20th Annual Berks County Undergraduate Research and Creativity Conference

Saturday, April 27, 2019

Hosted by:

Alvernia University
Kutztown University
Higher Education Council of Berks County
Dear Students, Faculty and Guests,

Welcome to our Higher Education Council of Berks County (HECBC) partners, Albright College, Alvernia University, Kutztown University and Pennsylvania State University, to Reading Area Community College’s beautiful campus. We are so excited to host you for the 20th Annual Berks County Undergraduate Research and Creativity Conference.

Today, nearly 300 undergraduates will present their academic and creative work through posters, paper presentations, and performances. I want to thank the faculty Mentors who encouraged students to be part of a very important experience in their academic lives: a multidisciplinary undergraduate conference.

Our organizing committee has planned a day for you to enjoy Reading Area Community College’s campus. Our Keynote Speaker is Dr. Heidi Devlin Berg, and her address will be held in the Miller Center for the Arts. The Miller Center will also be where students’ artistic work will be on display. While in the Miller Center, take in the remarkable Sky Well Falls, a tile sculpture created by noted artist Dr. Wayne Higby. Poster sessions and lunch will be in the Schmidt Training and Technology Center (STTC), where RACC’s manufacturing labs and new chemistry and physics labs are located. Lastly, most of the paper presentations are located in classrooms in our newly-rededicated Weitz Hall.

I hope this day is a memorable college experience for you. Please take the time to meet people, share ideas, and ask questions. I hope you grow as a conference presenter today and return to the final weeks of your spring semester energized about your academic work. Students are the reason I come to work every day, and I am so honored to have RACC host this conference so that you can share your work with the Berks County Community.

All the best,

Susan Looney, J.D., Ed.D.
President, Reading Area Community College
Heidi Devlin Berg represents the transformative power of higher education for the non-traditional student. Her journey has taken her from working as a cook in an Italian restaurant to graduating with Honors with an Associate's Degree in Biology from Reading Area Community College, followed by earning a Bachelor's Degree in Biology from Albright, also with Honors. Berg was invited back to RACC and to Albright as an alum to give Commencement Addresses at both institutions.

Berg continued with graduate studies and was one of only four accepted to a doctorate program in Cell and Molecular Biology at Penn State Hershey Medical Center, where she worked in the Jake Gittlen Cancer Research Institute.

Her thesis work involved studies detailing the design and implementation of a specific enzyme to learn more about its function in melanoma, a deadly form of skin cancer. She received a grant as a graduate student for this study.

Her post-doctoral work was also in the field of cancer research, first in looking at preventing cancer from viral sources such as HPV (Human Papilloma Virus, a major cause of cervical cancer) as well as HBV (Hepatitis B Virus, which is associated with liver cancer). Her second post-doctoral appointment involved research related to testosterone and prostate cancer.

Berg started teaching as an adjunct at Harrisburg Area Community College (HACC), Lebanon in 2004 and was hired as a full-time professor in 2008. She teaches Anatomy and Physiology, Microbiology and Human Biology. She has also taught as an adjunct at Penn State Harrisburg as well as Lebanon Valley College.

In addition to her academic achievements, Berg has a wide range of other interests and achievements, namely cooking, travel and photography. She loves to cook and has won scores of ribbons at local fairs, and in 1996, she was one of 75 winners in North America in the "Spirit of Betty Crocker" contest to celebrate the 75th year of Betty Crocker. She loves to travel also and has traveled extensively in the Caribbean, in Mexico, in Canada, and in Europe as well as in 35 of the 50 states. A third passion is photography, where she has also achieved success. She has won ribbons in fairs and currently has photographs hanging in the hallways of the Lebanon Campus of HACC.
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### Paper Session 1
8:30 a.m. – 9:30 a.m. Weitz Hall
- Business Room 213
- Social Sciences Room 214
- Humanities Room 216
- Education Room 217
- Science Room 226
- Political Science Room 228

### Paper Session 2
9:45 a.m. – 10:45 a.m. Weitz Hall
- Literature Room 213
- Business Room 214
- History Room 216
- Humanities Room 217
- Science Room 226

### Paper Session 3
12:15 p.m. – 1:15 p.m. Weitz Hall
- Math Room 213
- Health Room 214
- Humanities Room 216
- Social Sciences Room 217
- Political Science Room 226

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### Poster Session 1
8:30 a.m. - 9:30 a.m. Schmidt TTC lobby
- Social Sciences

### Poster Session 2
9:45 a.m. - 10:45 a.m. Schmidt TTC lobby
- Psychology and Health Professions

### Poster Session 3
12:15 p.m. - 1:15 p.m. Schmidt TTC lobby
- STEM and Business
“Class and American Economics”
Jonathan Ruiz, Albright College
Faculty Mentor: Dr. Teresa Gilliams
In “Class and American Economics,” I advance the position that the “American Dream” is a social construct that inhibits inclusivity and sustained economic growth among “Others” in America. Central to my argument is my analysis of Toni Morrison’s Playing in the Dark, Lorraine Hansberry’s A Raisin in the Sun and Arthur Miller’s Death of a Salesman all of which present the peculiarities of the American Dream and its elusive allure among its unintended targets—nonwhite, working class strivers who long to achieve, above all else, financial prosperity. To the extent that the American Dream is built on tales of luck and serendipity, I wish to present a paper that examines the assimilating effect(s) of American Dream tales and the debilitating, psychologically detrimental outcomes of such tales in Hansberry’s and Miller’s plays when power

“Studying the Feasibility of Launching a Digital Wallet Product in Greece”
Alexandra Papoutsis, Albright College
Faculty Mentor: Professor Jayanthi Rajan
Digital wallets are a means of financial convenience in today’s technology efficient world. A digital wallet can be used as an alternative to physical money, making any transaction process quick, easy, and secure. In the past, digital wallets were questioned for their security due to their novelty. Now, digital wallets have been proven to carry less risk for the consumer, as encryption technology has advanced and become similar to that of a chip card. Our research analyzes the feasibility of launching a digital wallet in Greece, a country that appears at face value to have little capability of utilizing such products, due to their high economic instability. The following research takes into account culture, economics, and market information to evaluate a proposed international market investment, bringing Venmo to Greece. Data comes from both primary and secondary sources, including but not limited to the Central Intelligence Agency, the International Trade Administration, The New York Times, Hofstede Insights, The World Factbook, and natural Greek citizens. The findings of this study will provide insights to brands in the digital wallet industry and investors looking to provide a digital wallet to a growing economy.

“Can It Keep Growing? A Historical & Prospective Analysis of The Home Depot, Inc.”
Danielle DeCindio, Kutztown University
Faculty Mentor: Dr. Mostafa Maksy
The Home Depot, Inc. operates as a home improvement retailer. It sells, in its stores as well as online, building materials, home improvement, lawn and garden, and décor products, as well as provide
installation, home maintenance, and professional service programs to do-it-yourself and professional customers. In addition, it offers installation programs that include flooring, cabinets, countertops, water heaters, sheds, roofing, siding, windows, cabinet refacing, furnaces, and central air systems. It also acts as a contractor to provide installation services to its do-it-for-me customers through third-party installers. In addition, it provides tool and equipment rental services. Its customers include home owners, professional renovators/remodelers, general contractors, handymen, property managers, building service contractors, and installers. It operates almost 2,600 stores in the United States, Puerto Rico, U.S. Virgin Islands, Guam, Canada, and Mexico. The company was founded in 1978 and is based in Atlanta, Georgia. Over the last five years, the company’s stock price increased by an average of 20% per year. The objective of my research is to determine whether Home Depot can continue to grow and be an excellent, stable long-term investment.

“Beach Community Representation in Commercial Media”
McKenzie Derby and Carolyn Cortes, Albright College
Faculty Mentor: Dr. Kennon Rice
This project attempts to fill the void in literature about beach communities and their commercial narrative. The examination of different media’s such as Instagram, post cards, slogans, and logos for the six ideal types exclusive, theme park, resource based, ecologically preserved, and historic that were previously identified in others research. These six ideal types were used with our community lists, we examined the extent to which the commercial narrative was accurate and what that meant for those communities. Using the 115 variables coding and later analyzing each community for how the space is socially constructed. With this analysis the understanding of the socially constructed beach space can be understood, and those implications of the space can be explained.

Social Sciences 1 – Room 214
Moderator: Carol Bean-Ritter, Professor, Social Sciences and Human Services Division

“Examining the Effects of Positive Reinforcement and Positive Punishment on Adult Adaptive Behavior”
Alexis Maldonado, Kutztown University
Faculty Mentor: Dr. Christopher Bloh
Adaptive behavior refers to an array of skills that allow individuals to effectively interact with their environment and others. Positive reinforcement is a popular intervention to promote such skills. The current study investigated the effects of utilizing both positive reinforcement and positive punishment procedures to improve the adaptive behavior of a twenty-one year old college student. A specific organizational skill was targeted by implementing post-it notes corresponding to each procedure depending on the presence or absence of the behavior. Results demonstrated the effectiveness of utilizing both positive reinforcement and positive punishment and suggest the potential for use in other settings.

"I'm Just Trying to Keep Everyone Fed:" Working Mothers in the Academy"
Kathleen Elicker and Michaela Yurchak, Kutztown University
Faculty Mentor: Dr. Angela Cirucci
This study examines how mothers experience academia and their suggestions for ending workplace discrimination against mothers. Female professors who have children often struggle with balancing these roles due to various circumstances. In this study, 10 professors were interviewed about their experiences with motherhood at the university level. After employing thematic analysis, several themes emerged. The results suggest that while this sample of mothers experienced academia differently, commonalities occurred. We found similarities in the way participants discussed unclear university policies regarding children and life being a balancing act for them. Common solutions were also found including paid caregiving leave and resources for academic mothers. As universities work toward gender equality, the results of this study should be kept in mind to benefit academic mothers.

“Resilient Resumes Web Application”
Amie Croteau, Bryan Cruz Ulloa, Ian Morrissey, and Ethan Adams, Penn State Berks
Faculty Mentor: Dr. Abdullah Konak
Looking for a job is a task all college students face during or after attending school. In order to dazzle a recruiter or manager, a student must have an impressive resume to even get in front of the person making the hiring decisions. On campus, a student may receive several different recommendations from career counselors, advisers, and professors. There is a clear need for a concise resume review experience for students. The solution would be the creation of a resume recommendation system that reviews the features of the students’ resumes. Resilient Resumes will review the features of the students’ resume and make recommendations to improve these features using an artificial intelligence system trained by the data collected from the Penn State Alumni Network, career services advisers, professors, and successful resume samples. Resilient Resumes will be a place for a naive student who doesn’t know what to put in a resume and the seasoned student who is refining their resume. It provides a more polished product for both the student and career services department to work hand in hand to better the student’s chances at landing a job.

Humanities 1 – Room 216
Moderator: Kim Stahler, Instruction/Reference Librarian, The Yocum Library

“The Office: A Content Analysis of the Use of Humor to Address Race, Class and Gender”
Ifeoluwa Ogunyinka and Kayla Frison, Penn State Berks
Faculty Mentor: Dr. Cheryl Nicholas
Humor and comedy in everyday life is often influenced by the media. Popular television programs in particular use humor to address important social issues, such as race, class, and gender. While most people might claim that laughing at racially, sexually or class-based charged jokes do not make them racist or misogynistic, studies show that jokes like these support unfavorable stereotypes. Humor is a potent mechanism as it appeals to a viewer’s sense of superiority and belonging. This study analyzes humor in key episodes of NBC’s The Office, a show known for its popularity and unapologetic portrayal of important social issues. McCombs and Shaw’s Agenda Setting Theory is used to explain how the media influences Western audiences’ perceptions about race, class, and gender in familiar settings like an office. Using content analysis, this study details the aggregate of jokes about race, class and gender featured in Seasons one and seven of The Office, when the character Michael Scott is first introduced and when he exits. Michael Scott is the catalyst for key narrative tropes in the show. A qualitative
analysis is also incorporated to show overarching themes in how jokes about race, class, and gender are used.

“Gender Representation in Disney Films”
Bethany Kennedy and Lauren Kirby, Penn State Berks
Faculty Mentor: Dr. Cheryl Nicholas
This study evaluates typical gender roles and stereotypes in current Disney movies. The Disney Corporation is one of the most widely recognized and largest media companies worldwide, focusing on children’s media. Children tend to construct their behaviors in society based on influences they receive from media/pop culture. Disney is instrumental in shaping children's perceptions of a variety of topics, especially gender. This study quantitatively and qualitatively analyzes two popular Disney animation-films from 2015-2016: Moana and Inside-Out. These animations were selected due to their box office appeal and their strategic use of a female protagonist. Previous research shows that animated Disney films have allowed males to aggressively dominate air and speech time while portraying female characters to be helpless and in need of assistance. This study builds on earlier studies that focus on male-female dialogue and gender representation in Disney films and questions if problematic gender representations persist in current Disney animations.

“Liberation from Fear: Institutional Racism and the African American Home”
Jennifer Heydt, Albright College
Faculty Mentor: Dr. Teresa Gilliams
This paper will be investigating instances of personal and institutional systems of fear as they intersect with the discourse of the African American household. As the literary texts vary in genre, gender, and time, personal testimony concludes that despite legal emancipation and the enactment of civil rights, the United States fails to institutionally liberate its African American citizens from violence and fear. James Baldwin’s The Fire Next Time, Ta-Nehisi Coates’ Between the World and Me, Toni Morrison’s Beloved, Thomas Chatterton Williams’ Losing My Cool: How a Father's Love and 15,000 Books Beat Hip-Hop Culture, and Malcolm X’s The Autobiography of Malcolm X inform this analysis through the inspection of slavery, “emancipation”, institutional racism, mass incarceration, and violence within the family as a reaction to fear. The texts make it apparent that policing the black body is an American value which has evolved throughout history, a value that has not changed despite the legal liberation of African American people. As the violence and policing of the African American body is unpacked, this paper will also uncover the necessity for institutional change and dismantling of racially oppressive systems within the American landscape.

“Voices of the Unheard”
Merkelly Panghulan, Darleynne Espinosa, and Salamatu Mansaray, Reading Area Community College
Faculty Mentor: Dr. Bahar Diken
This presentation brings together three unique bicultural voices to offer insight into the challenges faced in American society by those from non-mainstream ethnic backgrounds. The first speaker, by sharing her experience as a foreign-born immigrant, will discuss the conflict between long-held African traditions embedded in extended family networks that encourage absolute loyalty and those of mainstream American culture that place emphasis on the individual. The second speaker, through her own story, will demonstrate how relations between parents and native-born children in Asian-American families are often characterized by bicultural conflicts. The third speaker, whose parents came from Columbia over
thirty years ago, will share her dream to have a brighter future—to have “privilege”: “We grow up seeing privilege and not knowing how it feels, we work for it.”

**Education – Room 217**

**Moderator: Robin Eckert, Associate Dean, Social Sciences and Human Services**

“Golden Scholar”
Brandon Cressley and James Steffen, Kutztown University
Faculty Mentor: Professor Donna DeMarco

Our project, Golden Scholar, is an application based upon the idea of gamification. Gamification is defined by us as the use of video game techniques and the reward pathway to encourage engagement in a process. In our presentation, we will show how this concept can be used to benefit students at the college level, specifically first-year students who may not be well equipped for the drastic transition from high school to college. This specific theory will be demonstrated through Golden Scholar, a study gamification Web application. Through our paper and presentation, we will outline the features of our application, show the benefits that it may have in regards to helping college-level students develop better studying habits, and describe the legacy project that we hope will allow this application to continue to grow and develop.

“‘Rememory’ and Its Importance in the Secondary Education System: Reading Beyond the Fancy Talk”
Tonia Deacon-Bradnock, Albright College
Faculty Mentor: Dr. Teresa Gilliams

This paper uses Toni Morrison’s “rememory” process and what Colson Whitehead calls “fancy talk to hide things” to critique the pedagogical practices that attest to how deeply engraved whiteness is in the curriculum that is taught at the Secondary education level. Specifically, this paper discusses how the Secondary education system reinforces the principles of whiteness through its exclusion of minority voices from its exploration of the literary canon studied at this level and its penchant for teaching the “re-written” history that informs the American master narrative.

“Redefining the Roles of Master and Apprentice: Crossing the Threshold through the Co-Creation of a First-Year Seminar”
Joseph Holowko, Albright College
Faculty Mentor: Dr. Elizabeth Kiester

Students as Partners is an innovative approach to higher education that seeks to redefine both student and faculty roles and expectations on college campuses through the creation of equitable and inclusive partnerships in a variety of ways. This paper details our research in the co-creation of the curriculum for an undergraduate first-year seminar. It describes our journey from conceptualization to assessment of the course including creating the class, administering it for first-year students in the fall of 2018, and evaluating how successful the course was based on both our own perspectives as well as student course feedback. Findings suggest that both partners had a transformative experience in which they crossed a threshold, creating new expectations surrounding roles and relationships for future student-faculty partnerships. Additionally, the students enrolled in the course provided feedback about their perceived successfulness of the co-created curriculum and overall course experience based on our collaborative efforts.
“Word Study: An Alternative to Traditional Spelling”
Zachary Reitnauer, Kutztown University
Faculty Mentor: Dr. Carol Watson
The purpose of this project was to look at the use of Word Study in a modern classroom in place of traditional spelling lists and procedures. Instead of weekly spelling tests of 20 words, Word Study uses flexible (testing when ready) groups and focuses on word recognition, vocabulary, and phonetics in addition to spelling. This research focused on the process of testing and splitting the students into their flexible groups with ideas of how to move forward with instruction through planned activities.

Science 1 – Room 226
Moderator: Tricia Lewis, Assistant Professor, STEM Division

“The Plastic Paradox: Designing Sustainable Polymers in Response to the Global Plastic Epidemic”
Jane Mahoney and Joseph Horst, Reading Area Community College
Faculty Mentor: Professor Patricia Mejabi
Plastic products are a staple of our lives, from food containers and shopping bags to clothing and electronics. Unfortunately the explosion of plastics production over the past 70 years, to the tune of 400 million metric tons being manufactured every year, has resulted in a cascade of environmental consequences. On land, these materials break down into their smallest building blocks, which are released into the atmosphere as greenhouse gases; in water, plastics become mobile magnets for heavy metals and microorganisms. Our research has focused on defining the current scope of the plastic problem, and proposing several more eco-conscious and biodegradable alternatives to current, unsustainable polymers. We have also highlighted several potential barriers to adopting these alternative plastics on a larger scale.

“Lead Poisoning”
Natalie Cascino and Kyle Kiehl, Reading Area Community College
Faculty Mentor: Dr. Patricia Mejabi
Lead is a naturally-occurring “heavy” metal, found in all parts of Earth’s crust. It is often found in lead-based paint, piping, and imported products such as seasonings and wrapped candies. Being a heavy metal, lead buildup in the body can lead to lead poisoning, a silent killer which can affect every system of the body. Our research studies the effects of increased lead in the body. High levels of lead can cause a heart attack or stroke. In the brain, lead hijacks the role of calcium in children, resulting in anemia, severe stomach ache and muscle weakness. This is of particular importance because it affects over four million households where children living in them are exposed to high levels of lead. Children are especially vulnerable as their symptoms may not be easily identifiable. We present an overview of lead poisoning, signs and symptoms, as well as preventive measures such as blood testing.

“Molecular Shape in Drug Design”
Samantha Wronowski and Bethany Francis, Reading Area Community College
Faculty Mentor: Professor Patricia Mejabi
Molecular shape and the modification of molecules are important implications in drug design. Differences in shapes of molecules understood by the Valence Shell Electron Pair Repulsion (VSEPR)
theory, resonance structures, and isomerism can cause unique molecules to behave differently than anticipated after entering the body. Drugs work in our bodies by binding to proteins in the cell wall or membrane of the neuron, which causes a biochemical signal to be sent to the brain. This biochemical signal sent to the brain tells the body how to respond, whether it is to feel pain or euphoria. For example, medical versus recreational drugs all have varying effects on the body due to their ability to mimic natural agonists— they bind to receptors like a lock and key. Different medicinal drugs such as aspirin versus recreational drugs such as LSD (lysergic acid dimethylamide) function differently within the human body, depending on their size, function, and bonding affinity to the receptors. The presentation will outline these chemical differences, while explaining resulting biological aspects through use of a PowerPoint presentation with visual references.

