society Inductions

Location: Kiernan Hall 121

Moderator: Wendy Pojmann, History Department

Advanced Laboratory II in Physics - Session II

Location: Roger Bacon Hall, Room 136

Moderator: Graziano Vernizzi, Physics and Astronomy Department

Actuarial Sciences

Location: Siena Hall 328

Moderator: John O'Neill, Business Analytics and Actuarial Science, Mathematics Department

Laramie Project Readings

Location: Beaudoin Theatre, Foy Hall

Moderator: David Girard, Creative Arts Department

Egg Tempera Workshop

Location: Foy Hall, Room 105

Moderator: Scott N. Foster, Creative Arts Department

Ideation: Brick and Mortar 2.0

Location: Siena Hall 224

Moderator: Michael J. Hickey, Director of Stack Center

(Exhibits below run all day from 8:30AM to 8:00PM)

Exhibition: Student Capstone Projects and Selections from the Juried Student Art Show

Location: Foy Hall, Inner Lobby

Moderator: Denise Massman and Scott N. Foster, Creative Arts Department

Exhibition: Student Capstone Projects

Location: Foy Hall, Room 102, 107

Moderator: Denise Massman, Creative Arts Department

Exhibition: Franciscan Texts Illuminated

Location: Foy Hall Inner Lobby

Moderator: Scott N. Foster, Creative Arts Department

Exhibition: Selected Works from Studio Art Class

Location: Foy Hall Basement

Moderator: Scott N. Foster, Creative Arts Department

Academic Showcase 2019
Concurrent Sessions
11:00AM-1:00PM

POSTER-PROJECT SESSION
Marcelle Athletic Complex
Abstracts on Pages 5-50



(Exhibits below run all day from 8:30AM to 8:00PM)

Exhibition: Student Capstone Projects and Selections from the Juried Student Art Show

Location: Foy Hall, Inner Lobby

Moderator: Denise Massman and Scott N. Foster, Creative Arts Department

Exhibition: Student Capstone Projects

Location: Foy Hall, Room 102, 107

Moderator: Denise Massman, Creative Arts Department

Exhibition: Franciscan Texts Illuminated

Location: Foy Hall Inner Lobby

Moderator: Scott N. Foster, Creative Arts Department

Exhibition: Selected Works from Studio Art Class

Location: Foy Hall Basement

Moderator: Scott N. Foster, Creative Arts Department

Academic Showcase 2019
Concurrent Sessions
1:30PM-2:30PM

Session II of First Year Seminar Conference

Siena Hall - 105, 106, 119, 121, 123

See Available Program at Location

Science Fiction I

Location: Siena Hall 120

Moderator: Stacey Dearing, Teaching Assistant, English Department

Presenters:

Sam L King: "The Ethics of Time Travel"

Oluwatosin O. Oluyede: "An Exploration of Population Control"

Joseph M. Sweeney: "The Last Question: An Inquiry inot the Mechanical God"

Data Science/Machine Learning

Location: Siena Hall 224

Moderator: Daniel Ditursi, Computer Science Department

Science to the People

Location: Standish Library, Room L26

Moderator: Nora Boyd, Philosophy Department

2D and 3D Graphics Demonstrations

Location: Roger Bacon Hall, Room 328

Moderator: Robin Flatland, Computer Science Department

Accounting

Location: Siena Hall, Room 308

Moderator: Erik Eddy, Management Department

Political Science Alumni Mixer Event

Location: Sarazen Student Union, Room 241 - 1:30PM to 3:00PM

Moderator: Laurie Naranch, Political Science Department

Addiction-Methadone Treatments

Location: Rosetti Hall, Room 226

Moderator: Karen Boswell, Psychology Department

Delta Epsilon Sigma Induction Ceremony

Location: The Norm - 2:15PM-2:45PM

Moderator: Tom Dickens, Religious Studies Department



Academic Showcase 2019
Concurrent Sessions
1:30PM-2:30PM
(continued)

Chemistry in the News: Climate Change

Location: Roger Bacon Hall 226

Moderator: Davis Wos, Lecturer in Chemistry and Biochemistry Department

Presenters:

Priya Nair and Andrew J. Kwok: “Polar Bear Population Increasing”

Michael D. Spadaro, Alexander J. Witterschein and George R. Brockman: “Decreasing Population in Polar Bears”

Alexandria J. Plouman and Bridget M. Sands: “Best U-tube and Discussion for Climate Change”

Michael E. Spadaro: “Climate Change in Winter Sports and Snowmobiling”

Olivia R. Dellanno and Jillian Pickens: “Plastics Effect on Climate Change”

Michael J. Scott and Samuele E. Kurathowski: “Climate Change and Sea Levels”

