MADE IN MILLERSVILLE

APRIL 18, 2017

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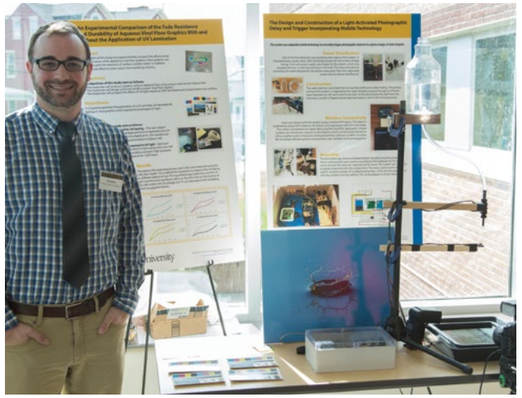

ABOUT MADE IN MILLERSVILLE

Made in Millersville is an annual conference showcasing MU students' creative and scholarly work. It provides an opportunity for the MU community to celebrate the research projects and creative works produced by MU students from every college and department. At Made in Millersville, faculty, students, staff, and other members of the Millersville community can meet student presenters and learn more about what our students are making, building, designing, researching, studying and performing at Millersville University.

Since 2014, Made in Millersville has been held annually in April, which ensures that it remains accessible to all members of the University community and allows us to celebrate the students' achievements over the academic year. In addition, the newly renovated McNairy Library and Learning Forum is pleased to serve as the recurring venue for Made in Millersville - its central location and open design make it an intellectual and social hub of the University and an ideal setting for the conference.

In addition to celebrating student work, Made in Millersville also serves an educational function by providing a one-of-a-kind interdisciplinary opportunity for student presenters to learn about other unique projects happening across campus while also gaining experience presenting and networking in a professional conference environment. Before the event, partici pating students have the opportunity to practice their presentations and get advice on crucial elements of poster design and presentation techniques from our faculty and previous years' presenters. Throughout the day of the conference, student sessions of all kinds are attended by groups of reviewers from our faculty and professional community, who give feedback and encouragement to MU students as they pursue their passions.

Over the last 4 years, we have seen steady and encouraging growth in both participation and attendance. In 2014, over 150 students participated in Made in Millersville, presenting nearly 100 posters, art exhibits, performances, and talks. This year's conference features over 400 student participants, with representatives from every department and college, and more than 200 presentations of all kinds. We are proud of the work our students do and we are honored to host and coordinate such a large and diverse event in which we showcase their creative and scholarly efforts.

SCHEDULE

7:30 A.M.-4 P.M. | REGISTRATION

8 A.M.-4 P.M. | CONCURRENT PRESENTATIONS, POSTERS, EXHIBITS

4 P.M.-5 P.M. | SOCIAL HOUR

TABLE OF CONTENTS

COLLEGE OF ARTS, HUMANITIES AND SOCIAL SCIENCES

Taiwan Barton, Speech Communication (BS) - Communication Studies | Poster | 2:35 p.m. - 3:50 p.m.

A CONTENT ANALYSIS OF NEWS COVERAGE OF INTERCULTURAL ROMANTIC RELATIONSHIPS IN CONTEMPORARY JAPAN

Japan is generally thought of as being a homogeneous nation, but as of 2017, this once completely commonplace idea is slowly changing. This research project examines the changing culture in Japan by focusing on the increasing number of intercultural romantic relationships covered in Japanese newspapers. As more foreigners enter Japan for various reasons and begin to have intercultural romantic relationships with natives, there are many changes in its culture and people's communication practices that come with this new development. This study uses content analysis to investigate the advantages and disadvantages of being in intercultural romantic relationships, explore what remains the same and what changes, and how to embrace the cultural change for better intercultural relationships and understanding for the future.

Meghan Leialoha Basiliko, International Studies (BA) | Poster with accompanying exhibit | 10:50 a.m. - 12:05 p.m.

MOANA A CULTURAL REPRESENTATION OR APPROPRIATION?

I will analyze digital archives to inform the public on the fine line between cultural representation and cultural appropriation by using the Disney animated film Moana.

Laura Birkin, English (MA) | Presentation | 8:00 a.m. - 9:15 a.m.

EXAMINING COLONIALISM AND GENDER IN A PASSAGE TO INDIA AND WIDE SARGASSO SEA

In my paper I explore the characters of Antoinette in Wide Sargasso Sea and Adela in A Passage to India and examine issues of colonialism, imperialism, gender and patriarchy in the two novels. By comparing these two characters, I highlight some of the similarities these two women face in their disparate situations because of their gender. At the same time, my comparison demonstrates how Adela's status as colonizer allows her to overcome some of the disadvantages of her gender as she enjoys the privileges of being a part of the dominant culture, privileges that aren't available to the sadly dispossessed and inevitably condemned Antoinette.