“Investigating the Interior of a Metal-Organic Framework with Fluorescence Spectroscopy”
Story Temen, Kutztown University
Faculty Mentor: Dr. Thomas Betts
Metal-organic frameworks (MOFs) are porous materials involving a combination of metal ions and organic ligands in a 2- or 3-dimensional framework. MOFs could provide alternatives to traditional approaches to purification, chemical sensors, catalysts, and gas storage. In this work, ruthenium tris(bipyridine) (Ru(bpy)3) was embedded within MOF-5. Ru(bpy)3 is a well characterized fluorophore, but its behavior when inside a metal-organic framework is not as well understood. The aim of this study was to use both steady-state and time-resolved fluorescence spectroscopy to understand how being embedded inside MOF-5 changes the fluorescence characteristics of Ru(bpy)3. The fluorescence of Ru(bpy)3 in various solvents was compared to the fluorescence of Ru(bpy)3 in MOF-5 in order to gain insight into the environment inside the metal-organic framework.

Political Science 1 – Room 228
Moderator: Cynthia Seaman, Senior Vice President of Academic Affairs/Provost

“International Relations of USSR & Russia with America”
Nathan Christman, Penn State Berks
Faculty Mentor: Dr. Randall Newnham
International relations between countries are paramount to global society and how nations go about their diplomatic strategies are also vital. Through comparing two nations’ relation strategies in regards to a shared separate nation it is often feasible to compare and contrast each nation’s approaches respectively in regards to their common focus. However, to compare the Soviet Union’s diplomatic relation’s approach with the United States to that of the Russian Federation’s approach, and just blandly label them similar or different would be unjust. However, by comparing each nation’s leaders chronologically and by examining their policies and stances towards the United States, will accurately prove that although both nations’ approaches were similar and often are comparable, they were varied and adapted on a leader by leader basis.

“Gay Life in the USSR and Russia Today”
Joshua Flores, Penn State Berks
Faculty Mentor: Dr. Randall Newnham
While the Soviet Union fell apart in 1991, the prejudices that reigned during its existence have continued to shape Russian thought and behavior today. The indifference homosexual men experience at the hands of Russian society, as well as by the government, serve as a key example of the persistent preconceived ideologies that have engulfed this region of the world. After analyzing legislation, media depictions, and the development of gay culture during the Soviet Union and Russia today, patterns of discrimination and intolerance become apparent. Though a period of acceptance did sweep across Russia, initiating gay visibility and warranting societal acceptance, there is evidence indicating that homophobia is one again on the rise. If the Russian government is not upheld to the promises it had made to the ECHR, it may potentially become one of the most dangerous countries in the G8 for gay men and other sexual minorities alike.

“Nature’s Law: The Impact the Wilderness Act Had on Future American Environmental Policy”
Blaze Reifsnyder, Reading Area Community College
Faculty Mentor: Professor Jodi Greene
What we now know as United States National Parks faced the threat of cultivation, and the government was under pressure to make a decision regarding their preservation. With the enactment of the Wilderness Act of 1964, the foundation for the country’s environmental policy began taking shape. In the decades following the installment of the policy, its importance has become invaluable to the current stances of the two major political parties, the environmental preservation that protects unique habitats across the United States and has facilitated a societal appreciation for the land the country was founded upon.

Poster Session 1
8:30a.m. – 9:30a.m.
Schmidt Training and Technology Center lobby

Social Sciences and Humanities
Moderator: Heather Hinkle, Assistant Professor, STEM Division

“Reduction of Gender Bias in Restaurant Environment”
Claire Sheats, Kutztown University
Faculty Mentor: Dr. Michele Baranczyk
Although women have come a long way in their fight to gain equal rights and treatment, many people still view women as the weaker sex. Many studies have been done to suggest that women are rewarded less for doing more. This study looks to see if this gap exists in the restaurant environment, with a wide range of participants. It is a replication of a previous study done for class credit in the spring 2018 semester at Kutztown University. The spring 2018 study was a replication of an Heilman & Chen 2005 study. The overall hypothesis is that men will be rewarded more than women for participating in extra behaviors not required in their job description. The sample included 134 volunteers (26 male, 104 females, and 3 trans-men). The research design was a 2x2 between-subjects factorial design. The results indicate that there was no bias in the employee analysis based on gender.
“Hey Virtual Assistants, You Can Stop Now...”
Christa Frederick, Kutztown University
Faculty Mentor: Dr. James Jackson
The purpose of this study will be to observe the differing concern levels in participants when relating to virtual assistants. Apple’s Siri, Amazon’s Alexa, Microsoft’s Cortana and other virtual assistants are becoming omnipresent. Previous research indicates that virtual assistants are susceptible to privacy invasion, but research additionally states there are levels of reliance users have gained toward virtual assistants. The implementation of virtual assistants that are creating an unavoidable presence raises concern. In this study, there will be a Virtual Assistant Experience Demographic Sheet and three separate measure. The measures will consist of an Internet Privacy Concerns Instrument, Privacy Orientation Scale, and a Perceived Privacy Protection Measure. The measures ultimately provide a score from one to three on how concerned a participant is about their privacy. No matter which group a participant is a part of, experimental or control, the demographic sheet and the measures are scored. The only difference between the groups is the control will receive no manipulation and the experimental group will receive one of two levels of manipulation.

“An Influence on Self-Perception: Celebrity Attractiveness and Number of Followers”
Jamie Camano, Albright College
Faculty Mentor: Dr. Keith Feigenson
This study focused on how viewing random stock images of regular people presented as celebrities (operationalized as higher numbers of social media followers) has an influence on the how attractive they appear. To investigate physical attractiveness in this manner, college students used a Self-Rated and Other-Rated Attractiveness Measure. We hypothesized that participants will give higher ratings of physical attractiveness to the images labeled as an influencer (i.e. amount of social media followers) indicating they are popular. Results suggested a main effect of status \([F (1, 79) = 8.411, p < .05]\), such that people with higher social media followers were seen as more attractive. It was also found a main effect of attractiveness \([F (1, 79) = 77.923, p < .05]\), such that people with lower social media followers were seen as less attractive. There was no interaction found. Our hypothesis was partially supported. Further aims of these findings are to develop a better understanding of how physical attractiveness and social media influencers impact a person’s self-perception of their own physical attractiveness.

“Hollywood’s Hidden War”
Zachary Vicario, Penn State Berks
Faculty Mentor: Dr. Cheryl Nicholas
War films are important texts that can help us better understand social and political issues pertinent to a community or country. Historically, underlying messages were used in war films by governments (with the help of filmmakers) to influence citizens. Messages of nationalism, self-pride, and putting aside differences for the larger cause were prevalent in these early films. This paper is interested in contemporary war films, specifically the film Dunkirk (2017, dir. Christopher Nolan). Dunkirk is the highest grossing World War II film to date. It has had thirty-four major film nominations, winning eight awards, including three academy awards. Rolling Stone named it “the greatest war film ever,” while Nolan said it is “not a war film... it is a survival story.” Following the trajectory of earlier research about war films, this paper uses narrative and visual analysis to explore how Dunkirk reflects contemporary
socio-political issues. Preliminary findings point to perspectives related to unification/solidarity, complex understanding of nationhood/love for country, and minority-empowerment.

“A Comparison of the Bystander Effect with Ageism”
Grace Coleman, Albright College
Faculty Mentor: Dr. Justin Couchman
The present study researched how much guilt participants felt for not helping in given situations when exposed to women of varying ages in need of help. Based on previous research about factors that influence helping behavior and the occurrence of the bystander effect, age and attractiveness of people in emergency scenarios were manipulated to test for varying amount of perceived distress of the target, personal responsibility to help the target, likelihood that another person would help, and likelihood of helping the target. Using 82 college students with a mean age of 19.6, we found that there was an age bias toward helping the older female targets rather than the younger female targets, but participants felt similar ratings of perceived responsibility for each target’s safety rather than having an age bias in one direction.

“Political Views and How They Influence Belief of Credibility”
Jazmine Levengood, Albright College
Faculty Mentor: Dr. Justin Couchman
The invention of the internet, and social media, has changed the way people consume information. Many people use social media as a source of information. Past research has investigated information-seeking behavior and the quasi-independent variable of value of credible information and have suggested that news sources are not always reliable. In my experiment, I investigated the independent variable of political stance and belief of credibility. I conducted a within-subjects experiment and showed my participants three different articles from the Associated Press. One article was labeled as being from the Associated Press, another labeled as “Fox News” a third labeled “CNN”. There were significant effects of political stance and credibility, information accuracy, and likelihood to spread the information.

“Representation of Women in Cleaning Advertisements”
Jacqueline Kemmerling, Penn State Berks
Faculty Mentor: Dr. Cheryl Nicholas
This paper examines the representation of women in modern day advertisements. It is important to study women’s representation in advertisements because advertisements are a way to reinforce societal norms. Advertisements about cleaning products from the 1950s provide good examples on how hegemonies and ideologies about gender shape public opinion about women (Cinotto, 2006); these advertisements were blatantly sexist. Using content analysis, this study examines 45 all-purpose cleaner and disinfectant advertisements of the top leading companies that sell them. Women’s representation in advertisements are analyzed based on the following criteria: a) who is represented, b) what gender is voicing the advertisement, c) if the ambiguous “you” is being used, and c) where the advertisements are taking place (private vs public). All these are important to study because cleaning and house work is historically known to be “women’s work” and it is important to look how society views these roles in a current, more progressive era.
“The Effect of Visible Tattoos on Patrons’ Comfort Levels with Blue and White Collar Professionals”
Jessica Zamora, Albright College
Faculty Mentor: Dr. Gwendolyn Seidman
The purpose of the current study is to examine the effects of visible tattoos on comfort levels of patrons with professionals in certain occupations. It was questioned if participants would be less comfortable with targets in white collared jobs with tattoos compared to blue and if the tattooed target would be rated more negative. 62 participants viewed pictures of targets with and without tattoos. They were asked to rate how comfortable they were with that target in 8 different blue and white collared occupations and to rate them on 10 personality traits. Results showed that men in white collared jobs are rated lower than in blue collared jobs. It was found that people are less comfortable with professionals with tattoos in white collared jobs than in blue. It was also found that individuals with tattoos are rated more negatively on certain personality traits.

“Page to Pattern”
Abigail Yanaway, Albright College
Faculty Mentor: Professor Paula Trimpey
This poster shows the process of designing and patterning a ball gown based on one of the costumes of a character from an animated television series. It shows the process of collecting reference images and inspiration, pulling both from the show and from history, compiling these images, and drawing the design. It also shows the process of draping the bodice and top layer of the skirt with muslin, creating a paper pattern, and creating a mock-up of the bodice. It also shows how, after making the original pattern fitted to the dress form, the mock-up skirt was made to fit the desired ballgown shape to create the final pattern for the dress.

“A Survey of School Library Organization and Genrefication in Berks County”
Guinevere Harter, Kutztown University
Faculty Mentor: Professor Roseanne Perkins
A survey was dispersed to the school librarians of Berks County to examine their library organization methods. This survey was completed by approximately one third of the county’s schools and is representative of rural, suburban, and urban schools. Library organization methods examined were Dewey Decimal Classification and Genrefication, a hot topic and a relatively new movement in the library science field. Loosely defined- genrefication is the sorting of library materials by subjects and keywords. There are many variations on this movement that need to be examined. This presentation is the culmination of both in depth literature review and data analysis of the survey results.

“Perceptions of Trust and Community within Social Media”
Hallie Kears and Katie Zezenskic, Penn State Berks
Faculty Mentor: Dr. Cheryl Nicholas
This study seeks to understand how college students perceive trust and community within social media. The research is inspired by previous research done by Bobbi Kay Lewis (2010) called Social Media and Strategic Communication: Attitudes and Perceptions Among College Students. Lewis studied the uses, perceptions, and attitudes of college students about social media and found that educational communities and trust played a big role in how students perceived social media. When students discuss or learn about social media in their educational communities, they negotiate different ways to deal with
trust, and as such tend to have more positive perceptions of social media. This study builds on these perspectives and furthers this research with a case study of students at Penn State Berks.

“The Role of Occupational Therapy for Women in the Postpartum Period”
Kimberly Hummel and Heather Wanner, Alvernia University
Faculty Mentor: Professor Jena Lattanzio
The purpose of this investigation was to explore the role of occupational therapy in the care of postpartum women and the treatment of postpartum depression. The question under investigation is: What is the role of Occupational Therapy in addressing self-care, care of others, and social participation, relative to transition into the new occupation of parenting, for women in the postpartum period? The themes of transitions, social participation, self-care, and care of others were explored and analyzed relative to the field of occupational therapy. The findings reveal several areas of need for postpartum mothers in terms of treatment and management of depressive symptoms. This information leads to the importance of the role of occupational therapy in postpartum care. The findings will also allow current occupational therapists to advocate for the postpartum population to the general public, as well as to fellow healthcare providers. This education will inform women of available services and will provide comfort and acceptance in regards to seeking services in difficult times. With continued research, occupational therapists will establish and maintain a role in this area and will work to improve the quality of life and overall wellness of women experiencing depressive symptoms during the postpartum period.

“The Effects of Mindfulness Based Interventions on PTSD Symptoms in Veterans and the Influence on their Participation in Volitional Activities”
Alyssa Garcia, Taylor Fouracre, Courtney Dumais, and Emily Gargiulo, Alvernia University
Faculty Mentor: Professor Jena Lattanzio
Posttraumatic stress disorder (PTSD) is a disorder that has become more prevalent and recognized in America over time. For individuals suffering from PTSD, the ability to function and complete necessary and desired occupations can be compromised by PTSD symptoms. Posttraumatic stress disorder is a prevalent diagnosis among veterans where symptoms can often be debilitating, but the symptoms can be alleviated by mindfulness based interventions such as meditation, yoga, and mindfulness-based stress reduction (MBSR). This meta-analysis of peer-reviewed articles discusses the treatment of veterans with PTSD. The objective of this investigation is to find whether mindfulness based interventions decrease symptoms of PTSD in veterans, therefore improving a person’s quality of life and increasing participation in volitional activities. This analysis discusses the clinical question, do mindfulness based interventions decrease PTSD symptoms in veterans allowing them to increase their participation in volitional activities? A reduction in PTSD symptom severity allowed participants to improve performance of daily activities all of which fall within the scope of practice for occupational therapy. The evidence overwhelmingly supported the use of mindfulness-based interventions in the treatment of PTSD symptoms in the veteran population when used in collaboration with other therapies.

“How Non-Pharmaceutical Interventions Impact Sleep Quality of Older Adults in Inpatient Facilities”
Bridget Breen, Brianne Traina, and Kate LoDolce, Alvernia University
Faculty Mentor: Professor Jena Lattanzio
Older adults in inpatient facilities often suffer from impaired sleep due to environmental disturbances, diagnosis related stress, and other extenuating factors. The typical action taken to address poor sleep quality in the inpatient setting is the prescription of medication with negative side effects such as daytime drowsiness and confusion. This research strived to answer how non-pharmaceutical interventions impact the sleep quality of older adults in inpatient settings. Using a meta-analysis, four non-pharmaceutical interventions were identified as appropriate treatments for older adult inpatients with impaired sleep. Physical activity, social participation, light therapy, and mindfulness meditation were determined to create positive changes in sleep quality. Improving sleep quality in older adult inpatients creates the potential for increased occupational and functional outcomes, decreased lengths of inpatient stays, and enhanced quality of life. The implications of this study include educating inpatient facility staff to implement these interventions, educating patients on the availability of these interventions to promote self-management of sleep quality, and providing these treatments during occupational therapy sessions to improve overall daily function.

“Implementation of Self-generated Goals in Clients Post Traumatic Brain Injury”
Julie Bulino, Madison Bossler, Liana Mancini, and Margaret Priest, Alvernia University
Faculty Mentor: Professor Jena Lattanzio

The question guiding this intensive literary review is, “Do self-generated goals increase goal attainment and skill acquisition in clients post-traumatic brain injury (TBI)?” The main objective of this study was to determine if the implementation of self-generated goals into occupational therapy treatment sessions produced stronger outcomes for clients post-TBI. Stronger outcomes in treatment sessions were evident when the use of self-generated goals were implemented, compared to when therapists had designed goals for the clients. As participants set goals for themselves, they felt a sense of control and importance in the treatment sessions. The therapist would then assist the participants, or even teach the clients in some cases, specific strategies to help the client reach the meaningful goal he or she had created. Typically, scores had improved on assessments such as the Canadian Occupational Performance Measure and Goal Attainment Scale when comparing pretest scores to posttest. The materials reviewed are relevant to the profession of occupational therapy as the concept of goal generating with a client-centered approach is a main focus of practice.

“Spaced Retrieval versus Cognitive Stimulation Therapy”
Jill Gordley, Nicole Lopez, and Emily Thek, Alvernia University
Faculty Mentor: Professor Jena Lattanzio

This study aims to determine which non-pharmaceutical intervention, spaced retrieval (SR) or cognitive stimulation therapy (CST), influences memory retention best in older adults with mild to moderate dementia. The research question being addressed asks, “in patients with mild to moderate dementia, how does spaced retrieval compared to cognitive stimulation therapy influence memory retention?” By exploring interventions designed to improve functional memory in patients with dementia, this study increases professional understanding of SR and CST for the use of evidence-based practice. The application of these interventions by occupational therapists (OT) can improve patients with dementia quality of life and ability to complete activities of daily living. After an extensive examination, the findings were that both CST and SR have strong supporting evidence in favor of increasing memory for clinical and functional use. For client-centered practice, OTs must consider each client individually in order to determine which intervention is most appropriate of the two.
“Isolation of Pathogenic Microbial Communities Identified in the Blue Marsh Watershed”
Melissa Buchter and Joshua Price, Penn State Berks
Faculty Mentor: Dr. Tami Mysliwiec
Human activities around waterways can introduce selective conditions for pathogenic microbial communities to flourish. Watersheds are used for recreational, agricultural, and industrial purposes that may allow for chemicals and pollutants to seep into waterways. Unique microbial communities emerge from available metabolites and the water quality characteristics in the watershed. However, correlations between chemical environments and their microbial communities in waterways remain indistinct. In this study, changes in the chemical make-up of three locations throughout the Blue Marsh watershed were monitored to determine correlations between microbial populations and chemical properties over time. Testing was performed monthly for one year and included pH, temperature, inorganic phosphates, inorganic nitrates, and dissolved oxygen levels. Biolog Ecoplates were used to measure biochemical utilization and microbial communities were monitored through heterotrophic, Escherichia coli, and Enterococcus counts. 16S ribosomal sequencing was used to identify species in each community. Chemical analyses found seasonal variability in all parameters, with an increase in nitrates and phosphates for all sites in late fall and mid-spring. E. coli and Enterococci counts were above EPA recommended criteria in all three sites on numerous occasions. A pattern of ten most utilized metabolites amongst the three sites was found.

“Social Connection as a Predictor of Confronting Behaviors”
Brian London, Penn State Berks
Faculty Mentor: Dr. Nathan Greenauer
Perceived social relationships exert a large influence on one’s willingness to interact with others. The present study evaluated social relationship (close friend, fellow student, and complete stranger) as a predictor of one’s self-reported likelihood of confronting a litterer across several scenarios. Results showed significant differences in likelihood to confront littering between all levels of social relationship, suggesting a perceived social relationship is a determining factor in one’s willingness to confront some anti-social behaviors.

“A ‘Sensable’ Approach for Chronic Pain Relief”
Kelsey Travor, Cami Beyer, Nicole Heffner, and Victoria Wright, Alvernia University
Faculty Mentor: Dr. Amy J. Thomas
According to the Centers for Disease Control and Prevention (CDC) (2018), approximately 50 million Americans over 18 years of age seek medical treatment for chronic pain. Medicinal approaches, such as opioids, can cause undesirable side effects such as nausea, vomiting, constipation, dizziness, depression, and addiction. This may impact individuals’ ability to engage in occupations. The aim of this study was to investigate the effectiveness of non-pharmaceutical interventions, such as aromatherapy, cognitive-behavioral based interventions, and mirror therapy, on chronic pain management as a possible alternative to pharmaceuticals. The research question was are non-pharmaceuticals effective in reducing perceived pain levels and increasing occupational performance in individuals 18 years and older with chronic pain? Research suggest chronic pain significantly effects sleep quality and occupational performance. The evidence suggests aromatherapy, cognitive-behavioral based interventions, and mirror therapy may be effective in reducing pain levels and increasing occupational
performance from relief in symptoms. Occupational therapists incorporating these accessible and holistic approaches into treatment sessions may reduce their clients’ chronic pain levels and improve their functional participation in meaningful occupations.

“Autonomous Fire-Fighting Robot”
Joseph Stanavage and Ryan Pauley, Penn State Berks
Faculty Mentor: Professor Terry Speicher
The yellow group is comprised of three Electro-Mechanical Engineering Technology (EMET) majors. The problem that the group decided to resolve was the creation of an autonomous robot capable of extinguishing small-scale fires. The team researched both current fire-fighting robots and autonomous robots to decide how the future robot should operate. The research went from late August to mid-December. The actual construction of the robot began in early January and continued to mid-April. It was found during this construction phase that the programming of the robot was far more difficult than anyone in the group had known or had experience with. Further research into the programming showed that the project would take much more learning and experimenting than the time allotted. In the end, while the physical body of the robot was completed, the integration of the electronic components was not finished. Further research is recommended as autonomous robots become more prevalent and fires remain one of the most destructive forces in terms of damage and loss of life.