Under Graduate Research at the Frontiers of Biology

Location: Roger Bacon Hall, Room 202

Moderator: Christopher Harbison, Biology Department

Sociology Capstone Presentation III

Location: Rosetti Hall, Room 120

Moderator: Suvarna Cherukuri, Sociology Department

National Society of Leadership and Success Induction Ceremony

Location: Sarazen Student Union, Molinari Room

Moderator: Christa Grant, Director, Damietta Cross Cultural Center

Yours for the Oppressed Readings

Location: Beaudoin Theatre, Fall Hall

Moderator: Krysta Dennis, Creative Arts Department

(Exhibits below run all day from 8:30AM to 8:00PM)

Exhibition: Student Capstone Projects and Selections from the Juried Student Art Show

Location: Foy Hall, Inner Lobby

Moderator: Denise Massman and Scott N. Foster, Creative Arts Department

Exhibition: Student Capstone Projects

Location: Foy Hall, Room 102, 107

Moderator: Denise Massman, Creative Arts Department

Exhibition: Franciscan Texts Illuminated

Location: Foy Hall Inner Lobby

Moderator: Scott N. Foster, Creative Arts Department

Exhibition: Selected Works from Studio Art Class

Location: Foy Hall Basement

Moderator: Scott N. Foster, Creative Arts Department

Academic Showcase 2019
Concurrent Sessions
2:30PM-3:30PM
(continued)

Session III of First Year Seminar Conference

Siena Hall - 105, 106, 119, 121, 123

See Available Program at Location

Science Fiction II

Location: Siena Hall 220

Moderator: Stacey Dearing, Teaching Assistant, English Department

Presenters:

Zoe A. Buscareno: “Mechanopolis: Machines Replacing Humanity”

Antonio L. Spadaro: “Artificial Intelligence, the Spectacle of Progress”

Pi Gamma Mu Honor Society Induction (3:00-3:45)

Location: Siena Hall 308

Moderator: Vera Eccarius-Kelly, Political Science Department

Business Analytics

Location: Siena Hall 224

Moderator: Joseph P. McCollum, Business Analytics and Actuarial Science

Mentor: Manimoy Paul, Business Analytics and Actuarial Science Department

Presenters:

Erma Ljubijankic and Nikolas J. Boesenberg: “Factors Affecting Severity and Fatality of Automobile Accidents in the USA”

Steven M. Simboli, Jeffrey M. Kebart, and Hannah S. Hurley: “Investigating the Factors Affecting Smoking e-Cigarettes and Cigarettes in the USA”

Sierra L. Juneau and David W. LeBlang: “Quality and Performance of Ambulance Diversions and Factors Affecting It”

Elizabeth M. Glusko and Paul F. Liguori: “What Makes a Super Bowl Commercial Successful”

Map-Based Algorithm Visualization and Analysis

Location: Roger Bacon Hall 340

Moderator: James D. Teresco, Computer Science Department

Career Preparedness: Student/Employer Panel

Location: Sarazen Student Union 243

Moderator: Alicia T. Pepe, Director of Internships

Diversity in Society

Location: Siena Hall 217

Moderator: Daniel Lewis, Political Science Department

Engaged Research in Gender Studies

Location: Sarazen Student Union, Molinari Room

Moderator: Beth A. DeAngelis, Director of the Women’s Center and Laurie Naranch, Political Science

Academic Showcase 2019
Concurrent Sessions
2:30PM-3:30PM
(continued)

A Microbial World: Microbes in the Lab, the Environment, and in Disease

Location: Roger Bacon Hall, Room 122

Moderator: Anna McLoon, Biology Department

Presenters:

Kyle T. Brugmann: “Fat vs. Fungus: Susceptibility of *C. Albicans* Biofilms to Medium-Chain Fatty Acids”

Amanda R. Buck: “Decreased Biofilm Complexity in a Strain of *Bacillus Subtillis* isolated after Extended Laboratory Culture”

Veda L. Chandwani: “A Mathematical Model Evaluating the Cost-Effectiveness of a ‘Gut-Microbiota’ Malaria Intervention”

Sean R. Jones: “Finding Natural Plant-Derived Antibiotics”

Erica J. Perrea: “Bacterial Contamination in the Patroon Creek Watershed”

Undergraduate Research at the Frontiers of Physics and Astronomy

Location: Roger Bacon Hall 202

Moderator: Rose A. Finn, Physics Department

Sociology Capstone Presentations IV

Location: Rosetti Hall 120

Moderator: Suvarna, Cherukuri, Sociology Department

Basics of Singing Coffee House

Location: Foy Hall, Room 107

Moderator: Timothy J. Reno, Creative Arts Department

(Exhibits below run all day from 8:30AM to 8:00PM)