Dr. Kirsten Bookmiller | Class Panel Presentation | 1:10 p.m. - 2:25 p.m.

GLOBAL GOVERNANCE CAMPAIGNS

This panel will feature the studies of three current global policy campaigns related to LGBT Rights, Pandemics and Stateless Peoples.

Presenters' names are:

Jennifer DeWalt, Alethea Eccleston, Monica Rush

Laura Birkin, English (MA), Hannah Halter, English, (MA) Shane Marino, History (MA) | Exhibit | All Day

MUSINGS: THE GRADUATE JOURNAL SPRING 2017

The publication of MUsings: The Graduate Journal showcases the academic work of graduate students at Millersville University. The journal invites students to present highlights of their work in a venue that bolsters career-building experiences and celebrates their scholarly efforts. Graduate students from the English department serve on the Editorial Staff. The Spring 2017 issue features research articles, as well as personal and literary essays.With this publication, MUsings seeks to encourage student creativity, commend innovative research, and generate graduate student engagement in the academic and professional communities.

Brittney Brown, Government and Political Affairs (BA) | Presentation | 1:10 p.m. - 2:25 p.m.

POLITICAL KNOWLEDGE AND VOTING BEHAVIOR AMONG AFRICAN AMERICAN COLLEGE STUDENTS

Previous research (Hope and Jagers, 2014) found that African American youth were more likely to be civically engaged if they perceived institutional discrimination, were politically efficacious and civically educated. Efficacy and cynicism were measured by four point Likert scales developed by Hope and Jagers (2014). Civic engagement was measured a forced-choice, author developed scale and education was measured by an indicative question. The author hypothesized that if political efficacy, civic engagement, and civic knowledge are high but political cynicism is low, African American youth are more inclined to vote, a positive correlation between political efficacy, civic knowledge, and voting and a negative correlation between political cynicism and civic engagement. A convenience sample of seventy- five African American students at a mid-sized public institution was surveyed. The hypotheses were confirmed or partially confirmed. These results, although based on a small and particular sample, imply the importance of political education to increase young African American participation in electoral politics.

Arianna Camel, Social Work (BA) | Presentation | 1:10 p.m. - 2:25 p.m.

HURTING OR HELPING? THE HAITIAN PERCEPTION OF NGOS

Haiti has more NGOs per capita than any other country in the world. Many of these organizations come and go without leaving the Haitian population with skills to continue on their own (Floyd, 2013). From previous research there is little known on how the individuals in Haiti receiving the aid, feel about it. The goal of this research is to know and understand the personal views Haitian citizens have toward Non-Governmental Organizations and the aid they receive. With this knowledge and understanding, the NGOs can restructure the way they implement services in order to fit the community and involves community members to lower the risk of causing undue harm.

Lauren Cameron, Abigail Gruber, History (MA) | Presentation | 2:35 p.m. - 3:50 p.m.

PENNSYLVANIA STATE SYSTEM OF HIGHER EDUCATION FACULTY STRIKE, OCTOBER, 2016: THE VIEW FROM MILLERSVILLE

During the fall semester of 2016, Pennsylvania State System of Higher Education faculty members went on strike. At Millersville University, participating faculty members, staff, and students were invited to share their experiences in oral history interviews. A volunteer student-faculty oral history project team completed interviews with a diverse group of campus community members. The presentation will focus on the experiences of faculty, students, and administrators at Millersville University. Interviews indicate that faculty members experienced a greater sense of community, student supporters provided food, drinks, and music, and administrators took on additional responsibilities during the strike. Presenters will also share reflections on the development of the oral history project.

Lauren Cameron, History (MA) | Presentation | 8:00 a.m. - 9:15 a.m.

A TWISTED FORM OF THE WOMEN'S MOVEMENT: THE RISE OF THE WOMEN'S KLAN IN PENNSYLVANIA

The revival of the Ku Klux Klan took place in the 1920s with its second wave of membership including female members. The Klan recognized early on that once women obtained the right to vote, they would potentially wield strong political power. The Klan became stalwart supporters of the women's suffrage movement along with other causes important to women of the day. Once the 19th Amendment became law, the Klan invested a great deal of energy in helping to establish a Women's Ku Klux Klan with the intent of controlling the organization to help obtain the political, social and cultural goals of the Klan. This paper will argue that the women's Klan was, in a distorted way, a 1920s feminist movement exercising female power inadvertently aided and abetted by the men's organization. Pennsylvania was one of the few states that generated an impressive women's Klan but its downfall would prove sensational.