“The Classroom Delivery Robot”
Darrel Hicks and Grant Seldomridge, Penn State Berks
Faculty Mentor: Professor Terry Speicher
The classroom delivery robot is an autonomous robot designed to distribute materials amongst various classrooms. Its purpose is to save educators’ time by delivering classroom materials like chalk, markers, and erasers. The components used for the project were acquired from VEX Robotics for simple interfacing and little to no need for the fabrication of custom parts. Our design incorporates line following sensors, ultrasonic sensors, limits switches, and shaft encoders. Each sensor provides valuable information to the robot, allowing it to navigate through a classroom and deliver materials. The size and weight of the robot allow for simple maintenance, and easy maneuverability. Through this project, we have gained valuable experience with the different phases of the engineering design process.

“Effects of Changing Amino Acids in the Protein Enzyme Cytochrome c Heme Lyase (CCHL)”
Victoria Salazar, Kutztown University
Faculty Mentor: Dr. Carsten Sanders
Enzymes are biological catalysts that help speed up chemical reactions in living organisms. Many enzymes found in the body are proteins, which are made up of amino acids. These amino acids are connected by peptide bonds. The activities associated with these enzymes are based on their shapes. These shapes help determine which substrates can attach to the enzymes and how they react. One protein enzyme we studied in our research was cytochrome c heme lyase (CCHL). CCHL is extremely important in attaching heme molecules to cytochrome c protein precursors (also called apocytochromes c) to produce functional cytochromes c (also called holocytochromes c). Holocytochromes c are essential components in electron transport process leading to cellular energy production as well as in apoptosis leading to cell death. In microphthalmia with linear skin defects (MLS) patients, several mutations (changes in genetic information) have been found in CCHL. Here, we applied a technique called site-
directed mutagenesis (formation of genetic mutations) to generate changes in amino acids within regions of CCHL found in MLS patients (we used a CCHL model protein from yeast, most chosen amino acids within this CCHL were exchanged to cysteine residues).

“Physiological, Biochemical, and Genetic Responses in Shrub Willow Genotypes to Hoagland’s Solution Strength”
Benjamin Koons, Alvernia University
Faculty Mentor: Dr. Michelle Serapiglia
As the need for alternative energy sources has risen, understanding how bioenergy crops uptake and metabolize nutrients is necessary to achieve the maximum biomass attainable. Understanding how growth and biochemical pathways in the plant are altered by excess nutrient availability can aid in improving yield potential. In this study, we examined the effects of varying nutrient treatments on both biomass accumulation and nitrogen containing metabolites (amino acids and polyamines) in shrub willow (Salix spp.) to evaluate their effectiveness as both bioenergy crops and agricultural buffers. Shrub willow cultivars were grown under differing nutrient treatments and the harvested leaf tissues were used for quantitation of metabolites via high performance liquid chromatography. Biomass accumulations and amino acid/polyamine profiles were obtained and analyzed with multivariate statistics.

“Motivational Influences: Fitness Center Preference Based on Size and Member Capacity”
Essence Hall, Albright College
Faculty Mentor: Dr. Keith Feigenson
The aim of this study was to find if social judgment using fitness center environments influenced motivation during exercise. Our hypothesis was that non-athletes will be motivated to work out in fitness centers with fewer people, whereas athletes will be motivated in all conditions. All participants were exposed to all three stimuli (images of an empty fitness center, medium full fitness center, and a full fitness center). Following each picture, participants were asked questions regarding motivation, comfort levels, and preference of fitness equipment. Results suggested a main effect of condition, such that the full fitness center elicited the least amount of motivation [F (2,176) =50.177, p < .05]. It was also found that athletes were more comfortable in the full and medium full fitness environments relative to non-athletes, although the effect approaches significance, we found an interaction between athletes and environment [F (2,176) = 2.624, p=.075]. Our hypothesis was partially supported. These findings suggest that it would be beneficial for fitness centers to monitor the hours of the day when there are the most people and try to tailor to the those who are uncomfortable exercising. An advertisement of the volume of people in the fitness center could potentially help.

“#ACTIVISM: What Is It Good For? The Relationships between Twitter Users and Hashtag Active Celebrities”
Haley Gibson and Kayla Tirino, Kutztown University
Faculty Mentor: Dr. Angela Cirucci
This poster outlines research that explores the relationship between Twitter users and politically or socially involved celebrities. In particular, we considered: How do Twitter users interact with celebrities who are hashtag active? How do those who interact with hashtag active celebrities use hashtags following the interaction? Employing content analysis, we examined tweets containing hashtag activism
(MSDStrong, #FridaysForFuture #ClimateStrike and #FlintWaterCrisis) from Alyssa Milano, Mark Ruffalo, Ellen DeGeneres, and George Takei and the corresponding replies. Overall, findings suggest that there are friendly interactions between users and celebrities. This relates to the parasocial relationships created between Twitter users and celebrities. Also, there are more hostile responses towards out-of-the-spotlight celebrities like Milano and Takei than there are towards Ruffalo and DeGeneres, who are featured in the Marvel Cinematic Universe and a daily talk show, respectively.

“Women’s Roles on Pennsylvania Farms in the 17th-19th Centuries”  
Kayleigh Rutkowski, Reading Area Community College  
Faculty Mentor: Jodi Greene  
Throughout history there are many ideologies along with preconceived notions of gender and gender roles in society. Examining the roles of women on farms throughout the 16th-19th centuries, we can begin to see the breakdown of where women fit into both the family and society. The Dreibelbis Farm in Virginville, PA is a living example of farm life in the 1800s; studying the farm house and the artifacts is contains portrays the dynamics and family life on the farm and gives indication of the roles women played in maintaining the property and the family. Despite ideas of the subservient housewife, it is evident that women played a much larger role on the farm and in society than these preconceptions have led us to believe.

“The Effect of Music on Mood “  
Megan Fick, Reading Area Community College  
Faculty Mentor: Professor Carol Bean-Ritter  
The following paper describes a study on music therapy. There will be eighteen subjects from Reading Area Community College who participated by answering a set of three questions and then listening to a short clip of a song, then answering the same set of three questions again. By answering the questions before and after listening to a song, there will hopefully be a shift in mood that is observable by the way the questions are answered.

“Earworms Stuck in the Mind “  
Edward Schmeltz, Reading Area Community College  
Faculty Mentor: Professor Carol Bean-Ritter  
The following paper illustrates a descriptive study on earworms. Earworms are involuntary musical tunes playing in an individual’s brain. The purpose is to investigate the propensity of the brain to recognize music cognitively. Through attention during a subject’s daily routine, they may be able to control the earworm. There will be numerous subjects from Reading Area Community College who will participate by answering a brief three question survey. Data collected from this study will be subject to publishing in the future.

“Can Small Font Size Boost Memory with a Manipulation of Metamemory?”  
Wilberto Ortiz, Reading Area Community College  
Faculty Mentor: Professor Carol Bean-Ritter  
The following paper describes a study on the effect of font size on reading recollection. There will be twenty subjects from Reading Area Community College who participated by reading a short passage for
up to two minutes in either an 18 point Times New Roman font or a smaller 8 point font. They are then asked to take a brief quiz following the reading to measure their retention of the material.

“Anxiety and Procrastination”
Jose Ayala-Martinez, Reading Area Community College
Faculty Mentor: Professor Carol Bean-Ritter
The following paper describes a descriptive study on anxiety and the association to procrastination. There will be 18 subjects from Reading Area Community College who will participate by completing questionnaire surveys to examine the connection between anxiety and procrastination. Furthermore, findings in relation to asking if procrastination increases anxiety or is anxiety a contributing factor to procrastination will be looked through the research study.

“The Effects of Anxiety on Academic Procrastination among College Students”
Mark Carvalho, Reading Area Community College
Faculty Mentor: Professor Carol Ritter
The project describes a study on the correlation between anxiety and procrastination among college students. There will be twenty-two subjects from Reading Area Community College who participated by answering questions about anxiety and procrastination in a survey.

“Perceived Importance of Gendered Characteristics on Gendered Professions”
Laura Luczeczkko, Albright College
Faculty Mentor: Dr. Gwendolyn Seidman
This study examined the perceived importance of gendered traits for success in male, female, and neutral-typical occupations. The study consisted of 83 participants who rated the importance of masculine, feminine, and neutral traits for male-dominated, female-dominated, or gender-equal professions. Results supported the hypothesis showing a significant interaction between job type and trait type. Masculine traits were rated higher than feminine traits for only male-dominated professions, whereas feminine traits were rated higher than masculine traits for only female-dominated professions. The results also showed a significance of profession, such that participants generally perceived that female professions required higher levels of the positive traits assessed. It is also notable that despite this correspondence between the gendered traits and gender dominance of the job, the gender-neutral traits were still rated as more important for all three types of jobs than either the masculine or the feminine traits.

“Optimization Techniques in the Pharmaceutical Industry”
Elizabeth D'Lauro, Alvernia University
Faculty Mentor: Dr. David Shoup
Optimization techniques provide an effective way to determine the best possible solution to a given problem while satisfying specific constraints. Drug manufacturers use these techniques to optimize tablet specifications while minimizing overall cost. This project uses publicly available drug component data to determine the optimal composition of several commonly used drugs.

Performance Session 1
8:30 a.m. - 9:30 a.m.
Miller Center for the Arts Theater

Moderator: Ellen Walter, Faculty, Communications, Arts, and Humanities

“The Appalachian Trail: A Series of Poems”
Anna Nissley, Kutztown University
Faculty Mentor: Dr. Andrew Vogel
These poems are the product of my experiences hiking a section of the Appalachian Trail in Pennsylvania and studying the natural phenomena I observe. It also tracks the link between these phenomena and my own state of mind as I consider my place in the natural world. Humans and their environments share an increasingly complicated relationship. One way to reconcile this, and to continue to question the roles of human lives, pursuits, and technologies with the environment, is through poetry. These pieces aim to underscore the importance of the natural world and undeveloped spaces, which must be preserved in order to continue being a source of ecological stability, healing, and an understanding of the self.

“Making a Music Video: The Process of Post-Production”
Liam O’Brien, Kutztown University
Faculty Mentor name Dr. Matthew McKeague
For my presentation, I will be screening a music video I produced and directed entitled 40 Years by Jon Savard. To create the look of the video, I utilized a few basic options available to creatives within the Adobe Creative Suite. After screening the video, I will explain how I achieved the project’s stylistic features by describing my preproduction, production, and post-production process. My presentation will focus on discovering, developing, delivering, and defining visual elements of a project such as this, as well as coming up with more applications for alliteration. When developing a work of art for a professional client, it is one thing to come up with a cool idea. It is another to create an idea that clearly grasps the tone of the work it is meant to accompany. It is, yet, quite another thing entirely to achieve both goals, and my presentation will clearly explain one way to do just that. It is hoped this presentation will provide an audience with a better understanding of how to achieve professional looking videos using only Adobe Creative Cloud Applications.

“Ring of Fire”
Nicolas Vaupel and Nicholas Zearfoss, Kutztown University
Faculty Mentor: Professor Jonathan Joy
“Ring of Fire” by Johnny Cash is an iconic love song, treasured by fans across the world. However, love is not always the pure and passionate ideal that country stars sing about. In this transformative music video we explore the darker side of human desire. “Ring of Fire” by Nicolas Vaupel and Nicholas Zearfoss challenges how far the meaning of a classic song can be shifted. In this narrative, our antagonist makes short work of embalming his corpse bride before plunging to a fiery demise. This thrilling tale of bloody heartbreak is sure to have you perched on the edge of your seat.

“K-pop: Family and Fandom”
Haven Liciago, Kutztown University  
**Faculty Mentor:** Professor Jen Suwak  
A documentary about Korean pop music, its history, and the fandom surrounding it. This documentary looks at what sets K-pop apart from Western music and why its fans have such close connections with not only the artists but other fans as well.

“The Real Bachelors of Kutztown”  
Lindsey Eways, Mayra Perez-Barajas, and Luke Perez, Kutztown University  
**Faculty Mentor:** Professor Jonathan Joy  
A mockumentary about three roommates who can’t decide where to get dinner. We all wrote the script with the intent of parodying an SNL skit.

**Paper Session 2**  
**9:45a.m. - 10:45a.m.**  
**Weitz Hall (formerly Penn Hall)**

**Literature – Room 213**  
**Moderator:** David Leight, Professor, Communication, Arts, and Humanities

“The Rhetorical Persona — Reclaiming Plato in the Dramatic Conversation”  
Zac Godwin, Penn State Berks  
**Faculty Mentor:** Dr. Jeanne Rose  
Modern scholars of the dramatic arts characteristically emphasize Aristotle’s Poetics, a work in which a basic definition of theatre is constructed through three precepts or dramatic unities. Consequently, many drama scholars omit the work done by Plato due, in large part, to his call for artistic reform in Republic, which man scholars interpret as a rejection of drama. It is Plato’s foundation that much of modern performance rhetoric is built upon, however. Plato established character personas that have since become integrated into theatrical form. One Socratic Dialogue in particular, Gorgias, shows Plato’s complex understanding of dramatic elements in relation to his study of philosophy. Plato’s impact in contemporary drama is prevalent heavily in the creative theatrical reform present in the 20th century. Specifically, Platonic themes can be found in the character-focused meta theatre of dramatist Bertolt Brecht. In this presentation, I argue that contemporary research into dramatic rhetoric must include Plato because his malleable structure of theatre is more applicable to situations in the modern era than Aristotle’s rigid limitations. To that end, I examine Brecht’s theatre through the lens of Plato’s dialogues, making a case for identifying Plato’s lasting contribution to dramaturgy.

“Themes in Kawabata Yasunari’s Snow Country”  
Lisa Luu, Albright College  
**Faculty Mentor:** Professor Marian Wolbers  
Kawabata Yasunari manipulates two connected themes—purity and light—in his classic novel Snow Country. The protagonist, Shimamura (wealthy, amateur in fine arts), is obsessed with these aesthetic ideas as he is encountered by and conflicted between two women throughout his trip at a hot springs
resort in northern Japan. From light reflections in the train to the white snow and the blazing fire beneath the Milky Way at the end, purity and light recur. Shimamura develops lust, but non-committed feelings for the women, and in return, they are reciprocated in some way. Kawabata paints their complicated love triangle. Komako gives herself to Shimamura, despite being a young geisha and in an arranged marriage situation with a man named Yukio. Ironically, Yoko has a one-sided love towards Yukio, but starts to open up to Shimamura at the same time. Both women have a long-term feud that has not been settled and Kawabata does not clearly state the reason for this. The concept of these one-sided feelings in the triangle connects to purity and light when Shimamura leaves behind his dull and lonely life in Tokyo, and arrives at a destination that successfully diverts his solitude and turns it into excitement. However, he is unable to care for and love one of them, leaving him as an outcast with two women that are painted as his beautiful distraction.

“Filial Affection”
Justice Speller-Wilkes, Albright College
Faculty Mentor: Dr. Teresa Gilliams
In my essay, Filial Affection, I argue that Victor’s relationship with his creature mirrors that of man’s relationship with its creator, God and that mankind acts as a kind of parasite to its creator. I analyze the cause of the relationship’s image while also sharing the ultimate consequence of the failure to, consider, acknowledge, and amend such an image. Crucial to my examination of Mary Shelley’s Frankenstein is the central idea that life, even in its in darkest moments, has the potential to activate in all of us growth and development, and therefore has the ability to be joyous. Conversely, one’s giving in to life’s darker colors, which involves allowing oneself to be overtaken by resentment, hatred, anguish, and pain, will result only in that which we fear and seek to inoculate ourselves from most—death.

“Taking Responsibility for Our Monsters”
Sarah Tossman, Albright College
Faculty Mentor: Dr. Teresa Gilliams
Monster stories such as Mary Shelley’s Frankenstein, Joe Hill’s Heart-Shaped Box, and Neil Gaiman’s “We Can Get Them For You Wholesale” rely on humanity’s influence in monstrous deeds. Whether they are active or passive participants in the monstrous acts, humans in these stories are the reason monsters are able to commit their monstrous acts. This paper suggests that through such stories, we are able to draw connections to real-world evil, which humans once again either permit or perpetuate. It is only through actively taking a stand against such evil that we are able to truly defeat it in our own lives.

Business 2– Room 214
Moderator: Linda Bell, Associate Dean, Business Division

“New Marketing Strategies for Reading Royals”
Rachel O’Neill, Kutztown University
Faculty Mentor: Dr. Yongjae Kim
This project is crucial to the betterment of the Reading Royals Hockey franchise. An issue is their low attendance levels at home games from consumers in the surrounding areas. The purpose of this project is to evaluate current practices of the organization, identify its business problems and issues, and
propose alternatives to boost fan involvement within their organization. We have conducted market research to gain knowledge about why fans are not interested in attending games. New strategies to counteract the possible downfall will be developed by results from the market analysis. We believe that getting more involved in the community will help the team better understand their fans and how to attract them. The findings of this project will provide practical and managerial implications to the Reading Royals.

“Riding The Roller Coaster: A Historical & Prospective Analysis of A. O. Smith Corporation’s Financial Statements”
Sharon Nolt, Kutztown University
Faculty Mentor: Dr. Mostafa Maksy
A.O. Smith Corporation manufactures and markets residential and commercial gas and electric water heaters, boilers, tanks, and water treatment products in North America, China, Europe, and India. It customers include residences, restaurants, hotels, office buildings, laundries, car washes, hospitals, schools, and other commercial buildings and small businesses. It also provides food and beverage filtration products, expansion tanks, commercial solar water heating systems, swimming pool and spa heaters, heat pumps, solar tank units, air purification products, and related parts. The company was founded in 1874 and is headquartered in Milwaukee, Wisconsin. Over the last year, it looks like the company’s stock price was riding a roller coaster: About a year ago it was $62, in early December last year, it went down to $42, and today (3/28/19) it closed at $52. The objective of my research is to analyze A.O. Smith’s financial statements in an effort to determine whether its stock price will stay on the roller coaster, or will take a specific direction. In other words, my objective is to determine whether investment in A.O. Smith’s stock is a good one.

“Strategies to Bond and Re-bond: Building New and Established Reading Royals Fans”
Nathan Woods, Kutztown University
Faculty Mentor: Dr. Soojin Kim
The Royals have recently undergone changes in ownership and management. Currently most seats are filled by season ticket holders averaging 60 years of age. The Royals require the revenue from these fans, but they also need to attract new fans to develop a larger and younger fanbase. The average NHL fan is 49 years old, 16 years older than in 2002 (Lozo, 2017). This indicates no fan growth in hockey over nearly 2 decades. Therefore, by using secondary data such as fan attendance and fan behavior, this research will focus on developing marketing and management strategies for the 2019-2020 season. Specifically, the purpose is to find ways to increase new fan attendance while retaining current season ticket holders. This research can contribute to the Royals’ marketing plan by addressing fan experience and the perceived image of the company. It is expected that the findings of this research would help the Royals determine the best ways to reach a desirable target market and determine ways to maintain positive relationships with both new and established clients.

“CFA Challenge”
Kevin Grube, Kutztown University
Faculty Mentor: Dr. John Walker
This paper and presentation will explore the CFA Challenge, a financial analysis competition, and what it entails. The paper expands on a wide range of topics regarding the challenge, motivations of the competitors, class influences in the challenge, and tips and tricks for future competitors. The focus of my presentation will be on what a finalized report should look like. I will also go over the graded rubric my team was given based on our report and discuss, in detail, how we could have done better. Finally, I will briefly discuss my opinions regarding the CFA as an organization, detailing my distaste with the professionalism I observed over the challenge.

History – Room 216
Moderator: Luna McMahon, Faculty, Social Sciences and Human Services Division

“Unsung Voices: The Othering of Japanese-Americans Post-World War II”
Emily Curley, Albright College
Faculty Mentor: Dr. Teresa Gilliams
Borne out of my centralization of the relationship between historical memory and the tenets that shape Japanese-American identity, my conference paper presentation will underscore the multi-generational causes of the complex pain informed by close analyses of post-World War II Japanese-American literary texts. The focus of the analyses underscores the double-consciousness of Japanese-American identity that engenders multi-generational practices of suffering in silence that extends Japanese-American contributions to a multicultural America and its literary canon. By framing Japanese American literature within a tradition of American writing that links the past to the present, my presentation functions as a re-evaluation of multicultural identities that continue to be negotiated within complex social, cultural and political contexts.