Exhibition: Student Capstone Projects and Selections from the Juried Student Art Show

Location: Foy Hall, Inner Lobby

Moderator: Denise Massman and Scott N. Foster, Creative Arts Department

Exhibition: Student Capstone Projects

Location: Foy Hall, Room 102, 107

Moderator: Denise Massman, Creative Arts Department

Exhibition: Franciscan Texts Illuminated

Location: Foy Hall Inner Lobby

Moderator: Scott N. Foster, Creative Arts Department

Exhibition: Selected Works from Studio Art Class

Location: Foy Hall Basement

Moderator: Scott N. Foster, Creative Arts Department

Academic Showcase 2019
Concurrent Sessions
3:30PM-4:30PM

Session IV of First Year Seminar Conference

Siena Hall - 105, 106, 119, 121, 123

See Available Program at Location

Student Life Awards Ceremony (3:45-5:00)

Location: The Norm, Lonnstrom Dining Hall

Moderator: Student Life, Student Activities Staff

Conspiracy Theories

Location: Siena Hall 220

Moderator: Stacey Dearing, Teaching Assistant, English Department

Presenters:

Dakota J. Jackson: “The Hidden Agenda”

Cheyenne C. Lufkin: “Conspiracy Theories: Is Democracy at Risk”

Kristen E. Burger: “Conspiracy Theories: Harmless or Powerful Agent to Extremist Groups”

Phi Sigma Tau Honor Society Induction (3:30-4:00)

Location: Boland Room, Fr. Benjamin Kuhn Alumni House

Moderator: John Burkey, Philosophy Department

Career Preparedness: NACE Competencies

Location: Sarazen Student Union, Room 243

Moderator: Debra DelBelso, Career Education and Professional Development

Alpha Mu Gamma Honor Society Induction (4:00-4:30)

Location: Boland Room, Fr. Benjamin Kuhn Alumni House

Moderator: Carolyn Malloy-Madrid, Modern Languages & Classics Department



Alpha Kappa Delta Honor Society Induction (4:00-4:30)

Location: Rosetti Hall - Sociology Commons Area

Moderator: Beverly J. Yuen Thompson, Sociology Department



Pi Sigma Alpha Honor Society Inductions (4:10-4:20)

Location: Siena Hall 218

Moderator: Leonard M. Cutler, Political Science Department

Phi Alpha Delta Honor Society Induction (4:20-4:30)

Location: Siena Hall 218

Moderator: Leonard M. Cutler, Pre-Law Advisor



KCACTF Scenes

Location: Beaudoin Theatre, Foy Hall

Moderator: Krysta A. Dennis, Creative Arts Department

Genetics and Genomics at Siena College

Location: Roger Bacon Hall, Room 202

Moderator: Thomas Giarla and Rachel E. Sterne-Marr, Biology Department

Academic Showcase 2019
Concurrent Sessions
4:30-5:30PM

Session V of First Year Seminar Conference

Siena Hall - 105, 106, 119, 121, 123

See Available Program at Location

Sigma Tau Delta Honor Society Inductions (4:30-5:00)

Location: Boland Room, Fr. Benjamin Kuhn, Alumni House

Moderator: Chingyen Y. Mayer, English Department



Beta Gamma Sigma Honor Society Inductions (5:00-5:45)

Location: Roger Bacon Hall, Room 202

Moderators: Jessica R. Salmon and Paul W. Thurston, Management Department



Kappa Delta Pi Honor Society Induction (5:45-6:15)

Location: Boland Room, Fr. Benjamin Kuhn, Alumni House

Moderator: Mark R. Jury, Education Department



ACE Service Celebration (4:30-6:30)

Location: Sarazen Student Union, Room 240

Moderator: Ruth Kassel, ACE

Phi Sigma Gamma Sigma Honor Society Inductions - (4:45)

Location: Patricia Brown Lounge, Morrell Science Center

Moderator: Rachel E. Sterne-Marr, Biology Department



Psi Chi Honor Society Inductions (5:00-5:30)

Location: Boland Room, Fr. Benjamin Kuhn, Alumni House

Moderator: Dean Amadio, Psychology Department

(Exhibits below run all day from 8:30AM to 8:00PM)

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Location: Foy Hall, Inner Lobby

Moderator: Denise Massman and Scott N. Foster, Creative Arts Department

Exhibition: Student Capstone Projects

Location: Foy Hall, Room 102, 107

Moderator: Denise Massman, Creative Arts Department

Exhibition: Franciscan Texts Illuminated

Location: Foy Hall Inner Lobby

Moderator: Scott N. Foster, Creative Arts Department

Exhibition: Selected Works from Studio Art Class

Location: Foy Hall Basement

Moderator: Scott N. Foster, Creative Arts Department

Acknowledgements

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