Hannah Campbell, Social Studies Education (BSE) | Presentation | 9:25 a.m. - 10:40 a.m.

Neimeyer-Hodgson Grant, Noonan Endowment Award

THE LAST QUEENS OF THE EUROPEAN EMPIRES: AN EXPLORATION OF THE LIVES OF EMPRESS ELISABETH OF AUSTRIA AND QUEEN VICTORIA OF GREAT BRITAIN

The nineteenth century, a stepping stone to the future of Europe, and arguably the last century under the influence of a strong monarchy. While the infamous British Queen Victoria was ascending the throne, Empress Elisabeth of Austria was born. Her legacy is that of a reluctant queen, one who would contrast greatly to the dominant force of Victoria. Both women were hit with the responsibility of ruling two of the world's largest empires while still facing societies that viewed women as the inferior complement to their male counterparts. Despite being immersed in similar circumstances Victoria took this power and grasped it by its roots, expanding Britain's power to create a global empire. Empress Elisabeth experienced a life much different from that of Victoria. This study examines both the contrasts and similarities of these two women, and how each faced their monarchical duties and political change during their respective reigns.

Zachary Cober, Multidisciplinary Studies (BA) | Art Exhibit | 10:50 a.m. - 12:05 p.m.

A MODEST SIMULATION

This project includes a Cooking Mama-style mobile game based on the satirical pamphlet A Modest Proposal by Jonathan Swift as well as a philosophical examination of the purposes of satire and the purposes of this game as a satirical work specifically. I hope that this is able to successfully tie these 18th century ideas into our 21st century problems and point out the relevancy of what Swift wrote about through a (relatively) new medium as well as bringing the themes and text of A Modest Proposal to the minds of more people, as a startlingly large amount of people don't seem to be familiar with it at all.

Zachary Cober, Multidisciplinary Studies (BA) | Poster | 12:05 p.m. - 1:05 p.m.

CAN YOU BUY BETTER SCHOOLS?

Public school funding is a hot-button issue currently, and has far-reaching ramifications within American society. I researched whether or not the funding that school districts use is directly proportional to the student achievement results that they receive. I hypothesize that higher amounts of funding directed towards each student will result in better performance on standardized testing and in post-high school success. The method I employ is a series of OLS regression tests which analyze the connection between several Y-variables each serving as a proxy for student performance, and several independent variables consisting of per-pupil spending, average teacher salary, and poverty concentration. Each of these variables is made up of the aggregate average of the school results from their district, and in total I have used results from 499 school districts in Pennsylvania. I find that there is a noticeable connection between these results and student performance, but the strongest is the district poverty concentration, indicating that the quality of home life is the variable that most influences student performance, over anything that a district can allocate funds towards.

Quinton Collins & Reco Oxendine Speech Communication (BS) - Communication Studies | Presentation | 10:50 a.m. - 12:05 p.m.

WASHING THE COLOR AWAY

The 2016 Academy Awards once again called attention to the dearth of nominations and awards to people of color. One of the rationales given was the lack of roles for non-whites. At the same time, whites have often been given roles as people of color. Many have received Academy and Golden Globe awards for these roles. This presentation will examine whitewashing in the American film beginning with D.W. Griffith's "Birth of a Nation." The results will be discussed in terms of institutionalized racism in the film industry.

Jessica Conway, Anthropology (BA) - Archeology | Presentation | 1:10 p.m. - 2:25 p.m.

ARCHAEOLOGY AT THE HANS GRAFF SITE

A brief analysis of an early Swiss-German settlers cabin, thought to be the earliest in Lancaster County. Covering the believed purpose of occupation, material culture, and early colonial life. The PowerPoint will detail the excavation process of the 2016 MU Archaeological field school. In it, we will explore the history, and importance of the site, as well as the findings and results.

Dr. Caleb Corkery | Class Presentation | 10:50 a.m. - 12:05 p.m.

BLACK LIVES MATTER & THE LITERARY IMAGINATION

The issues emerging from the Black Lives Matter movement have a long history depicted in African American literature. Enter into the larger narratives that help make sense of this current crisis in our culture, as you hear student research projects from ENGL 334 African American Lit 2. **Presenters' names are:** Logan Harbeck, Nicklaus McCoy, Shyanne Lipsky, Eugene Thomas and Cindy Vicente.