“The Legacy of William 'Pumpernickle Bill' Troxell: Museum Anthropology, Oral History and Collaboration”
Erica Cohen Hamilton, Kutztown University
Faculty Mentor: Dr. William Donner
William S. Troxell, also known around Berks & Lehigh counties as “Pumpernickle Bill”, was a prolific writer and radio host of the 20th century and a large proponent in the cultural sustainability of the Pennsylvania Dutch dialect. Through his work as a columnist for Allentown’s Morning Call and contributions towards the establishment of many community events, the legacy of Pumpernickle Bill can still be seen through countless community and cultural activities and events today. Inside an issue of TIME Magazine in August of 1937, one could see William S. Troxell featured as being an iconic part of the local culture. The column itself, written in entirely Pennsylvania Dutch, was unique in both orthography and with the frequent accompaniment of larger ink and pen cartoons. This paper presentation will be exploring how museum anthropology and working collaboratively can be used to build an oral history of Troxell’s life to contextualize, organize and document a collection of over 150 original ink and pen cartoons. This research is ongoing, and will be included in a future publication through Kutztown University, the Pennsylvania German Cultural Heritage Center and the Kutztown Area Historical Society.

“The Revolutionary Tradition of France as Reflected in 1848”
Joseph Funk IV, Kutztown University  
Faculty Mentor: Dr. Eric Johnson  
This essay discusses how the social and political elements that began with the French Revolution of 1789 evolved and impacted the events involving France in 1848. Many parallels can be drawn from 1848 and 1789, making for a revolutionary tradition. Included in this discussion are topics involving revolutionary republicanism, the nature of human rights, and the renewed combat between those in authority and those in the streets. Enlightenment beliefs of Jean Jacques Rousseau influenced the ideas of Henri Saint-Simon, and these ideas in turn influenced socialist ideals and conceptions of workers rights by 1848. Dynastic opposition figures favored the ideals first set out in the Declaration of the Rights of Man, when arguing with King Louis Philippe. Some of the radical banquet campaigns positioned themselves in the light of the Jacobin Clubs of the first revolution, while the students of Paris in 1848 saw themselves more like the liberal Girondins who believed in representative democracy. Also like Napoleon in 1799, most of the people of France saw Louis Napoleon as a man who could restore order to save France from a conflict-ridden republic. These are all elements that historians must consider to understand the historical significance of 1848 in France.

“The Corset as a Lens into the Condition of Womanhood “  
Marina Nye, Albright College  
Faculty Mentor: Dr. Hilary Aquino  
The corset provides a valuable insight into the lives of women in history. Corsets are often characterized as a painful apparatus that helps subjugate women, but this is a generalization that ignores the multi-layered meanings the tool also acquired. Although corsets are viewed as a modern symbol of empowerment for women, they partook in an arduous journey through a patriarchal society that molded gendered political discourse. This research explores the role of the corset between 1789 to 1861 in the United States, while analyzing major cultural influences from England and France. By analyzing the multi-layered facets of the corset in American women’s lives, one can chart the cultural impact it had in molding political discourse around women’s civil liberties and function.

Humanities 2 – Room 217  
Moderator: Kim Stahler, Yocum Library

“Students Respond to the Beatles in Research and Music.”  
Amanda Martin and Ifeoluwa Ogunyinka, Penn State Berks  
Faculty Mentor: Dr. Thomas Lynn  
Two Penn State Berks students, Amanda Martin and Ifeoluwa Ogunyinka, were enrolled in “Introducing the Beatles” (INART 205) at Penn State Berks in Spring 2018. They collaborated in analyzing and performing several Beatles songs, and the updated fruits of their collaboration, verbal and musical, will be presented live and through video. The five Beatles songs that the students will discuss and perform are: “I Saw Her Standing There,” “Help!” “With a Little Help from My Friends,” “While My Guitar Gently Weeps,” and “Let It Be.” The students will show through their oral and PowerPoint presentations, the interconnections between these songs, the songs' musical and cultural significance, and the evolutions of the Beatles' art. Amanda and Ife will uncover aspects of these songs that even Beatles fans may have
not perceived. For the video part of the presentation, their own musical interpretations of these songs along with visual accompaniments will capture the attention and admiration of the audience.

“Music: From the Soviet Union to Modern Day Russia”
Rebecca Wright, Penn State Berks
Faculty Mentor: Dr. Randall Newnham
Patriotism, robust choirs, triumphant brass ensembles, and vibrant orchestras are all marks of the musical era in the USSR. Born from loyalty to the [Communist] Party, music during the Soviet era tended to lack artistic freedom, and instead, pay homage to politics. With the passage of time though, things began to change. The younger generations supported underground music networks, banned styles and lyrics crept onto the scene, and slowly, westernization began to rear its head. Today, Russian music is a combination of the country’s traditional roots and Soviet era styles, but largely is born from western influence. The chronology of Soviet to Russian music in conjunction with a breakdown of the pathway from nationalist propaganda to an expression of everyday life and art, will be compared, examined, and explained.

“Pero Like Why”: A Cast Study of Spanglish in Stand-up Comedy
Joshua Flores, Penn State Berks
Faculty Mentor: Dr. Cheryl Nicholas
Immigrant groups have made a huge impact on US culture, from changing what we see in the media, to ingredients on spice shelves, and as this paper posits, to interesting US-linguistic structures. This paper is interested in the use of Spanglish. Spanglish is understood as the use of Spanish and English in a contained sentence. While the linguistic features of Spanglish have been thorough analyzed, its sociological features have not been studied quite as much. The focus of this paper is on the use of Spanglish in humor. Humor theories (relief, superiority, incongruity theories) are used to analyze the use of Spanglish in the stand-up comedy of George Lopez and Gabriel Iglesias. Both comedians were selected as they are very popular and represent older and newer comedic styles within Latino stand-up comedy. Findings show that Spanglish is used strategically to situate in- and out-group negotiations and reveal hegemonic structures. Studying the use of Spanglish in stand-up comedy may warrant a better understanding of the unique features of Spanglish and its benefits to its speakers.

“This Will Be the Day! RWBY and Japanese Anime”
Aymed Rodriguez Ortiz, Penn State Berks
Faculty Mentor: Dr. Cheryl Nicholas
Many Western animations trying to mimic Japanese anime have tried to cross the cultural barrier to be considered an “authentic anime,” however, they failed. This study focuses on the show RWBY, produced and created by Rooster Teeth LLC, a US-based media corporation. RWBY has been able to successfully transcend these cultural barriers and has become the first American-produced show to be exported to Japan and to be considered anime. The study attempts to understand RWBY’s appeal and success. The study was conducted in 3 primary discourse areas: 1) media releases about RWBY by Rooster Teeth; 2) promotional events/and participation observation at the New York Comic Con; 3) RWBY episodes (6 seasons/144 episodes). The analysis was focused on how RWBY is represented/marketeted by Rooster Teeth, along with other media outlets. In addition, the anime itself was analyzed based on storytelling themes and specific formal elements (characters, colors, music were selected as they were key elements
that define RWBY). Findings indicate that that RWBY’s appeal to Japanese audiences are linked to familiar narratives/fairy tales, ambiguous characters, and formal elements that work together to reinforce the narrative. These strategies make RWBY accessible and able to transcend cultural barriers.

**Science 2– Room 226**

**Moderator: Tricia Lewis, Assistant Professor, STEM Division**

“Proportional Control of a Permanent-Magnet DC Motor”  
Jacob Hare, Penn State Berks  
Faculty Mentor: Dr. Shiyoung Lee  
The main goal of this study was to explore the concept of proportional control theory. Proportional control is used in applications which require an immediate correction to a deviation from a desired value. A common example of proportional control is the float valve in toilets: the lower the water level in the tank, the greater the valve opens. In this study, the LabVIEW software program was used to develop a proportional feedback control system for a permanent-magnet DC motor. In this case, proportional control was used to correct the motor’s speed based on the difference between the desired setpoint, and the measured speed. A proportional control system model was developed in LabVIEW to adjust the speed of the motor using pulse-width modulation (PWM) signals. Upon completion of this study, it was found that proportional control is best suited to applications where an offset error is acceptable. This is because proportional control requires an error to generate an output; as the error approaches zero, the control system will decrease the input, which will in return increase the error again.

“Minimum Internal Temperature and Maximum Room Temperature Exposure for the Safe Consumption of Ground Beef”  
Zachary Bloom, Kutztown University  
Faculty Mentor: Dr. Daniel Aruscavage  
Ground beef is notorious for having large amounts of bacteria present prior to being cooked. These organisms can however be removed with the appropriate cooking conditions including internal temperature and ambient air exposure (Tindall 2000). After cooking ground beef to a variety of internal temperatures, the microbial content on Tryptic Soy Agar (TSA) and Violet Red Bile (VRB) agar were counted in order to determine the internal temperature at which the ground beef would have the least number of bacterial colonies. In addition, this experiment tested the CDC recommendation stating ground beef should not be allowed to sit out in ambient air for more than two hours once it is cooked. It is at this point that the beef would be repopulated by an unsafe number of bacteria. The results of this experiment indicated that a minimum internal temperature of 70°C was required to remove the most bacteria. In addition, the results also indicate that the two-hour time limit for ambient air exposure was accurate due to a drastic increase in the number of organisms grown on agar after two hours.

“Characterization of the Growth Factor Analog Expressed by Ectromelia Virus”  
Kaylyn Haan, Albright College  
Faculty Mentor: Dr. Adam Hersperger  
Viruses are obligate, intracellular parasites that are able to infect all types of life forms including humans, animals, plants, or even bacteria. Our research has focused on the study of Ectromelia virus
ECTV, a natural pathogen of mice. ECTV is in the same family as Variola virus, the causative agent of smallpox, and Vaccinia virus, which was used in vaccinations to successfully eradicate smallpox. These viruses have many gene products that interact with infected host organisms. We have begun work to characterize a growth factor gene encoded by ECTV that is related to mammalian epidermal growth factor (EGF). Through the use of various assays, such as fluorescence microscopy and Western blotting, we are trying to better understand the function and role of Ectromelia virus growth factor (EVGF). We have found that EVGF activates the mammalian receptor for EGF in a similar manner as EGF itself. We also have some preliminary data to suggest that EVGF causes cells to enter the cell cycle to increase cell division, which likely aids virus growth and spread. Future work will continue to characterize EVGF and its importance to the replication of ECTV.

**Poster Session 2**

9:45a.m. - 10:45a.m.

Schmidt Technology and Training Center lobby

Psychology and Health Professions

Moderators: Heather Hinkle, Assistant Professor, STEM Division and Carol Bean-Ritter, Professor, Social Sciences and Human Services Division

“Evaluating the Molecular Function Families of Phosducins Using Multi-iterative Sequence Searching Technique”

Sarah Hosler, Albright College

Faculty Mentor: Dr. Jacquelyn Fetrow

Our long-term goal is to understand mechanistic determinants that specify function within protein superfamilies. The specific project goal is to identify the functionally relevant clusters within the phosducin superfamily and to identify functional determinants that distinguish each cluster. The method used to identify functionally relevant clusters is MISST (Multi-level Iterative Sequence Searching Technique), a method based on active site profiling. The phosducin superfamily was chosen after a literature review of the thioredoxin fold superfamily. Phosducins are involved in G-protein coupling and potentially impact canine retinal atrophy. The first step in the MISST process is selection of functionally important residues. Conserved residues were identified in the five phosducin proteins of known structure. Comparison to thioredoxin proteins showed that a conserved cysteine and proline are also found in the phosducins. The third residue was determined by observing structural and sequence conservation near the active site. A conserved leucine, residue 196 in 3evi, that is nearby in structure, with its side chain facing towards the other key residues, was chosen. MISST will identify functionally relevant clusters within the superfamily, from which mechanistic determinants will be identified for each cluster. These results will then be compared to what is known of the phosducin superfamily.

“Assessing Real-World Efficacy and Clinical Trial Efficacy of Selective Serotonin Re-Uptake Inhibitors in the Treatment of Obsessive-Compulsive Disorder Using Meta-Analytic Approaches”

Erich Miller, Alvernia University

Faculty Mentor: Dr. Eric Recktenwald
Obsessive-compulsive disorder (OCD) is a chronic neuropsychiatric illness characterized by persistent and uncontrollable thoughts, urges, feelings, and emotions coupled with repetitive behaviors performed to eliminate obsessional distress. One first-line method of treating OCD is the use of Selective Serotonin Re-uptake Inhibitors (SSRI). There are 6 SSRI’s prescribed for OCD: escitalopram, citalopram, fluvoxamine, sertraline, fluoxetine and paroxetine. This study identifies the real-world efficacy (RWE) of SSRI’s as perceived by psychiatrists and compares it to meta-analyzed clinical trial data (RCT). 2757 psychiatrists were emailed a link to a five question online survey. The survey asked respondents (N=348) to identify: the SSRI medication they most commonly prescribe as a first-line treatment for OCD and the efficacy of the SSRI. Results indicate fluoxetine and sertraline are prescribed at a significantly higher rate than the other medications (p<.05), although the data also suggests there is no significant difference in the reported efficacy for each SSRI (p=.698). Meta-analysis of 21 published SSRI clinical trials (n=3,915) revealed that all the SSRI are superior to placebo in Relative Risk (RR) and Absolute Risk Reduction (ARR) Outcomes ([RR]p=8.3x10-12, [ARR]= p= 1.41x10-22). RCT’s suggest there is no significant difference in efficacy among SSRI’s as shown by a test of interaction (p>.05).

“The Relationship between Perceived Happiness and Procrastination”
Karanpreet Kaur, Reading Area Community College
Faculty Mentor: Professor Carol Bean-Ritter
The following paper describes a descriptive study on the correlation between perceived happiness and procrastination. The scope of the research was to determine if there is a direct relationship between the tendency to procrastinate in individuals and generally perceived happiness. There were 18 subjects from Reading Area Community College who participated by answering to some survey questions. The results did not suggest any direct association between tendency to procrastinate and perceived happiness, however a correlation between the likeliness to procrastinate of an individual and its perception of procrastination as a threat to its happiness has been found.

“Feeling Dirty? How the State of the Environment Can Affect How You Feel”
Jessica DelRosario, Penn State Berks
Faculty Mentor: Dr. Nathan Greenauer
This study evaluated the relationship between environment, mood, and anxiety. Participants took a survey that assessed current mood, anxiety, personality type, and cleanliness at current place of residence in one of three environments; clean, messy, and dirty. These environments were manipulated computer labs at Penn State Berks. Results showed that there is significance between positive mood and the organization of often visited environments, such as current place of residence. However, no effect of the transient environment was found. There was no significance found between negative mood and the organization of permanent or transient environments. Rather, personality traits were the best predictor of negative mood.

“Fantasy and Reality Distinction in Young Children”
Sarah Hohl, Albright College
Faculty Mentor: Dr. Justin Couchman
Imagination is not easily defined to children. It is an abstract concept that cannot be seen to be taught to children. Parents and adults typically tell children to “go play with their toys”, but the children need to understand what play is and how to make an inanimate object “come to life” in their minds. By
making an inanimate object “come to life” for a child, they are developing their imagination while playing. We tested twenty-nine children on their ability to understand real vs. imaginary objects and attempted to improve their understanding with a short intervention. Results supported previous findings showing that younger children have a harder time understanding real and imaginary, and the project helped us refine our methods for future applications.

“Motivations and Outcomes of Active and Passive Usage on Social Media”
Lauren Hudak, Albright College
Faculty Mentor: Dr. Gwendolyn Seidman
This research examined motivations for social media use and how they relate to mental health. We created an online survey measuring social media usage, motivations for use, depression, self-esteem, life satisfaction, and well-being. Originally usage was defined as active (engaging with the site) or passive (scrolling through the site); however, analysis showed two distinct types of active use: self-presentation and reacting to others. Self presentation was primarily motivated by attention seeking, connection with others by connection motives, and passive use by boredom, connection, and fear of missing out. There were minimal effects of motivations and use on mental health outcomes.

“Halo Effect Shown in College Students”
Ashley Pomponio, Albright College
Faculty Mentor: Dr. Justin Couchman
This study examined the effect of attractiveness of a person based on other qualities of that person, This is called the Halo Effect. Previous research has already discussed the effect of attractiveness on if an individual is seen as happier, more successful, or more likely to be hired. Along with those attributes, this study looked at the perceived likelihood that a person had a sexually transmitted disease (STD). This was done by showing 74 college students with a mean age of 19.55 a series of pictures along with questions after each picture. The hypothesis predicted that there would be a significant effect between attractiveness and attributes such as happiness, successfulness, likelihood of being hired, and the likelihood of having an STD. Specifically, if the person pictured is seen to be less attractive by the participant, it will make them more likely to seem unhappy, unsuccessful and more likely to have an STD. This study showed a significant effect of all factors except STD likelihood, suggesting that this trait may differ compared to the traditionally studied characteristics.

“Availability of Animal-Assisted Therapy on College Campuses”
Katrina Herber, Alvernia University
Faculty Mentor: Dr. John Lichtenwalner
The need for animal-assisted therapy continues to grow, including college students who seek help with mental health issues such as anxiety and depression. The purpose of this poster presentation is to identify the availability of animal-assisted therapy on college campuses. The research will center on an observational, typological study. The data of the research will be based on colleges in Berks and Lehigh County. The majority of schools involved with the research distinctively include access to animal-assisted therapy accommodations on their websites for their students. Though few schools do not conclusively mention animal-assisted therapy on their campus, the overall findings indicate that the schools in this region allow access to animal-assisted therapy.
“Impact of Virtual Reality on ADL and IADL Performance”
Andrea Wysocki, Ann Donnelly, Erin McAleer, and Brittany McGowan, Alvernia University
Faculty Mentor: Dr. Amy Thomas
In this critically appraised topic, investigators researched the effect of virtual reality (VR) when used as an occupational therapy intervention tool. The aim of the investigation was to examine the effectiveness of virtual reality in improving functional outcomes in activities of daily living (ADLs) and instrumental activities of daily living (IADLs) in adults with acquired physical disabilities. The population of interest included adults that have sustained either a cerebrovascular accident (CVA), a traumatic brain injury (TBI), or a spinal cord injury (SCI). The settings where VR was used included subacute hospitals, inpatient and outpatient rehabilitation facilities, and skilled nursing facilities. Some VR systems examined included WiiSports, the Virtual Kitchen Task, and the Model T3 driving simulator. Current research suggests when used as a therapeutic tool, VR may increase movement of the upper extremity post cerebrovascular accident, can enhance motor learning, promotes motivation during treatment sessions, and displays a positive behavioral intention to use (BIU).

“Treatment Comparisons of Elderly Depression”
Stephanie MacDonald, Tara Engelhardt, Kayla Andrews, and Genesis Schonten, Alvernia University
Faculty Mentor: Dr. John Lichtenwalner
This poster presentation explores several published articles that examine alternative interventions for the treatment of depression in the elderly population which is important because many people do not understand the implications behind depression and how greatly it impacts elderly populations. The articles, however, address different levels of effectiveness and outcomes regarding the specific treatments. The researchers analyzed the data presented in each of the articles, in order to reach a conclusion about the most effective interventions for this vulnerable population. Social workers that work with this population can benefit greatly from this research on the micro, mezzo, and macro level. The researchers believe that mindfulness-based interventions are the most effective alternative methods of treatment regarding depression in elderly adults due to its ability to reduce feelings of hopelessness and increase one's energy level. This poster presentation examines each intervention and suggests how these interventions along with the work of social workers and other professionals can decrease the stigma regarding older adults with depression.

“Trauma Informed Care and Human Trafficking: A Content Analysis”
Jessica Schubert, Alvernia University
Faculty Mentor: Dr. John Lichtenwalner
This poster presentation focuses on the vulnerable population of human trafficking regarding care and re-conformity. Throughout the years, human trafficking has increased in numbers and became a national topic. The current research project discusses how victims are often targeted and perceived in a negative manner due to societal stigma. Stigma often impacts the victim’s form of treatment and the recovery process back into society. Societal stigma can be minimized with the proper education and practices for healthcare professionals such as trauma informed-care. The content analysis focuses on a popular YouTube channel known as TEDx Talks. TEDx Talks focus on sensitive, controversial topics such as human trafficking. The researcher analyzed six human trafficking videos for words associated with human trafficking. The researcher found that the presenters generally avoided the use of stigmatized
language, which supports a positive environment and relationship with healthcare professionals who are helping human trafficking victims.

“Treatment for Children with ADHD”
Becky Jones, Kaitlyn Mensch, and Shannon Pierce, Alvernia University
Faculty Mentor: Dr. John Lichtenwalner
The mental disorder of Attention-Deficit and Hyperactivity Disorder (ADHD) affects many children worldwide. ADHD affects a child’s ability to concentrate in school, have social relationships and function in everyday life. This poster presentation reviews professional literature exploring the various treatment methods for children living with ADHD. This review examines the types of medical, school, and behavioral treatment methods available for children living with ADHD, ages 2 - 18. The medical treatments include stimulants and cognitive enhancing medication. The school treatment consists of behavioral and academic interventions such as daily report cards and token economies. Behavioral therapies include behavioral modification treatments such as Behavioral Parent Treatment and Training interventions. With the research gathered social workers will acquire a portion of competency in the area of treatment and children living with ADHD.

“Delinquency and Adolescents with Incarcerated Parents: Risks and Prevention”
Ann-Marie Stout, Alvernia University
Faculty Mentor: Dr. John Lichtenwalner
This poster presentation analyzed risks and preventative factors associated with parental incarceration and juvenile delinquency. The researcher conducted an extended review of the literature and provided a thematic analysis of the results. The thematic analysis categorized risks and preventive factors according to social bond theory. The implications of this study are to improve the effectiveness of social work practice involving the criminal justice system at the micro mezzo, macro, and policy level. The study provides a source of information regarding strengths and supports that decrease the likelihood of delinquency within this group. The research shows delinquency is linked to the weakening of the family structure and exposure to adverse events in life. Some possible preventative measures in reducing the likelihood of delinquency are early identification, individualized assessments, and personalized interventions for these children.

“Evidence-Based Practices for Homeless Youth: A Literature Review”
Joslyn Velez, Alvernia University
Faculty Mentor: Dr. John Lichtenwalner
The following Poster Presentation focused on evidence-based practices which provide positive outcomes for youth experiencing homelessness. Few evidenced-based practices have been developed aimed solely at the age range thirteen to eighteen years old. The articles reviewed included a variety of interventions including workshop practices, effectiveness practices, review of services, mindfulness, change of perspective, improvement of direct services and push toward education of social work practices focusing on homelessness. Outcomes from the research suggest a need for increased awareness of young people experiencing homelessness. Additionally, decision-makers must strategize and target funding for specific populations. Social workers must also continue their education on this important topic. The research highlights positive outcomes further supporting the need for Berks County to open shelters for the numerous local homeless youths.
“Occupational Justice in Dementia Care”
Katelyn Lee, Olivia Madara, Abbey Reppert, and Ashley Tomlinson, Alvernia University
Faculty Mentor: Dr. Amy Thomas
Occupational justice refers to the basic right held by every individual to have the opportunity to engage in meaningful occupations. Unfortunately, individuals with dementia residing in residential care facilities often experience occupational injustices due to structured routines, limited access to desired activities, and decreased autonomy. The purpose of this critically appraised topic was to investigate how occupational therapy practitioners can play a role in promoting occupational justice for inpatient residents with dementia. Throughout the investigation, researchers critically appraised 20 studies to examine interventions or practices that promote occupational justice for these individuals. Four investigators selected articles that demonstrated best evidence results and organized information based on four key themes, including education and advocacy, environment, occupations, and opportunities for participation. The first theme, education and advocacy, focused on defining the role of occupational therapists in the care of individuals with dementia and the best methods for treating these residents. The theme of environments examines common living spaces and promotes home-like environments. The theme entitled occupations includes resident’s participation in meaningful occupations, such as ADLs, social participation, and leisure. The opportunities for participation theme focus on general activities typically provided in residential care, such as interaction with pets, religious activities, card games, and nature excursions.

“Comparing the Effectiveness of LSVT-BIG and Tai Chi’s Functional Impact on ADL and IADL Independence in Individuals with Parkinson’s Disease”
Brenna Gessner, Kristen Ryberg, Rachel Loar, and Casey Rusk, Alvernia University
Faculty Mentor: Dr. Amy Thomas
Parkinson’s Disease is a neurodegenerative disease which affects an individual’s speech, posture, and gait. These symptoms present major difficulty in a person’s ability to participate in meaningful occupations, including self-care tasks known as activities of daily living (ADLs). The aim of this investigation was to determine the benefits of the Lee Silverman Voice Treatment- BIG (LSVT-BIG) intervention when compared to Tai Chi programs on symptoms related to Parkinson’s disease and examine their corresponding impact on ADL/IADL function. Current evidence suggests the LSVT-BIG program facilitates greater independence in the performance of ADL/IADL skills when compared to Tai Chi. Implementation of LSVT-BIG by occupational therapists may allow for a more holistic and client-centered approach to care.

“Synergistic Relationship between Herbal Extracts and Antibiotics against Staphylococcus Aureus”
Amilkar Natal, Alvernia University
Faculty Mentor: Dr. Eric Recktenwald
Capsaicin, an active ingredient in chili peppers, and Rosmarinus officinalis (rosemary) have been shown to inhibit growth of the gram positive bacteria Staphylococcus aureus. Both extracts are hypothesized to inhibit bacterial protein synthesis pumps. This study was designed to explore a possible synergistic relationship between rosemary and capsaicin. Synergism is the cooperation of two substances in the production of an effect greater than the sum of their separate effects. This study also explored the possibility of synergism between herbal extracts and two well-studied antibiotics – penicillin and
ciprofloxacin. Results suggest capsaicin is not an effective inhibitor of Staphylococcus aureus. However, Rosemary was shown to be an effective inhibitor of bacterial growth. Results suggest synergism between rosemary and ciprofloxacin.

“The Effect of Music on Mood Change in Students”
Brennan Keller, Reading Area Community College
Faculty Mentor: Professor Carol Bean-Ritter
The following paper describes a study conducted on the effect of music therapy and mood and mental health. There were twenty subjects from Reading Area Community College who participated by recording their mood before and after listening to Violet Melody. In general, there were moderate to strong differences in the participant’s recorded mood after listening to part of “Violet Melody”, with increases in feeling inspired and relaxed, and decreases in feeling grumpy.

“Font Type”
Sheina Pacheco, Reading Area Community College
Faculty Mentor: Professor Carol Bean-Ritter
The following paper describes a study on font type. The subjects will be from Reading Area Community College who will participate by studying a list of nouns, in either a common font or a script, for a recall test. The test aims to determine if the font type affects recall ability.

“The Effects of Veteran Peer Support Specialists When Assisting Mental Health Care Professionals”
David Wallace, Alvernia University
Faculty Mentor: Dr. John Lichtenwalner
This poster presentation is intended to raise awareness to all healthcare professionals to enhance the quality of mental health care for military members and veterans. The researcher explored the professional literature to describe military culture throughout the stages of enlistment. This study aims to educate social workers and other healthcare professionals about challenges that are encountered throughout these stages. The literature indicates that education about military members and military veterans is an important aspect of helping this population, with the assistance of peer support specialists. Peer support specialists are veteran personnel that serve in a helping capacity with other veterans who are seeking assistance. These peers provide an important link in communication between military and non-military individuals. According to the Department of Veterans Affairs, there is a high demand for the employment of veteran peer support specialists with assisting mental health care professionals when providing services to veterans. The literature suggests that more research is needed for the collaboration between veteran peer support specialists and mental health care professionals. The collaboration of veteran peer support specialists and veterans experiencing mental health services will bridge the gap in communication between those in the military and civilians.

“Examining the Therapeutic Impact of Physical Recreational Activities on Children with Autism Spectrum Disorder”
Margaret Lang, Julia Malpass, Amanda Moyer, and Nicole Rosati, Alvernia University
Faculty Mentor: Dr. Amy Thomas
With the continued increase in the prevalence of autism, it is important that the occupational therapists, and other service providers, keep up with current and emerging evidence-based treatment options.
Current occupational therapy treatment typically involves a sensory and behavioral-based approach. The aim of this investigation was to examine structured physical recreational activities including equine-assisted activities, aquatic exercise, movement therapy, and sports participation, and their potential effectiveness as a therapeutic tool. Engagement in these physical recreational activities appear to increase both social participation and adaptive behavior for individuals with autism. The expanding use of physical recreational activities as a therapeutic tool may contribute to more holistic and client-centered occupational therapy treatment for children with autism.

“The Study of Habituation in Rana pipiens Through Response Stimuli as a Model for Obsessive-Compulsive Disorder in Humans”
Samantha Conte and Emily Carmella, Alvernia University
Faculty Mentor: Dr. Eric Recktenwald
A type of learning known as habituation is the diminishing of a physiological or emotional response to a frequently repeated stimulus. Habituation allows animals to ignore unimportant stimuli so to conserve energy and focus attention on ecologically significant aspects of the environment. The neural mechanisms responsible for mediating habituation in vertebrates remains unknown. Habituation is likely involved in mediating the effectiveness of exposure and response prevention therapy (ERP). ERP involves repeated exposure to a trigger and is used for the treatment of disorders such as obsessive-compulsive disorder (OCD). This project seeks to establish the Northern Leopard Frog (Rana pippins) as a vertebrate model for the study of habituation. leopard frogs respond to moving prey stimuli by snapping in the direction of the stimulus. In each trial a frog was shown an unobtainable prey stimulus and the frog’s response was recorded. Trials were repeated ten times in each session, and sessions were conducted weekly for two months. Results indicate frogs habituate to repeated prey stimuli over a short and long-term time scale.

“The Analysis of Body Mass Index (BMI) and Performance on the Balance Error Scoring System (BESS) in Marine Corps Officer Candidates”
Heather Wood, Nicole Kulp, Natalie Miller, Jordan Kissner, Theresa Hillbish, Matt Junio, Samual Dieffenbach, Jordan Wissinger, Alvernia University
Faculty Mentor: Dr. Kim Stoudt
The relationship between Body mass index (BMI) and performance on the Balance Error Scoring System (BESS) in Marine Corps Officer Candidates has not been fully elucidated in research studies. As part of an observational longitudinal cohort study, the purpose of this investigation was to examine objective scores on the BESS from Officer Candidates enrolled in the Basic School in Quantico, Virginia. This study included a modified version of the BESS. Balance was assessed in a stable single-leg stance on a firm surface for 20 seconds. Subjects were tested on both the dominant and non-dominant leg with eyes open and closed. At the time of abstract submission, results of the investigation were pending.

“Can a Video Help Convince People That Music Therapy Can Be Used to Treat Alzheimer’s Disease?”
Daniel Ortiz, Reading Area Community College
Faculty Mentor: Professor Carol Bean-Ritter
The following paper describes a study on music therapy having a positive effect on mental and physical health. There were _____ subjects from Reading Area Community College who participated in an
experiments to test if an informative video can help persuade people that music therapy is a useful tool in treating Alzheimer’s disease.

“Calming Videos and Their Effect on Mood Change”
Dejanae Navedo, Reading Area Community College
Faculty Mentor: Professor Carol Bean-Ritter
The following paper describes a study on YouTube videos and mood change. There will be twenty subjects from Reading Area Community College who participate by doing a pretest/posttest experiment, where they will describe their mood both before and after watching a calming YouTube video.

“Representations of Ethnicity on Chopped”
Lisa Roth and Taylor Franco, Penn State Berks
Faculty Mentor: Dr. Cheryl Nicholas
America is considered to be a “melting pot” of different cultures; yet it spite of this diversity, there are still distinctions on what is “normal” and what is “different” in types of food and food culture in America. In this paper, we argue that what is considered “normal” in everyday cultural experiences is set in place by those in power in a society. People or cultures with less power are often marginalized and cast as “different” or “unique.” We seek to better understand how these distinctions are made in food culture, based on discourses about food in popular media. Using textual analysis, we analyzed representations about different kinds of food in the Food Network Show Chopped. Three seasons of the show were selected for analysis. Our study focused on the verbal behaviors (e.g. words, text) and nonverbal reactions (e.g. facial expression, gestures) by chefs, judges, and host. Preliminary findings have shown that there were specific markers of representation for “American” food across most cases (by judges, chefs, and host), where typical American food is considered to be food such as, burgers, beer, bacon, mac and cheese, and pizza. For the chef-contestants, however, markers of “difference” (e.g. different, exotic, twist) were more complicated; they were typically associated with perspective.

“Color Improving Memory”
Brianna Bowles, Albright College
Faculty Mentor: Dr. Keith Feigenson
The purpose of this study is to examine whether colorizing words will improve the memory of the participants. Specifically, the study will examine whether colorized words or grey scale words have better memory when being exposed to either the English language or Italian language. Participants were asked to watch one approximately 35 second video that either consisted of 15 colorized or grey scale Italian or English words. Participants were then presented with list of 30 words and asked to select which words they recalled seeing in the video. We conducted 2x3 Between Subject ANOVA and found a main effect of language with the amount of words selected wrong [ F(1,80)= 9.225, p<0.003], such that being exposed to English and Italian had an impact on how many words they selected wrong. In addition, in our analysis we found that there was interaction between language and the color of the word with the number of incorrect words selected [ F(1,84)=4.984, p<0.028], such that the type of language and the color of the wording in the video had an impact of the number of words that were selected incorrectly.

“Sex Tourism in India”
**Nicole Combs, Albright College**  
**Faculty Mentor: Dr. Irene Langran**  
The project attempts to understand nongovernmental and intergovernmental organization involvement in India’s policies and preventative measures to the growing issue of sex tourism. While the exact numbers behind sex tourism are unknown due to the covert operations, the estimated number of women and children involved has been steadily increasing through the decades as globalization takes its root. The research itself revolves around the time period after India established an amended anti-trafficking clause into its constitution in 1986 and seeks to provide solutions through taking into account case-studies of how other states are approaching the issue. The topic and research will be presented as a poster.

**“Perceptions of Society on Inclusion in Public Schools”**  
**Brynne Schoppe, Albright College**  
**Faculty Mentor: Dr. Keith Feigenson**  
Children with special needs often feel separated from their fellow classmates, which can create an artificial barrier. Separate classrooms means that they do not get to interact regularly with their peers as other students can. Here, I examine the perceptions people have on Inclusion in Public Schools. Using Qualtrics, we assessed this with 10 scenarios, (5 with descriptions of children with special needs in a school setting, and 5 without the description in identical environments). Each scenario had all the same 6 same questions on a scale from 1 to 7 based on how well the participant thinks that student fits into the environment, and how happy they are. They also completed 4 scale questions strictly on the beliefs of inclusion in Schools. My preliminary results showed that there is a significant main effect between the conditions when compared to how people responded to the idea of inclusion. I conducted a 2-way Independent ANOVA to show this, F(2, 64)= 6.902, p < .05). This finding shows that participants rated special needs children differently depending on their grouping of tolerance for Inclusion.

**“Investigating Student Engagement at Penn State Berks”**  
**Cameron Rice, Martin Hinton, and Max Elliott, Penn State Berks**  
**Faculty Mentor: Dr. Cheryl Nicholas**  
This case study focuses on the students of Penn State Berks campus and their engagement or participation in campus activities. Student involvement (which includes extracurricular activities) is an important ingredient of student success and professional preparation. Initial survey interview questions were created to evaluate students’ level of engagement. In-depth face to face interviews followed these initial surveys. In these face-to-face interviews, the researchers studied how participants justified their lack of engagement. Festinger’s Cognitive Dissonance theory (Festinger, 1959) was used as a theoretical frame for these behaviors. This study attempts to identify and understand why and how students avoid inconsistent (dissonant) behaviors that result in a psychologically uncomfortable state of mind. The preliminary results based on surveys and interviews (n=20) indicate commonalities in how students identify as being “unengaged” (not participating in any activities outside of their scheduled classes). Constraints include time/work, family/friends, interest/visibility. Importantly, students claim that they still have “time” to get involved, and that there are other ways to achieve student success and professional preparation. This information can be used by the campus administration to help counter the lack of student engagement.
"A Pilot Survey to Assess Vitamin D Knowledge"
Elizabeth Beltran, Alvernia University
Faculty Mentor: Professor Diane Kraft
A proposed survey will be sent out to campus students, using a brief, Email questionnaire containing quantitative and qualitative questions about general vitamin D knowledge. The quantitative questions will be simple "yes" and "no" questions to which answers have already been established and are widely known. Answers to the qualitative questions are also well-established and widely known. Incorrect and correct responses will be determining whether the questions were answered incorrectly or correctly, thereby determining knowledge. Surveys and questionnaires are common tools for assessing nutrition knowledge and practices. Others have surveyed college students and college personnel to determine vitamin D knowledge and vitamin D intake. It is planned to submit this study as a poster or paper and believe that because of its significant number of participants, it will be reflective of "average" vitamin D knowledge for the specific questions that were tested. This may prompt another researcher to use our questionnaire and validate or revise it so that it can be reliably reused to gauge nutrition knowledge in other populations, adding to the body of research. Whether the paper finds that participants were knowledgeable about vitamin D or not would be of interest.

“The Difference in Interpretation of Emotional Response in Regards to Gender and Attire”
Isabel Skovera, Albright College
Faculty Mentor: Dr. Justin Couchman
The experiment was based on the idea that women participants could be prone to stronger emotional reactions, which is a concept that supports the popular idea that women are generally more emotional. The experiment also tests the idea that attire affects others' perception of behavior. A total of 118 participants, ages ranging 18 to 54, were asked to view six images. Three images were of men, of those three images, each man either being shown in athletic, casual, or professional clothing. Three images were of women, of those three images, each woman being shown in athletic, casual, or professional attire. All images had the subject facing the camera with a neutral expression. Participants were then asked to predict the outcome of a sad situation, according to how they thought the person in the image would react. Images were to be rated as well. While gender of the subject in the image was not consistently significant, attire was. Participant sadness was also found to be significant in ratings, especially based on attire.

“Vytah-Fit Opravit”
Karl Bruhn and Masen Suhadolnik, Penn State Berks
Faculty Mentor:
The Vytah-Fit Opravit is a barbell sensor that involves our capstone project between 5 Electrical Mechanical Engineering Technology students that have an overwhelming passion for fitness across broad athletic and strength training backgrounds. The Opravit utilizes integrated sensors and relies on Bluetooth connectivity to transfer weightlifting data to a mobile application. The sensor will reduce the risk of injury due to free weights through simple form correction and maximize the user’s performance through metrics feedback. The type of presentation that our group will be presenting will be a poster project with our group providing a barbell, capstone poster, PowerPoint presentation, and barbell sensor which will include the 3D printed case and the internal hardware components. The team at Vytah-Fit LLC is dedicated to facilitating form correction and maximizing user performance with the
Opravit Sensor providing individualized feedback to the user in order to lift safely and efficiently to ditch expensive costs and start living a healthier life.

Art Exhibit 1
9:45a.m – 10:45a.m.
Miller Center for the Arts lobby

Moderator: Laura Gelsomini, Associate Professor, Communications, Arts, and Humanities

“Curating the Couture Corset: Victorian Couture Methods Meets Modern Day Sustainable Fashion”
Ashley Hillegass, Albright College
Faculty Mentor: Professor MeeAe Oh-Ranck
This ACRE project is comprised of three different parts being digital printing and sustainability in fashion, historical corsetry and modern interpretations of it, and couture construction techniques. Digital printing and couture techniques connect with sustainability because they create garments with better construction and less harmful chemicals. Modern corsetry is associated with couture techniques because of the advanced nature of the processes and the way that they are used in their garments. These processes combined comprise an intricate section of the fashion industry and how they all connect

“Unnoticed Beauty”
Olivia Biancone, Reading Area Community College
Faculty Mentor: Ms. Christina Pinkerton
The beetle project was done during a Fine Arts 1 class, which was my dual enrollment class. Our assignment was to draw a bug on black paper using colored pencils. I chose to do a beetle because they have a nice shine to them and have many different colors. The beetle has won at the Nolde Forest contest, and also won a silver key at Kutztown. I chose to call it "Unnoticed Beauty" because most people don't notice how pretty the beetle is and how many different shines and colors are in it. When making it, I first layered white underneath colors to make them brighter and stand out more.

“Colorful Exploration of Eclectic Bohemian Design in Fashion and Interior's”
Kiara Eisenhower, Albright College
Faculty Mentor: Professor MeeAe Oh-Ranck
Bohemian Design is for those who color outside of the lines. It is a random eclectic mix of pattern, texture, and color of all things both old and new. My design research and display mirror these trends through the creative process. It includes ethnic fabric exploration, sewing techniques, furniture reupholstery, trend analyzing, and establishment of brand aesthetic. My research constructs into a contemporary bohemian fashion and home collection.
Collection Includes: Garments, Reupholstered Antique Chair, and Pillows

“Birth of Picasso”
Christine Piffer, Jennifer Carpenter, and Darien Haynes, Reading Area Community College
Faculty Mentor: Professor Joanne Schlosser
Throughout the process of making the dress, we used a symmetrical as well as an asymmetrical theme, to help define the unorthodox style based on Picasso’s “Girl before a Mirror” a well-known Cubist painting. Our dress represents the birth the early 20th century movement of Cubism, credited to artists Picasso and George Braque. The memetic feature of the dress targeted the pregnant woman in the painting seeing herself as an older woman, and we took that same concept and added that to the painted masks that wrapped the bottom half of the dress, over the womb. Together, the figurative aspect and the references starting from the color pattern from the backdrop of the painting to the many faces of the woman, shows Picasso’s ideas implemented to create this masterpiece of a dress. Picasso’s work explored the use of multiple viewpoints in one piece of art. In order to accomplish this, we first designed an extensive shoulder pad on the right arm. We used a cone wrapped in cloth fabric and attached it to the shoulder and built around it with painted cards in dark orange, green, and brown colors. We also attached a Styrofoam semicircle to achieve the “Birth of Picasso” effect, as well as attached painted masks to the dress made from recycled canvases. Each face artistically depicts all sides of woman during pregnancy.