Dr. Caleb Corkery | Dramatic Performance | 2:35 p.m. - 3:50 p.m.

SPOKEN WORDS

Hear MU students perform spoken word poetry that describe their perspectives and inspire this community. **Presenters' names are:** Abdulai Jalloh, Andrew Higgins, Becky Stahl, Brianna Cooley, Briana Spears, Catherine Dillon, Mikal Frazier, Nicholas Carter (musician), Sidney Arnold.

Jessica De Palma, History (BA) | Poster with accompanying exhibit | 1:10 p.m. - 2:25 p.m.

CORPORATE PRISONS AND JUDICIAL DECISIONS

The government contracted with companies to run private prisons as a cost saving mechanism, but in exchange, each prison must have a 90% occupancy rate in the CCA run prisons for a minimum of 20 years. This corporate deal disrupts the judicial system because the government attempts to fulfill the occupancy requirement by the private prisons, essentially destroying due process. A prime example of this corruption involves two judges who abused their power by making money off of every child they sent to private juvenile detention centers and disguised themselves as "tough on crime" to lock more children up. This project uses a 3D model to help the public engage with the "Kids for Cash" scandal. In designing disproportionate judge benches and defendant chairs, this 3D model project increases viewer engagement with the complex interplay of company contract and judicial decisions/scandals.

Jennifer DeWalt, Government and Political Affairs (BA) | Class Panel Presentation | 1:10 p.m. - 2:25 p.m.

THE GLOBAL CAMPAIGN TO ADVANCE LGBT RIGHTS

It is crucial that issues of systematic discrimination and violence against lesbian, gay, bisexual and transgender (LGBT) persons be addressed through expanded global governance in relation to these specific human rights violations. The research presented will examine the types of violations being experienced across the globe so that they can be addressed and a better understanding formed. As there are no current international legal standards for this discrimination, it is important to understand how we can better come together as a global society and enact changes to eliminate violence towards all people and truly offer human rights for ALL..

Class panel presentation is facilitated by Dr. Kirsten Bookmiller.

Ashley Duross, Speech Communication (BS) - Public Relations | Presentation | 1:10 p.m. - 2:25 p.m.
Student Grants for Research and Creative Activity

SOCIAL MEDIA AS A GLOBAL UNIFIER IN TIMES OF CRISIS

Social media has evolved into an interactive, collaborative, conversational, and community-based platform for crisis communication worldwide over the course of 10 years. Crisis information has never been more accessible to immediately affected publics and satellite publics have the ability to stay in the know more efficiently than ever before. However, there is little known about how users consume, create, and promote the risk and crisis information through social media. This study will analyze three isolated incidents that have incited a wave of activity via Twitter: the ISIS attacks in Paris, the Bastille Day attack in Nice, France, and the Orlando Pulse nightclub shooting. The study will show how the mood of users changes as the incident ensues and the three attacks are similar or different in expression. Ultimately, the study will show how users resort to social media as a channel for joining in solidarity in times of world crisis.

Sara Duryea, Sociology (BA) - Criminology | Round Table Discussion | 8:00 a.m. - 9:15 a.m.

STUDENTS' PERCEPTIONS OF SEXUAL ASSAULT ON COLLEGE CAMPUSES

There are many different explanations and reasons for why sexual assault happens, but the focus of this study is on the college setting. Studies found that for every 1,000 women attending college, there could be an estimated 35 incidents of rape within a school year (Cass 2007). I am interested in examining the perceptions that students on college campuses hold about the reality of sexual assault. A survey is used to ask students questions regarding their views and their experiences with sexual assault in order to examine patterns of responses and characteristics of the student population. The study aims to look at how aware students are of sexual assault on their campus, including how knowledge about available resources they are and how comfortable they feel that the university does an adequate job addressing their concerns.

Alethea Eccleston, Government and Political Affairs (BA) | Class Panel Presentation | 1:10 p.m. - 2:25 p.m.

ILLNESS ACROSS BORDERS: INFECTIOUS DISEASE AND GLOBAL GOVERNANCE

Around five previously unknown infectious diseases are discovered each year across the globe. These are referred to as "emerging diseases". Usually meaning illnesses that have never been seen before, we also use this term to classify diseases that have mutated new traits. Due to the easy dispersal of many infectious illnesses, the term "globalization of public health" is applied to describe the international infectious disease regime. Within this regime we commonly see government run health programs, but also awareness groups, media outlets, non-governmental organizations (NGOs), and private business groups. Many agencies follow diseases,identify new strains, and collect data on infections and outbreaks. It is necessary to ensure that research is evenly spread across all branches of infection, identification, treatment, and prevention.Organizing this amount of data and programs requires massive collaboration and effort across political and cultural borders. Class panel presentation is facilitated by Dr. Kirsten Bookmiller.