“Requiem for Melancholia”
Julie Rears, Reading Area Community College
Faculty Mentor: Christina Pinkerton
Requiem for Melancholia was originally made for the Fast Lane billboard contest during art class, but I ended up not being able to submit it because at the last minute they changed the dimension and submissions had to be vertical. I did enter it into the eastern regional Scholastic Art Show where it is a contender for the American Visions Award and it is currently hanging in the gallery at Kutztown University. It was also juried into the Yocum Art Institute show in January. The inspiration for this piece is a little scattered, originally I had come up with the idea because I’d wanted to include someone playing a violin. This idea eventually evolved into what it did because I’d wanted to practice painting a variety of objects like skulls and fabric, which was inspired by literature I read in English class and Social Studies courses.

“Reflection in Vincent's Eyes”
Vilmaris Martinez and Iraldy Acosta, Reading Area Community College
Faculty Mentor: Professor Joanne Schlosser
The unconventionally designed fashion portrays a reflection of Vincent’s multiple paintings of sunflowers. Our design with a bright yellow palette represents the sunny days in Vincent’s life which often was filled with pain. A uniquely crafted dress is designed using unconventional materials of crepe paper, paper, floral petals, glitter and hidden elements of wire building a framework upon which the flowers are attached. The brightly colored flowers contrast with the cream colored petals imitating the contrast of hues in Van Gogh’s original painting of Sunflowers. Our dress is a wearable art form for the fashion world representing Vincent Van Gogh’s floral paintings.

“Beyond This Century”
Elizabeth Pena and Carmen Perez, Reading Area Community College
Faculty Mentor: Professor Joanne Schlosser
As the years go by, fashion begins to evolve and change into this more modern age in which we live. “Beyond This Century” is a new wave of everyday fashion that has evolved to include characteristics necessary for a future world; primarily illumination. Hues for this apparel include metallic royal blue with slash accents of gold. The dress sparkles when the sun is at its highest point in the sky, lighting the space and wearer with a luminous glow.

This bejeweled iconic fashion was inspired by Gustav Klimt paintings of Emilie Floge and The Kiss. The design was made not only to be appealing, but also striking, from the front to the back. Beginning with a base created from ordinary mailing paper, the form was wrapped in a metallic royal blue sheath to add drama and impact, heightening its flow and dimension.

The warm gold accents against the jeweled blue field oppose and enliven each other, creating the allure of beauty, like Klimt’s The Kiss. The dramatic impact of the piece is both precious and alluring!

“Gords Galore “

Jennifer Carpinteyro, Reading Area Community College
Faculty Mentor: Professor Laura Gelsomini

The piece I am presenting is a observational painting I created in Painting class at Reading Area Community College. I used a acrylic medium for this painting. The piece is composed of neutral colors along with a soft lighting. I gave a sense of a fall season with the warm neutral colors and the dim lighting is meant to also convey the rainy reason associated with fall. The piece was put in place by my instructor, Susan Duby, for the class. The mirror and cloth next to the mirror are what caught my attention and felt were interesting and intrigued me to paint.

“Another World”

Jennifer Carpinteyro, Reading Area Community College
Faculty Mentor: Professor Laura Gelsomini

The piece I am presenting is a combination of two photos merged into one. The photo is of a fire escape stairs on a yellow background, leading to a door where clouds can be seen. I wanted the piece to feel like it is a stairway to another world. I felt the dark stairs were a great match with the yellow background. As well as the blue sky with clouds at the door which is meant to compliment the yellow background. I had the inspiration for this from my childhood day dreams. I used to image doors or windows that would lead to different worlds and when I took the photo of the stairs, I remember the fantasizes I had as a child.

“The Joey, Poppies, Quantum Entanglement”

Holly Dunda, Reading Area Community College
Faculty Mentor: Professor Laura Gelsomini

"The Joey" was created using primarily a 4B graphite pencil. This work captures the essence of a highly intelligent cat named Joey. Joey has inspired many people to adopt cats by demonstrating his unique character and his obsessive love for going in the car for rides.

"Poppies," a negative space assignment was created using sharpie Marker. The contrast of black and white poppies symbolizes the polarity of the good and evil that derivatives of poppy provide.

"Quantum Entanglement" is an abstract done with ink pens of various tip sizes. The title, "Quantum Entanglement," is a theory in quantum mechanics, which was the inspiration of this abstract. The behavior of subatomic particles defy Albert Einstein’s theory of special relativity that provides the
foundation for our understanding of space and time. Theoretically the real world is built upon a subatomic world that lacks reality. Einstein referred to this as "spooky action at a distance."

Paper Session 3
12:15p.m. - 1:15p.m.
Weitz Hall (formerly Penn Hall)

Mathematics – Room 213
Moderator: Lara Rosenberger, Associate Dean, STEM Division

“Four-Color Theorem Analysis”
Elizabeth D’Lauro, Alvernia University
Faculty Mentor: Dr. Matthew Prudente
Every map can be colored using a minimum of four colors where no two regions of the same color touch. This is the four-color theorem. This theorem pertains to planar graphs, defined as a graph where the lines only intersect at vertices so that no two edges cross unless at a vertex. This requires proper coloring of two faces of the planar graph, where no two adjacent faces have the same color. In 1977, Kenneth Appel and Wolfgang Haken proved the four-color theorem with the assistance of a computer after many failed attempts. Many discrepancies stand today about this proof as it was not completed by hand, leading many mathematicians to discredit the theorem, although the proof shows no signs of error. This paper will discuss the 4-color theorem as well as other relevant theorems in order to analyze the methods and techniques in the proofs and the theorem’s applications to the real world.

“Mathematical Paradoxes”
Sarah Hemmig, Alvernia University
Faculty Mentor: Dr. Matthew Prudente
A Paradox is a seemingly self-contradictory proposition or statement that when looked into or examined will prove to be true. The term paradox comes from the Greek words para which means "contrary to" and doxa which means "opinion." Some famous mathematical paradoxes include The Boy or Girl Paradox, The Fletcher’s Paradox, The Potato Paradox, The Birthday Paradox, and The Monty Hall Problem. All of these statements seem like they would be false but are actually true. We will be focusing on The Birthday Paradox and The Monty Hall Problem, we will go over why they may seem false and we will prove why they are true statements.

“An Analysis of Fractal Geometry”
Melea Barahona, Alvernia University
Faculty Mentor: Dr. Matthew Prudente
Fractal geometry is the study of the world through the lens of natural patterns and iterated polynomials in the real and complex plane. Fractals and the somewhat simple arithmetic behind them push the limits of simplicity and complexity when relating the math to the visual outcome. A popular fractal to be discussed is the Dragon Curve. This specific fractal pattern has less to do with iterations and more to do
with rotations. As a relatively new genre of geometry, there is much to explore as far as applications. The following paper describes the beginnings of how visual representations of fractals were generated via two key sets of parameters, the Julia set and Mandelbrot set, as well as an in-depth discussion of how fractals work in fiber optics and antennas.

“The History and Applications of Goldbach’s Conjecture”
Julian Stetzler, Alvernia University
Faculty Mentor: Dr. Matthew Prudente
Goldbach’s conjecture is a long-standing problem in Number Theory that was written in a letter to Leonhard Euler from Christian Goldbach in the 1700s. While unsolved, the conjecture has led to applications in data encryption. Goldbach’s conjecture states that every number greater than 2 can be written as the sum of two primes. Goldbach’s conjecture has been shown to hold for up to 4x10^8 yet no one can provide a solution or counter example. Multiple methods have been developed to understand the conjecture; such as the circle method, Chen’s Sieve, probabilistic analysis, and the matrix. This paper examines Goldbach’s conjecture, work that has been done to prove it, and current work that is being done.

Health Professions – Room 214
Moderator: Wendy Dunlop, Associate Professor, Clinical Respiratory Care Program

“Physician and Limited English Proficiency Parent’s Perceptions on Childhood Asthma in Primary Care”
Karen Alejandres, Albright College
Faculty Mentor: Dr. Bridget Hearon
In the U.S, there are nearly 37.5 million residents and native Spanish speakers, of which 44% are considered to have some degree of limited English proficiency (LEP; Riera et al., 2015). Despite the frequency of LEP individuals within the Latino community, the healthcare system is prominently geared towards English speakers (Bernard et al., 2006). Previous research has demonstrated the effects of language discordance resulting in limited ability of accessing quality healthcare and lower patient satisfaction (Claudio & Stingone, 2009). The current study examined the extent to which language barriers contribute to pediatric asthma treatment and management for LEP individuals in a primary care setting. Data analysis from 93 patient surveys disturbed at, All About Children Pediatric Partners reveled that LEP parents reported lower understanding of asthma management compared to fluent English speakers. LEP parents also reported having lower confidence in dealing with their children’s asthma attacks. These findings compliment previous literature and may help explain why Hispanic children are three times more likely to die of asthma-related conditions than non-Hispanic white children (US Department of Human Services Office of Minority Health, 2017).

“Emotion Regulation Strategies of Exercisers across Stages in the Transtheoretical Model”
Casey Mathews, Penn State Berks
Faculty Mentor: Dr. Andrew Friesen
The purpose of this study was to determine which emotion regulation strategies are associated with each stage of the Trans-Theoretical Model (TTM; Prochaska & Diclemente, 1983) in the context of exercise adherence. Past research has shown that categorizing individuals into the stages of the TTM when making a behavior change has been successful when creating a program tailored to the individual,
and emotions play a significant role in determining our daily routine. A 43-item questionnaire was given to participants to categorize their TTM stage and determine whether they preferred reappraisal or suppression strategies. An open-ended question allowed participants to elaborate on if and how they change their emotions when exercising. A Chi-Squared test demonstrated no significant relationship between the TTM stage and emotion regulation strategy. That is, there is no indication that people in the Contemplation Stage regulate their emotions any differently than those in the Action Stage. Qualitative data suggests that people in both Contemplation and Action Stages use exercise itself as an emotion regulation strategy.

“The Complex Cognitive and Social Impact Music Has on the Brain”
Matthew Woodward, Albright College
Faculty Mentor: Professor Wendy Bartkus
The aim of this research paper is to discuss the intimate relationship music has with the human brain. It will discuss the physical effect music has on the brain as well as the relationship it has with emotion and memory. The paper will survey how music can affect learning and the structure of the brain. Finally, this paper will explore the advantages musical therapy can have in treating those with mental disorders.

“Evolution of Diagnosing Phenylketonuria in Newborns”
James Perkins, Reading Area Community College
Faculty Mentor: Professor Patricia Mejabi
This presentation explores the scientific and technologic advancements made in diagnosing phenylketonuria in newborns, highlighting the principle and benefits of using tandem mass spectrometry (MS/MS) for newborn screening (NBS). Phenylketonuria (PKU) is known as an inborn error of metabolism (IEM) in which a person genetically inherits the inability to breakdown phenylalanine, an essential amino acid. Left untreated, PKU can cause brain and central nervous system damage, which can eventually cause death. The evolution of technology in medical science has greatly improved the speed and capability of medical institutions to deliver more accurate PKU diagnoses, greatly improving the outlook for those affected. The adoption of MS/MS for diagnosing PKU and other IEMs has its advantages and disadvantages and there are other alternatives to consider. This presentation will lay forth reasons why MS/MS should be the method of choice for NBS when possible, to aid in the diagnosis of PKU and other IEMs in newborns.

Humanities 3 – Room 216
Moderator: David Leight, Professor, Communications, Arts, and Humanities

“Relics: Dissecting the Bodies of Saints through a Union of Medicine, Art, and Theology”
Sophia Yaniger, Kutztown University
Faculty Mentor: Dr. Daniel Haxall
This presentation will discuss the veneration of relics through the medieval relationship with the human body. Primarily focusing on Roman Catholic doctrine, the understanding of the earthly body as a vessel led to the care and preservation of the dead—especially the “holy bodies” of saints. Additionally, the canonization process will be briefly discussed, introducing the factors of local politic and economic gains. Then the prospects of medical advancement will be considered through dissection and disassembly of bodies, ultimately leading to the translation of the human body into an object of veneration. Lastly, the
presentation will conclude with the contemporary ethical questions surrounding the dismemberment of the dead and the issue of re-contextualizing these early Christian objects of veneration as human remains.

“The Role of European ‘Bone Churches’ in Contemporary Dark Tourism”
Shelby Otto, Kutztown
Faculty Mentor: Dr. Daniel Haxall
In April of 2016, National Geographic published an article written by Robert Fried entitled, “Is ‘Dark Tourism’ Okay?” The article explores the idea of humans’ moral responsibilities in relation to dark tourism, which encompasses sites and attractions associated with death and suffering in one way or another. Throughout this discussion, we will address contemporary perspectives and responses surrounding European “bone churches,” or, more specifically, ossuaries. In addition to exploring the ways these strange architectural phenomena function in European tourism today, it is necessary to address exactly what these places are and how they were initially used. Ossuaries have populated Europe since the Medieval era, serving, and continuing to serve, as a consistent reminder of our own mortality and the passage of time. The following discussion will attempt to draw attention to the disconnect between the spirituality of bodily preservation in these places throughout history and how those values become misrepresented in contemporary dark tourism.

Joshua Templin, Albright College
Faculty Mentor: Dr. Heidi Mau
Robert Eggers's The Witch, billed as "A New England Folktale," is one of the best horror films of the last ten years. Centered around a Puritan New England family banished from their colony, it tells the brutal story of a family trying to survive a harsh winter in the wilderness. When the family's youngest child vanishes under mysterious circumstances, the family slowly descends into religious hysteria and paranoia, suspecting their eldest daughter Thomasin of being a witch.

In my essay, I explore the film by highlighting a series of dichotomies within: civilization and the natural world, subservience and freedom, masculinity and femininity, and so on. Working with theories developed by Julia Kristeva, Silvia Federici and Matthew Beaumont, I argue that the witch of the film is not only a threat to the family, but that its very presence subverts the values upheld by the family and by society at large. By crossing moral and ontological boundaries, the witch, like many monsters in horror, calls those boundaries into question.

Social Sciences – Room 217
Moderator: Danelle Bower, Associate Professor, Social Sciences and Human Services Division

“Kpop for a New Generation: The Impact of BTS and Their Mental Health Representation”
Hannah Fassbender and Xzavior Rain Sweeney, Penn State Berks
Faculty Mentor: Dr. Cheryl Nicholas
This paper explores the messages and meanings in the discography of BTS (Bangtan Boys/Bangtan Sonyeondan) to better understand their growing popularity in the United States, and globally. Specifically, this study analyzes mental health narratives, found textually and visually (words, mise-en-
scene, editing) in BTS’ songs and music videos. BTS has broken industry standards by addressing topics typically considered taboo, such as mental health. These types of topics have a strong sway with global audiences. The Korean music industry has a long and complicated past riddled with imperialism, access/government-censorship, and social pressures (Howard, 2013, 2014); and only in the 1990s (with influencers, Seo Taiji and Boys, and Lee Soon Man) did modern Kpop find global momentum, by mixing in Western music styles (e.g. rap and soul) and breaking away from censorship (Shim, 2012). BTS, a recipient of this legacy, propels the Kpop movement even further into global arenas with their music themes that have captivated young audiences worldwide. Importantly, BTS’s transparency about their personal mental health journey and messages of positive mental health are key factors of their domestic and global success.

“Adolescent Autism Representation in the Media”
Margo McGeehan, Kutztown University
Faculty Mentor: Dr. Emily Cripe
I will be analyzing ten examples of visual media released within the 21st century (including film, television, and documentaries) that focus on adolescent aged subjects on the autism spectrum. After viewing all the media in my sample, I will create individualized code books for every autistic subject featured, separating data by appearance, education, residency/relationships, personality and diversity; for individual television episodes, how the subject is introduced, the initial reactions of the main characters, how they learn to communicate with/understand them, the recurring status of the subject in the series, and additional notes will also be included. As a researcher who was diagnosed with Asperger's at age three and identifies as part of the autism community, I want to find out if there is an "average" representation of autism in the media, and how subjects who identify as such are interpreted both within the narrative and by the viewer.

“A Home-Based Intervention Examining the Effects of Positive Reinforcement on Adaptive Behavior”
Brittany Brown, Kutztown University
Faculty Mentor: Dr. Christopher Bloh
Adaptive behaviors represent an individual’s ability to successfully function in various settings in everyday life. These skills can be taught and intervened upon to increase the amount of natural reinforcement gained by engaging in them. This intervention was conducted to increase a college student’s adaptive behavior in clearing the drain after the participant finished showering. Baseline data related that the target behavior did not occur (0%). Verbal prompts and positive reinforcement were implemented within 20 minutes of the completion of her shower in the form of verbal praise, tangibles, and quality time with friends. The intervention occurred for four weeks and the target behavior increased to 70% of the observed intervals, with or without prompting. This improvement suggests the potential use of these procedures with similar adaptive behaviors across various settings.

“Addressing Roommate Behavior: Function-based Behavior Intervention Plan”
Rebecca Bucci, Kutztown University
Faculty Mentor: Dr. Christopher Bloh
This study investigated a response-to-intervention (RTI) approach to a behavior intervention plan (BIP) implemented in a college apartment setting. The purpose of this intervention was to increase the frequency of the target behavior washing dishes, operationally defined as cleaning 100% of the dishes
used, for any purpose, within 5 minutes after using them. The intervention included three phases changes: The first two being ineffective. The results suggest that third phase change was effective because the frequency of the target behavior increased. Implications and recommendations to improve further practice are discussed.

Political Science 2 – Room 226

Moderator: Cynthia Seaman, Senior Vice President of Academic Affairs/Provost

“Spain’s Separatist Movements: What Does it Take to Succeed?”
Rita Muro, Kutztown University
Faculty Mentor: Dr. Kristin Bremer

Spain’s government has been impacted by two powerful movements, coming from different Spanish regions, for a separation from the Spanish state. The Basque have sought independence in the last 50 years, sometimes violently, based on deep rooted cultural and ethnic differences. More recently the Catalans have sought independence through Political means. Both are driven by ethnic feelings supported by their own national self-determination seeking a common goal of independence.
This paper examines the Basque and Catalan Independence movements, employs the case study methodology for each, and analyses both movements’ chances for success and the future of Spain.

“Arenas of Democracy and Student Movements in Latin America”
James Bouffard, Kutztown University

Faculty Mentor: Dr. Robert Portada

Chile is often regarded as an example of a successful democracy in Latin America. However, in the post-Pinochet years, the country has faced crises that threaten stability and institutional legitimacy. The often violent student protests during the ‘Chilean Winter’ of 2011-2013 exemplify such periods. The leaders of this movement professed revolutionary ideals, and its participants frequently clashed with state authorities. Despite this, the protests were eventually quelled, and student leaders have implicitly accepted the government as legitimate given their subsequent positions as elected officials within it.
The purpose of this paper is to identify and analyze the main factors behind this development. While its causes are complex and numerous, several important reasons may explain this development. Chilean civil society is expansive, complex, and politically influential. Hence, it was sufficiently powerful to influence government policy and thus incentivized students to run for office. The rule of law also ensured political society remained legitimate during this time. Thus, individuals viewed it as a legitimate arena for addressing their grievances (Linz and Stepan, 1998, 14). A comparative analysis with Venezuela further evidences these arguments.

“The Implications of Unification: An Overview of the Korean Peninsula”
Cody Stetson, Albright College

Faculty Mentor: Professor Kimberly Justeson

What are the implications that would make the theoretical idea of a Unified Korea in the modern world impossible? Requiem and revelations between North Korea and South Korea have, once again, spawned intrigue amongst economists, political scientists, sociologists, world leaders, etc. Their intrigue funnels into one main topic: Could a Unified Korean peninsula exist alongside other states in the modern world? While many wish for a positive result to such a question, the implications present may be too excessive
to successfully unify the two countries. Despite sharing similar histories and culture, the two countries exist on opposite scales in terms of economy, growth, ideology, politics, etc. Taking similar historical circumstances, such as the separation, differences, and eventual unification of East and West Germany, is worthy for comparison. However, the comparison merely possesses similarities and doesn’t accurately represent other circumstances that would impose the idea of a Unified Korea. These implications will end up being the downfall of the idea of unification. The implications that would arise as a result of a Unified Korea make the idea of it virtually unrealistic.

“The Final Frontier: Two Chinas and their Quest for Central America”
Uttam Paudel, Kutztown
Faculty Mentor: Dr. Robert Portada
In the often forgotten hinterlands of Central America, the Republic of China (Taiwan) is fighting its last battle for international recognition. After El Salvador, Taiwan’s erstwhile ally of 57 years, abandoned Taiwan and switched diplomatic recognition to People’s Republic of China, Taiwan is left only with 17 states that recognize it. Once a stronghold of Taiwan’s support, Central America has now become the final frontier of Taiwanese legitimacy. Unable to match China’s political, economic, and diplomatic might, Taiwan is now reduced with just four allies in Central America. While China is actively poaching Taiwan’s last remaining partners, the United States is conspicuous by its absence. What does it mean for China, Taiwan and the countries of Central America? Is China’s increased presence in the Western Hemisphere a subject of concern?

Poster Session 3
12:15p.m. – 1:15p.m.
Schmidt Technology and Training Center lobby

STEM and Business
Moderators: Heather Hinkle, Assistant Professor, STEM Division and Carol Bean-Ritter, Professor, Social Sciences and Human Services Division

“Composite Swingarm”
Avery Brown, Logan Bonner, and David Belousov, Penn State Berks
Faculty Mentor: Dr. Rungun Nathan
Over the last year the design of a carbon fiber composite swing arm was completed. The emphasis of this project was efficiency and safety. The purpose was to take an existing swing arm for a Harley Davidson Sportster motorcycle, and create a composite replacement that would have a dramatic weight reduction without losing strength.

“VeloChair - Chain Tensioning System”
Steven Stamm, Nicholas Bologa, and Bryan McSherry, Penn State Berks
Faculty Mentor: Dr. Rungun Nathan
VeloChair has taken the basic idea of a wheelchair and made major modifications that allow the user to pedal the chair like a bike in both the forward and reverse directions. The VeloChair allows people to use
their legs in a fun and safe way to exercise muscular, cardiovascular, and neuro systems. The design of the VeloChair has many unique features that include a steering system, brakes, and an adjustable boom. The boom adjusts to allow people of different height to use the chair, but this can only be done by manually adding or removing chain links to achieve the desired boom length. The goal of this project is to design a mechanism to take up chain slack as the boom is adjusted. A bike chain tensioner was mounted to the boom of the chair to provide the necessary tension while self-adjusting as the boom is extended or retracted to achieve a desired 4-inch extension. The mechanism was supported by a steel bracket that was mounted to the boom using a c-clamp. A standard bike chain tensioner was purchased, modified and mounted with a UHMW glide to the steel bracket to guide the chain and take up slack.

“VeloChair: Drivetrain”
Ryan Hertzog, Daniel El-Hajj, Justin Folk, and Kong-Meng Yang, Penn State Berks
Faculty Mentor: Dr. Rungun Nathan
We have gone through the research and selection process in order to design and build a new drive train for the VeloChair company. The current chair design uses a traditional bicycle chain which needs to be separated and have links removed or added in order to adjust the length of the boom for the user. The drive train design which we decided would be the best option for the pedal-powered wheelchair is a driveshaft. The driveshaft needed to be adjustable up to 4 inches so that the length of the boom can be changed according to the rider's height. A gearbox was purchased to transfer the rotation caused by the user's pedaling to the driveshaft and then a ring and pinion set to transfer the driveshafts motion to the axles and wheels.

“Biomimicry: Swimming with the Fishes”
Edward Loughery, Nicholas Ficca, and Robert Miller, Penn State Berks
Faculty Mentor: Dr. Rungun Nathan
Modern engineering has found great insight from studying the natural wonders of our planet. Our team of engineers have developed a tethered robot that generates fluid motion using oscillating fins, similar to that of a stingray or cuttlefish. This device is capable of driving a wave with variations in the frequency and amplitude for a range of operations, enabling the device to adapt in unsteady flow. This is an improvement over similar biomimetic stingray fins which are only capable of variable frequency. Most importantly, this device produces a wave actively throughout the length. Rods extending outward into the fin spaced inches from one another, similar to bones in a webbed appendage, work to increase power delivered to the fluid along the fin’s entire length. This design is an improvement on other research fins, which are only active at the leading edge, resulting in less thrust production.

“Effects of Facial Expressions on Association Memory”
Dana Fielding, Albright
Faculty Mentor: Dr. Keith Feigenson
The purpose of this study was to study how facial expression affects memory. There were three conditions for facial expression: smiling, scowling, and being expressionless. The three conditions for word type were positive, negative, and neutral. Participants were randomly assigned to one of the three facial expression groups, but each participant saw all the word types. Data was gathered from a total of 92 participants. Participants would first see a facial expression they had to imitate and then a video displaying the list of words, then try to remember as many words as possible. The first hypothesis was
not supported because the there was no significant difference in remembering words based on facial expressions \([F(2, 70) = 0.290, p = 0.749]\). The second hypothesis was partially supported because there was a significant difference between remembering positive words more than neutral words, but there was not a significant difference between remembering positive words over negative words \([F(2, 140) = 13.037, p < 0.01]\). There was no interaction effect \([F(4, 70) = 0.865, p = 0.486]\). These results suggest emotional words may be better remembered than neutral words.

“Quadrant Lance”
Alexander Paul, Zachary Smith, Gabriel Rineer, and Anthony CuCulino, Penn State Berks
Faculty Mentor: Dr. Rungun Nathan
Quadrant Plastics is a global leader in the manufacturing of machinable engineering plastic products. In the production of engineering plastic sheets, a 6’ long casting lance is used to dispense the flow of molten plastic in a 4’x10’ mold. This casting lance is currently manually oriented to ensure a homogeneous distribution of plastic that is free of anomalies. This project involved the automation of this process, which involved designing a mechanism capable of vertical, horizontal, and rotational translation. It is designed by senior mechanical engineering students Anthony CuCulino, Alex Paul, Gabriel Rineer, and Zachary Smith coming from Penn State Berks.

“Testing Dough Properties”
Tyler Reeser, Hazim Ramzy, Robert Tarlo, and Girum Mideksa, Penn State Berks
Faculty Mentor: Dr. Rungun Nathan
This project seeks to investigate and determine the mechanical properties of dough while also studying the effects of varying moisture content on these properties within the sample. A Texture Analyzer was utilized to study the uniaxial tensile, compressive, and shear properties of the desired samples. The characterization of these properties becomes difficult since the behavior of dough samples is highly nonlinear. The length of time between mixing and testing also plays a crucial role in the accuracy and repeatability of the tests; especially since extended periods will dry out the test samples. Additionally, unique molding and testing attachments were designed and fabricated to ensure consistent tests are conducted.

“Trimatis Polymer”
Scott Satterthwaite and Tim Machon, Penn State Berks
Faculty Mentor: Professor Terry Speicher
Our project is to build a shredder for plastic bottles so that the small pieces can be melted and extruded into a 3-D printer filament.

“2D to Reality”
Molly Lynn Dallas, Albright College
Faculty Mentor: Professor Paula Trimpey
This project describes the process of designing and creating leather bracers for a costume. It goes through the steps of design and creation. The design was based on an existing fictional animated character named Hiccup. I chose this character because he had a new movie coming out and I wanted to cosplay him. I researched the character design and found reference photos from different angles. Once I knew what the bracers looked like I made a duct tape pattern. This was achieved by wrapping my arms
in cling wrap and duct tape and drawing the pattern onto the duct tape. I then transferred the pattern onto foam yoga mat to ensure a proper fit. The pattern was then transferred to and cut out of leather. The leather then had to be embellished in various ways to fit the character design. This was done by adding rivets to the part of the bracer that covers the hand and adding the straps that are woven through the bracers. This allowed me to create a screen accurate version of Hiccup’s bracers.

“Amplification and Cloning of Genes in the Amino Acid Phenylpropanoid pathways in the Bioenergy Crop Shrub Willow”
James Holowko., Alvernia University
Faculty Mentor: Dr. Michelle Serapiglia
Research into how bioenergy crops like poplar and willow adapt to environmental stress is pivotal in the development of renewable sources of fuel. Increases in atmospheric carbon, severe weather patterns and impacts on water quality continue to affect crop growth and environmental conditions. These stresses alter metabolic pathways and gene expression in plants. In this study, we plan to examine the effects of increased nutrient uptake on two key pathways in two different genotypes of shrub willow. Key regulatory genes in the amino acid and phenylpropanoid pathways were selected for isolation, amplification, and cloning for future gene expression analysis. Understanding the key genes responsible for the creation and allocation of carbon compounds, such as lignin, to the secondary cell wall could result in more targeted breeding strategies for bioenergy crops.

“Infrared (IR) Analysis of Fibers of Various Types and Colors”
Elizabeth Bacilio, Alvernia University
Faculty Mentor: Dr. Rosemarie Chinni
This project used Infrared (IR) spectroscopy to analyze fiber samples consisting of various colors and brand samples. Fibers are polymers (a long-chain molecule formed when individual units, called monomers, are linked together) that can be categorized into two broad groups, natural and synthetic. Nylon and polyester are both examples of synthetic fibers. Wool and silk are natural fibers made from protein; and cotton is a natural fiber made of cellulose. Colored fibers are made by the addition of metal oxides or metal powders to the molten mixture. IR is based on the absorption of infrared radiation which excites the sample and generates an infrared spectrum of the energy absorbed by the sample as a function of the wavenumber of light. The IR spectra for each fiber type and color were recorded and analyzed to determine if differences can be seen for the different colors within the fiber samples.

“Pen Ink Analysis Using Laser Induced Breakdown Spectroscopy (LIBS)”
Alexandra Troyan and Alyson Adams-Ash, Alvernia University
Faculty Mentor: Dr. Rosemarie Chinni
Forensic scientists are often tasked with analyzing documents whose authenticity is in question, including but not limited to checks, confessions, counterfeit money, journal entries, and wills. By performing chemical analysis on pen inks, it is possible to differentiate between the brand, model, manufacturer and year of production of a particular pen ink. Laser-induced breakdown spectroscopy (LIBS) is a virtually non-destructive spectroscopic technique that can improve the forensic comparison of various pen inks, including black and colored gel and ballpoint inks. In LIBS, a high-powered laser is focused onto the sample. The focused laser pulse heats, ablates, atomizes, and ionizes the sample.
resulting in a plasma. The light from the plasma is spectrally resolved and detected resulting in a spectrum which primarily shows emissions peaks of elements. The elements in the sample can be identified by their unique spectral signatures. For this study, fifteen black, five pink, five orange, two yellow, nine green, eleven blue, five purple, one brown, and five red writing inks were analyzed to determine the variation of chemical composition of inks between different colors, brands, and types. The results indicate that LIBS shows potential for the forensic analysis of pen inks.

“Entrepreneurship Workshops and Perception of Entrepreneurship Education”
Caitlin Morris and Nathaniel Leighton, Penn State Berks
Faculty Mentor: Dr. Sadan Kulturel-Konak
The purpose of this study was to test if there is a relationship between entrepreneurship workshops and young students’ perceived value of entrepreneurship education when starting a new business. This study was intended to test the effectiveness of entrepreneurship workshops for implementation into future entrepreneurship-related education programs. The workshops consisted of presentations by college students on problem solving, brainstorming, and entrepreneurship. Students were then given the task of developing a mock pizza business plan. Students were given a survey assessing their perception of entrepreneurship before and after completing the workshop. The analysis of the results reveals that the entrepreneurship workshops made significant impacts on female students when compared to the results of male students. The perception of value in entrepreneurship education when starting a business significantly increased when comparing female student pre-survey results to their post-survey results.

“Creation of a Stable C2C12 Cell Line that Overexpresses the Muscle-Specific Scaffolding Protein Myospryn”
Collin Welteroth, Alvernia University
Faculty Mentor: Dr. Ondra Kielbasa
The focus of this project is to characterize the function of myospryn, a muscle-specific scaffolding protein localized to the costamere in striated muscle. Myospryn interacts with multiple proteins, including α-actinin, desmin, calcineurin, protein kinase A (PKA), dysbindin, and dystrophin. Myospryn expression is reduced in human Duchenne Muscular Dystrophy (DMD), as well as in the mdx mouse model of DMD. In addition, mdx mice exhibit a mislocalization of myospryn protein and disruption in PKA signaling. A myospryn gene polymorphism is also associated with cardiac disease. Myospryn’s interaction with multiple proteins and its implication in muscle disease indicates that it plays a critical role as a scaffolding protein in striated muscle. We are interested in creating a stable C2C12 skeletal muscle cell line that overexpresses myospryn to examine its impact on muscle differentiation. Several rounds of transfection and selection in the presence of G418 sulfate were completed, but clones could not be isolated due to overgrowth of the cells. Following this result, we tested a range of G418 concentrations to determine the optimal one for selection. Future selection attempts will be performed at the optimal concentration to facilitate the isolation of a clonal cell line that overexpresses myospryn.

“The Impact of Athletic Identity on Burnout in College Student-Athletes”
Alexis Dongvort, Kutztown University
Faculty Mentor: Dr. Jason Lanter
This study examines athletic identity between genders and further investigates how they affect burnout amongst intercollegiate student-athletes. The relationship between the independent variables (athletic identity and gender) and dependent variables including ego-resiliency, perfectionism, and grit, are also analyzed. Participants (N=95; 45, female, 50 male) are undergraduate student-athletes competing in NCAA Division 2 intercollegiate athletics. Participants are within the age range of 18-23 years old and compete in track & field, softball, and baseball. Participants completed surveys that measured demographic information including age, race, gender, and sport they belong to. Surveys also contained scales that measure athletic identity, ego-resiliency, perfectionism, grit, and burnout. It is predicted that there will be a significant main effect of athletic identity on burnout; specifically, intercollegiate student-athletes with a higher level of athletic identity are more burned out and are more prone to becoming burned out. A significant interaction between athletic identity and gender is also predicted; specifically, female student-athletes will have a higher level of athletic identity and are more prone to becoming burned out than males.

“Effects of Stress on Resting Heart Rate of Humans and Breathing Rate of Frogs”
Eric Amaro, Alvernia University
Faculty Mentor: Dr. Eric Recktenwald

The stress response is an important physiological mechanism for surviving in life-threatening environments. In humans the main stress hormone, cortisol, is released by the adrenal gland, and affects physiological mechanisms associated with mitigating stress such as increasing heart rate. Stress is a risk factor for multiple life-threatening conditions, therefore, it is important to establish physiological markers of stress in order to identify when stress levels are high. This study seeks to establish a protocol for associating resting-heart rate measurements with stress-inducing environments. There appears to be a correlation between stressful events and heart rate. It is unclear how increased stress levels affect behaviors such as academic performance. The physiological mechanisms responsible for altering behavior are likely induced by increased cortisol levels, but the effect of cortisol on the neural circuits mediating behavior are unknown. A vertebrate model organism is necessary to study cortisol’s effect at the level of neural circuitry. In frogs the main stress hormone released by the adrenal gland in response to stress is corticosterone (CS). CS secretion is known to modify reproductive behaviors in frogs.

“Comparing Different Synthetic Approaches for Acetylsalicylic Acid and Methyl Salicylate”
Mikala Zelows, Kelly Tsun, Yalikun Yaxiaer, and Elina Cassidy, Penn State Berks
Faculty Mentor: Dr. James Karlinsey

This work represents a compilation of various organic syntheses for acetylsalicylic acid (aspirin) and methyl salicylate. Different acetylation catalysts are used to synthesize aspirin in a reaction between salicylic acid and acetic anhydride, with an emphasis on reaction rate. Aspirin products are analyzed by melting point, infrared (IR) spectroscopy, and nuclear magnetic resonance (NMR) spectroscopy. Methyl salicylate is synthesized from different starting materials, including the synthetic aspirin. Salicylic acid reacts with methanol in the presence of an acid catalyst in a Fischer esterification reaction. Alternately, acetylsalicylic acid reacts with methanol in the presence of an acid catalyst in a tandem transesterification-Fischer esterification reaction. Methyl salicylate products are analyzed by melting point, IR spectroscopy, and NMR spectroscopy.
“Raman Spectroscopy for Organic Chemistry Students”
Maya Fares, Shaun Hange, and Kyle Smith, Albright College
Faculty Mentor: Dr. Christian Hamann
Raman spectroscopy is an instrumental technique that is fairly rare in undergraduate curricula yet the increasing importance of the technique means more and more students will be studying it. In Raman spectroscopy, laser light is focused on a chemical sample and the light scattered off of the sample is collected and analyzed. Upon scattering, the light loses some of its energy, and that energy loss is directly related to the structure of the molecule being analyzed. Using this structural information, organic chemistry students can determine the presence or absence of certain chemical groups and can obtain information about the structure and symmetry of the molecule. This project was designed to explore what molecules make appropriate objects of study: are these chemicals safe to work with? do they illustrate concepts of chemistry and structure studied in lecture? can they be analyzed more deeply in future courses? In addition to these goals, this work was designed to emphasize the complementarity between Raman spectroscopy and the much more common infrared spectroscopy (a technique in which infrared light is absorbed by a chemical sample; that absorption provides complementary structural information).

“Column Chromatography Separations of Amino Acid Mixtures”
Kevin Garwood and Zachary Tocker, Penn State Berks
Faculty Mentor: Dr. James Karlinsey
Column chromatography is a separation technique that allows components in a mixture to be separated based on their interactions with a stationary phase and a mobile phase. The material in the column represents the stationary phase, and it can be non-polar, polar, or ionic. As the mixture travels through the column with the mobile phase, each component interacts with the stationary phase differently based on intermolecular forces. In this work, various amino acid mixtures, including non-polar, polar, and charged amino acids, are separated using different combinations of mobile and stationary phases. Special attention is paid to the separation of amino acids using an anionic stationary phase and mobile phases that differ in pH. As amino acids elute from the column, they will be analyzed by melting point determination and by using infrared (IR) and/or nuclear magnetic resonance (NMR) spectroscopy.

“The Use of Advanced Additive Manufacturing Techniques to Design, Optimize, and Characterize an Orthopedic Support”
Madison Wojciechowski, Penn State Berks
Faculty Mentor: Dr. Marietta Scanlon
Recent advancements in additive manufacturing technologies have allowed for the customization of medical devices, particularly in the area of orthopedics. Problems with traditional arm casts include skin irritation, limited breathability, and excessive weight. Additive manufacturing, also known as 3D printing, in tandem with 3D scanning allows designers to create custom orthopedic casts based on a patient’s specific anatomy. In this study, the 3D scanning process was optimized using a Structure Sensor integrated with an iPad Pro. The 3D scan was modified in Meshmixer to create a customized arm cast. Design variations were created in Meshmixer and printed on multiple 3D printers. After narrowing down the options to one design, methods for fastening the cast were 3D printed and evaluated. The resulting 3D printed cast provided less bulkiness, more breathability, and a custom fit design. Mechanical
properties of selected 3D printed materials with varying infill parameters and processing conditions were evaluated to fully characterize performance and optimize the final design.

“Limits and Applications of a Vernier Mini Gas Chromatograph (GC)”
Daniel Castaneda-Juarez, Michael Kwon, Kelsey Conn, and Jack Frebel, Penn State Berks
Faculty Mentor: Dr. James Karlinsey
This work represents a compilation of various separations performed using a Vernier Mini Gas Chromatograph (GC) instrument. Logger Pro software is used to collect and analyze data. A mixture of ketones is used to evaluate instrument parameters that include injection time and temperature, final temperature and temperature ramp, and carrier gas pressure. A separation of alcohols is performed, with an evaluation of injection volume and a focus on resolving butanol isomers. Quantification is performed on a mixture of aldehydes. A mixture of several esters is separated, along with synthetic esters produced in various Fischer esterification reactions. Reaction products will also be examined using infrared (IR) and/or nuclear magnetic resonance (NMR) spectroscopy.

“Interpretation of Mood via Facial Features Influenced by Emotional Priming and Emotional Intelligence”
Cynthia Thorngate, Albright College
Faculty Mentor: Dr. Keith Feigenson
This study looks at the effects of a subject’s emotional intelligence and emotional priming on their ability to correctly interpret a photographed persons mood based off of their facial features. Each participant watched one of two videos, either a nature documentary or a funny video. After watching the video, participants were shown 24 different photographs of men and women that were either displaying neutral, happy, sad, or angry expressions. They had to choose what emotion was being expressed by the photographed face. Next, the participants answered a 15 item emotional intelligence questionnaire. We hypothesized that subjects with higher emotional intelligence would have a higher accuracy of the emotions expressed by the photographs. It was also predicted that subjects who watched the nature documentary would have a higher accuracy of the emotions expressed by the photographs. And that there would be an interaction between emotional intelligence and the videos shown on the number of correct emotions identified. Results did not show a significant main effect for emotional intelligence or an interaction effect, although the effect for differing videos approached significance $F(1,65) = 2.963, p= .090$. This suggests that the difference between the videos shown is very close to being statistically significant.

"An Asymmetrical Ferrocene-Bridged Ligand to Hold Dissimilar Metal Ions”
Zoe Gehman, Albright College
Faculty Mentor: Dr. Nicholas Piro
Nature is the most successful chemist for activating and interconverting small molecules into more useful ones. A key feature of many enzymes that carry out these transformations is their use of asymmetric, bimetallic active sites. This means that the enzyme is able to hold two different metal ions through use of two unique coordination environments. This presentation will describe our work towards applying these lessons and developing ligands that can hold two dissimilar metal ions in unique coordination environments. We have had much trial and error in developing a ligand that is able to hold two different metals. We must attach two different arms of the ligand with different metal binding sites
to a central bridging ligand which will act as the backbone for the entire complex. We began our work using a pyrazole as the bridging ligand. After many successes and failures related to the synthesis of the pyrazole, we have begun a new approach toward the synthesis. In particular, we will describe the synthesis of a ferrocene derivative wherein one cyclopentadienyl ring supports a bis(pyridyl)amine ligand and the other cyclopentadienyl ring supports a phosphine ligand.

“Computational Study of Arsenic Oxoanions Present in Natural Aquifers”
Michael Kwon and Daniel Siegrist, Penn State Berks
Faculty Mentor: Dr. Lorena Tribe
Found prevalent in many areas fundamental to human life such as: water, air, and food, arsenic is a naturally occurring trace element that is widely distributed throughout the diverse environments of the Earth’s crust. This element exists in various oxidation states of which 3 and 5 are the most common. Consumption through eating and drinking are the two main methods for arsenic to enter into the human body, causing various health problems, ranging from skin lesions to Blackfoot disease. These conditions develop due to the toxicity of arsenic when exceeding the recommended amount for safe consumption. We have developed a speciation diagram for oxoanions of arsenic including molecular models of the species to address the most prevalent ones in natural aquifers.

“Senior Design of a Fastener Testing Machine”
Jesse Wengel, John Batzer, Kyle Joseph, and Shane Leaf, Penn State Berks
Faculty Mentor: Dr. Rungun Nathan
This capstone project was a company-sponsored design of a fastener testing machine used for quality control. The machine’s desired operation includes placing self-drilling, self-tapping screws into a vertically-mounted drill, which installs the screws into various material substrates, e.g. sheet metal. The machine operates with a specified drill speed and downward force, and measures the installation torque and time of operation. As desired, operational parameter control and data collection will be performed through LabVIEW. Similar industrial machines already exist but are unreasonably expensive. The goal of this project was to create a machine that fulfilled all desired design criteria while keeping cost to a minimum. SolidWorks was used to create a 3D model of the design, then the machine was built in-house. The machine integrates a frame made from aluminum extrusions, a table-mounted vise with force and torque sensors, a pneumatically-actuated mounted drill, and some safety features. The control systems are far from complete, but the machine is mechanically operational and the project was generally successful.

“Using Markov Chains to Predict Baseball Statistics”
Brandon Orzech, Alvernia University
Faculty Mentor: Dr. David Shoup
Markov Chains describe a sequence of possible events in which the probability of transitioning to a new event depends only on the state attained in the previous event. Using baseball statistics from the 2017 MLB season, this project uses Markov Chain steady state distributions to determine how teams have performed relative to their expected long term run production.

“Impact of Sound Pollution on Bird Behavior”
Thalia Williamson, Albright College
Faculty Mentor: Dr. Karen Campbell

Urbanization causes a drastic increase in sound pollution, but very little field research has been conducted to determine the impact of noise on wild organisms. Sound pollution has a major impact on organisms, such as birds, that rely heavily on vocalizations. To observe how sound pollution affects behavior, such as feeding, preening, perching, and aggression, we established two feeders at different edges of the same wooded area. One feeder by a highway (high disturbance), where sound pressure levels exceeded 80 decibels; while the other feeder was on the neighborhood side (low disturbance), where the average noise level was 57 decibels. We monitored feeders for approximately two hours every morning for 10 weeks and observed a total of 247 bird visits, with 230 occurring at the low disturbance (LD) feeder and 17 at the high disturbance (HD) feeder. At the LD feeder, 12 species visited while the HD feeder had only 4 species visit. Analysis of the results showed a significant relationship between level of disturbance and behavior. While behaviors did differ between species, behaviors such as avoidance, calling, and perching also differed between sites. Future analysis will further characterize the impact of sound pollution on specific bird behaviors.

“The Tax Cuts and Jobs Act: How It Will Affect Current Accounting Students”
Annika Naumann, Kutztown University
Faculty Mentor: Professor David Wagaman

The Tax Cuts and Jobs Acts was passed on December 17, 2017. The major changes it brought to tax law sent the accounting industry into a frenzy. By summarizing the broad areas of tax accounting that have been changed, this project can be used by other accounting students as a guide. The highlight of the project is a direct comparison of a 2017 and 2018 individual tax return that demonstrates the effects of the new law. The difference in tax liabilities illustrates how the law is affecting individuals. The project also includes a projection for the 2019 tax season, as well as current statistics.

“The Future of Nuclear Energy”
Ashley Brown, Reading Area Community College
Faculty Mentor: Professor Patricia Mejabi

Climate change is one of the most important challenges we face today. To reduce our dependence on fossil fuels, we need sustainable, efficient, and carbon-free ways of producing energy. Nuclear reactions produce an immense amount of energy, which we can harness at a nuclear power plant to produce energy. Here, I explain the basis of nuclear fission and fusion, and describe how these reactions are applied at nuclear power facilities. I also discuss some of the safety issues that exist for the nuclear power industry, and some concepts for new reactor design that could make nuclear power safer. There are many challenges that exist for nuclear energy, but with newer, safer technology, it could be a vital part of the equation that helps us move away from fossil fuels.

“Statistical Analysis Determination of Gluten in Gluten Free Foods from Fast Food Restaurants”
Anastasia Ahern, Alvernia University
Faculty Mentor: Professor Diane Kraft

Celiac disease is an immune disease that damaged the immune system when gluten is digested by an individual. Most individuals with Celiac disease have a strict diet where they cannot intake any gluten at all. Cross contamination of gluten is a growing problem in today’s restaurants. Four different restaurants French fries were tested to determine the trace amounts of gluten in the food. The different French fry
samples were from Chick-Fil-A, Wendy's, Sonic, and Oreida. This was done using an ELISA test. The results came back negligible. All results were < 3 ppm due to the fact that the ELISA test cannot test anything smaller than 3 ppm. A statistical analysis was conducted to determine the accuracy of the hypothesis. Overall, the null hypothesis was rejected.

“A Detailed Analysis of Waterglass © Glass Samples of Various Colors using Laser-induced Breakdown Spectroscopy (LIBS)”
Shannon Gadway, Alvernia University
Faculty Mentor: Dr. Rosemarie Chinni
Laser-induced breakdown spectroscopy (LIBS) is an instrumental analysis technique that allows for the composition of a sample to be determined. A plasma is created on the sample using a focused high-powered laser. The light from plasma is collected, spectrally resolved, and detected. This results in the form of a spectrum, which contains emission peaks at specific wavelengths that correspond to various elemental signatures.
Glass is a substance that contains multiple different elements, and typically those elements differ based upon the color or type of glass. The purpose of this experiment was to determine how colored glass samples from the Spectrum® Glass Company in the same “family” compare to one another. The color families include the following: Yellow-Red, Blue, Neutral, Green, Pink-Purple, and Various. The Various color family is composed of glass samples from all the other color families. The LIBS data obtained is used to determine uniqueness among the glass samples.

“Fiber Detection Using Laser-Induced Breakdown Spectroscopy (LIBS)”
Ashley Paster, Alvernia University
Faculty Mentor: Dr. Rosemarie Chinni
This project used laser-induced breakdown spectroscopy (LIBS) to analyze fiber samples of various colors and make-up. Most natural fibers are composed of non-starch polysaccharides, such as cellulose, dextrins, inulin, lignin, chitins, pectins, beta-glucans, waxes, and oligosaccharides. Synthetic fibers are made from synthesized polymers of small molecules, which usually come from raw materials such as petroleum-based chemicals or petrochemicals.
LIBS is designed to heat, ablate, atomize and ionize samples with a focused laser pulse; this results in a plasma. The light from the plasma is spectrally resolved and detected resulting in a spectrum of the sample’s emission. The spectral data from each fiber was analyzed and compared to the other fibers in order to determine LIBS abilities to analyze fiber samples. This could potentially have applications in forensic analyses.

“Dust Bowl”
Aaron Valentine, Reading Area Community College
Faculty Mentor: Professor Michael Feyers
The Dust Bowl was an environmental deluge that involved improper farming procedures, including over- loosening soil on 150,000 acres of land in the southern High Plains. This area covers land in Texas, New Mexico, Colorado, Kansas, and Oklahoma. Many towns have never fully recovered from the effects of the mega-drought that overcame the region in the 1930s. The Dust Bowl teaches many lessons as to why it is of utmost importance to care for the land. This presentation explains simple ways people can work together to protect the soil from the harmful effects of sun and erosion
Performance Session 2
1:30p.m. - 2:30p.m.
Miller Center for the Arts Theater

Moderator: Ellen Walter, Communications, Arts, and Humanities

“Film Chase Scenes”
Yacinda Menendez, Robert Bara-Popa, Andrew Altieri, Ibene Buchanon, Nicholas Charles, and Chad Rhoades, Reading Area Community College
Faculty Mentor: Professor Ellen Walter
RACC Film Studies students from Fall 2018 and Spring 2019 under the guidance of the instructor, Ellen “Dash” Walter, will present two short Chase Scenes created as part of the course curriculum. In studying the history and theory of American film, the students find this exercise critically important in order to inform the many steps necessary to produce the very art form they are studying. Students rotate in key film production roles such as director, cinematographer, and continuity manager, while also taking leadership roles and collaborating in storyboard illustration, scheduling, location scouting, scriptwriting, props and costume coordination, casting, editing, and sound design. In particular, the short film production focuses on action within the frame and ways to enhance storytelling through film language. (6-7 minutes total)

“The Worst Part of Hell by Phil Prettyman-a good person in a bad place (7-8-minute)”
Michael Hontz, actor, Reading Area Community College
Faculty Mentor: Professor Ellen Walter
The poem, The Worst Part of Hell by Phil Prettyman gives a glimpse into the gates of Hell. The poem can be performed by 1-3 performers. Michael Hontz from Ms. Dash’s Acting 1 class will be performing in dual roles and providing the narration which provides us with vivid glimpses into the darkest reaches of eternity. In a place with unquenchable fire, gnashing of teeth and endless darkness, Michael Hontz performs a dual role both that of the devil and a person gripping with the harsh reality of an eternity lost. This poem provides a good example of performing in dual roles and highlights the ability of effective blocking and use of the fourth wall.

“Los Vendidos by Luis Valdez – A Satirical Moment on the US/Mexico Border (10 minutes)”
Antonio Serrano-Saldana, Britney Pena, Randy Ramirez Dotel, Elizabeth Rojas-Mendoza, Mairim Valcarcel, and Ivette Vazquez, actors, Reading Area Community College
Faculty Mentor: Professor Ellen Walter
Six students from RACC’s Acting 1 class taught by Ellen “Dash” Walter will present a short one-act political satire, Los Vendidos by Luis Valdez and El Teatro Campesino, that combines Spanish and English. The work comments on a range of stereotypes applied by Anglo culture to the Chicano experience,
addresses current United States & Mexico border issues, and looks at future misguided use of Artificial Intelligence. This particular interpretation also takes liberties to play with gender in casting. The play allows a critical opportunity to feature our Spanish-speaking students and highlights RACC’s Arts & Humanities offerings.

“Sweat by Lynn Nottage – Tragic Results of Reading’s De-Industrialization (Two 8-10 minute scenes)”
Nicholas Charles, Yazmeen Crespo, Nicole Mitchell, Randy Ramirez Dotel, Chad Rhoades, Antonio Serrano-Saldana, actors, Reading Area Community College
Backstage Support: Michael Hontz, Elizabeth Rojas-Mendoza, Ivette Vazquez
Faculty Mentor: Professor Ellen Walter

The play Sweat by famed African American playwright Lynn Nottage was co-commissioned by the Arena Stage and the Oregon Shakespeare Festival where it premiered in 2015. Nottage was awarded both the Pulitzer Prize and the Susan Smith Blackburn Prize for Sweat, which moved to Broadway in 2017 after a sold-out run at The Public Theater in New York City. The play is set in Reading, PA in 2000, an era during which many of the city’s factories and manufacturing plants downsized, relocated, or closed from lack of business, resulting in a sweeping loss of employment among the blue-collar class. Nottage presents this political drama as an opportunity for a public forum that debates race relations and class issues while highlighting the shifts in America’s collective narrative. Six of the students from RACC’s Acting I class taught by Ellen “Dash” Walter will present scenes from the play that provide a window into the arc of the play.

In Act I, Scene 2 (partial), the union workers for a local plant gather for a birthday celebration in the local bar. This gritty scene introduces the age of NAFTA and its far-reaching ramifications along with the ever-escalating panic felt by former and present employees in an atmosphere of growing mistrust and ever-changing job security. This scene lays out the first round in the play’s “survival of the fittest” boxing match that will pit friends and relatives against each other as the drama progresses. (8-10 minutes)

Art Exhibit 2
1:30p.m – 2:30p.m.
Miller Center for the Arts Lobby

Moderator: Laura Gelsomini, Assistant Professor, Communications, Arts and Humanities

“Camouflage”
Rachel Schiefer, Reading Area Community College
Faculty Mentor: Professor Joanne Schlosser

Camouflage can be described as a painting, yet has a heavy drawing component using mixed media of colored pencils, ink markers, and acrylics. Using acrylic inks I employed a unique experimental technique of wetting and dropping color onto my paper. My imagination took over, and what I saw in my mind’s eye was an eerie scene.

I created this scary mythical land. The creatures we know are different. Plants and animals have merged to provide camouflage. The thought came to my mind what if there was an eyeless leopard hiding within
the trees. This creature could not hear and could not see but could sense prey from the vibrations of the ground. A mythical being, I imagine it would have spiritual and mystical markings. To give it a psychedelic feel I added colors to disorient the viewer. It is a dangerous wonderland where the land and sky mix together with colors. When you step into this land you feel disoriented and start losing your mind.

“Red Death”
Christopher Barrera, Reading Area Community College
Faculty Mentor: Professor Joanne Schlosser
“Red Death” is an experimental mixed media drawing within which I realized an imaginative realm using acrylics, marker and colored pencil. It is a scene right out of a movie that would make an audience jump out of their seats with fear.
I imagined a figure dressed in red, positioned to the far right, slightly slouching backwards, all the while with his chin up, looking down on me perhaps. The figure hasn’t said a word, just a dead stare. The room itself started to become denser, like smoke filling up. The fumes filling the room was coming from the red figure’s cape. The fumes were red and turquoise somewhat brightening the room. The next decision I made was one of regret I looked up and my eyes met with the red figure. I came to understand that this was no man, but instead a dead man. He had no skin, only a skull. He then pulled out a sword, but the sword’s color was black, pure black almost like it wasn’t made from earthly material. The fumes started to sharpen and somehow become more like water. It’s unexplainable but it was beautiful how those colors mixed together.

“Now You See Me”
Elizabeth Pena, Reading Area Community College
Faculty Mentor: Professor Joanne Schlosser
Now You See Me is an imaginative mixed media drawing of marker and colored pencil over a starter acrylic painting. Using an explorative method, my imagination runs wild with an apocalyptic scene. The background of red, yellow, orange and brown enhances a feeling of evil, fire and hell. The snake like dragon flies through transparent blue clouds symbolizing freedom. My own story involves the dragon as Lilith in contrast to the snake that tempted Adam and Eve in Genesis.
As with all art, I am open to the viewer’s interpretation.

“Divergence”
Olukemi Olaewe, Reading Area Community College
Faculty Mentor: Professor Laura Gelsomini
This artwork uses contrast and emphasis to guide a viewer through the piece. The rule of thirds is used to divide the space with the bottom horizontal line acting as a horizon. Also, the colorful butterfly is placed where the top horizontal and rightmost vertical lines meet. These placements contribute to the piece being comfortable and pleasing to view.
Contrast of color and isolation are used to draw the viewer to certain areas of the artwork. The whole piece is in black and white except the colorful butterfly. This emphasizes its place as the leader of the group. Meanwhile, the ladybug is isolated by space and number which highlights its divergence. Overall, this artwork forms a pleasing composition with various points of emphasis.
**“Ocean of Self: a Vanita”**

_Faith Miravich, Albright College_

_Faculty Mentor: Professor Kristen Woodward_

My project is a large painting that took over a month to complete. The piece is 5’4”x 3’2” and was the first painting of this large size that I have ever done.

This painting is a representation of myself, being supported by representations of my family, friends, passions, emotions, and spirituality. The painting is an example of a vanita. A vanita is a still life with a story, vanitas are symbolic and typically depict the certainty of death and the giving up of earthy values. The piece features a rhythmic triangle design scheme. Each part of the painting can be divided into this triangular design, and many sets of objects are in sets of three. The painting is meaningful to me, because of the ideas that are represented. I hope in turn the viewers find their own meaning in the artwork as well.

**“Giant Puppet Parade”**

_Emily Foote, Raelynn Owen, Darrel Cacayan, Jessica Eavis, and Randy Ramirez Dotel, Reading Area Community College_

_Faculty Mentor: Professor Suzanne Fellows_

Giant Puppet Parade presented by RACC’s 3D Design class.

Puppetry is a theatrical art form that dates back to Ancient Greece in the 5th century BC. The assignment called for each student to design an original puppet of a living being, real or imagined. Our classroom is on the 6th floor of Berks Hall and the puppets needed to be limited to the size of the inside of the elevators which is seven feet in height. Building Giant Puppets involves considerations of articulation, weight factors and general silliness. Students were encouraged to use as many recycled materials as possible. Each puppet demonstrates an aspect of its creator’s personality.

**“Silk Painting”**

_Meredith Walker, Albright College_

_Faculty Mentor: Professor Paula Trimpey_

This presentation will provide a step by step walkthrough of the silk painting process. Beginning with the selection of an appropriate type of silk for a garment, and a background on which types of silk are best for painting. Information will be provided on how to properly care for silk throughout the prewashing, drying, and ironing process as well as how to successfully stretch a fabric on a frame before painting. Additional information will be offered on how to replicate a pattern and a design on to silk and how to successfully apply a resist to a silk which acts as a barrier for the paints. There will be examples of the silk painting process as well as a description of the steaming procedure used to set the dye into the fabric permanently. This presentation will provide all the necessary information needed to bring a concept all the way through to a finalized garment.

**“A Conflicted Star”**

_Raelynn Owen, Reading Area Community College_

_Faculty Mentor: Professor Suzanne Fellows_

The piece is made from paper and Bristol board, glued together to form a stellated dodecahedron. The white paper contracts with the black ink that has been splattered on. The black and white colors are why it is called A Conflicted Star. White reflects light, mimicking a real star, while the color black is known to
absorb light which is the opposite of a star. Those two colors and concepts begin to conflict and counterbalance each other.

I created this piece for a project in class and I really fell in love with the process of creating the shape of the star. The colors reflect my mind and how I often feel conflicted about my art. I doubt that people will like it, even when I personally love it, and vice versa. The star is one of my favorite shapes as it represents space. Space is vast and never ending, which is how art is. There are so many things that people create and the possibilities are endless. A Conflicted Star is an expression of limitless creativity and the conflicting thoughts one has while creating art.

“Unconsica”

Colton Rogers, Kutztown University
Faculty Mentor: Professor Dannell MacIwraith

My project is a graphic novel set in the world of the unconscious. In which, a girl must find her way through this new and confusing land, while meeting several curious characters along the way. The graphic novel is eighty pages long, completed in full color, written, planned, and illustrated by myself. My process involved completing visual research to capture the tone and mood of the piece so as to make a pleasant, cohesive color palette. In addition, I have researched typefaces to use for the copy, as well as the licensing behind them. Following this I have written the story, sketched, inked, and shaded the pages on an ipad pro, before sending it off to print.
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Statement of Institutional Mission and Core Values

Reading Area Community College builds communities of learning committed to educational growth and to the economic vitality in our region.

At RACC

• We strive for excellence in all our actions.
• We promote student learning and personal growth through teaching and mentoring.
• We create welcoming and safe environments where intellectual curiosity and learning can flourish.
• We value the diversity in our community and the richness it brings.
• We connect students to resources within the College and the community at large that best meet their educational needs.
• We are committed to lifelong learning both for students and ourselves.

At RACC we are a community-focused institution.
2018-2019
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