David Fernandes, Music Education (BSE) | Poster | 1:10 p.m. - 2:25 p.m.

MILLERSVILLE MUSIC IN THE DOMINICAN REPUBLIC

Millersville music majors traveled to Punta Cana in the Dominican Republic January 2017 to surround themselves with a new culture. The students went on cultural excursions and taught music games to children in a rural and international school. Although the community around the two schools were extremely diverse, the ambition and excitement for learning were shining through the students. What to take away from this experience is that no matter where you are in the world, or what language you speak, if the teacher has enthusiasm, their students will be more than eager to learn.

Dr. Christine Filippone | Class Presentation | 2:35 p.m. - 3:50 p.m.

WOMEN IN ART

Four student research papers address the relationships between gender and the visual arts developed in the Art History course Women in Art (Art 305). The papers explore the role of the visual in constructing ideas of "woman" and how women artists have addressed these constructions in their works and in their lives. Students critically examine the ways Western culture has defined art and artists in gendered terms with attention to intersectionality and difference. Presenters' names are Maddie Wilhoit, Madeline Murphy, Bonnie Carrow, Amy Diamond.

Maria Glotfelter, English (BA), Alexandra Attinger, English (BA), Sophia Emmi, Art & Design (BA), Lauren Ostopowicz, Chemistry (BS) | Group Presentation | 10:50 a.m. - 12:05 p.m.

MADE IN MILLERSVILLE CONFERENCE PROCEEDINGS JOURNAL

The Made in Millersville Conference Proceedings Journal (MIMCPJ) team seeks to digitally publish undergraduate work presented at MIM. Since its inception one year ago, the number of entries in the journal has tripled. Interns on the MIMCPJ team serve as editors and collaborate with other students to create exceptional abstracts detailing the presented projects. Additional intern roles include: graphic designer, public relations specialist, and liaison. The multidisciplinary background of team members ensures a diverse perspective and that the needs of potential authors from varying fields are met. With help from faculty advisers and an internal manual, the MIMCPJ team is transitioning to being a student-led editorial team. The audience will learn about the benefits of publishing and how to publish with our journal. The MIMCPJ captures the essence of Made in Millersville in digital format and promotes the connecting of ideas within and beyond the MU community.

Alexander Goodrich, History (MA) | Presentation | 10:50 a.m. - 12:05 p.m.
Student Grants for Research and Creative Activity

THE AMBIGUOUS ALLEGIANCES OF LONG ISLAND PRIVATEERING

It is easy to neglect the naval aspects of the American Revolutionary War in favor of its land campaigns, particularly because the nascent Continental Navy lacked experience and paled in comparison to Great Britain's famed Royal Navy. The revolutionaries offset their disparity in naval strength by relying on privateering. Built for speed rather than durability, American privateers themselves could not handle direct engagements with the more heavily armed ships of the line, as their main function was to disrupt British commerce and transportation. The opportunity for fortune allured young men to fill the ranks of privateers and drew the ire of leading statesmen and naval captains who believed the potential for profit was incompatible with patriotism. For the purpose of understanding contemporary doubts over the reliability and ethics of privateering, this paper will examine the rogue hired crews who operated in the Long Island Sound, an estuary between New York and Connecticut. Indeed, their campaigns reveal the absence of any formal allegiance to the American cause.

Abigail Gruber, History (MA) | Presentation | 10:50 a.m. - 12:05 p.m.

SECURITY IN A WORLD AT WAR: MERCHANT-CLASS FAMILIES IN THE AGE OF THE AMERICAN REVOLUTION

Research into the wartime activities and personal correspondence of two prominent mercantile families – the Shippens of Philadelphia and the Tuckers of Bermuda – reveals a geographically distinct but intrinsically familiar need for a sense of security in the face of conflict. For the Shippens, the disruptive events both international and civil war allowed for an economic opportunity in the form of illicit trade with the French in the 1780s. For the Tuckers, security within the established social structure of the British colonial system clashed with the economic reality of an island nation that was heavily reliant on the goods and provisions supplied by the rebellious American colonies. Therefore, the American War for Independence Created a legal and political grey area in which both of these clans operated.

Abigail Gruber, History (MA) with Dr. Khiterer | Presentation | 1:10 p.m. - 2:25 p.m.

HOLOCAUST RESISTANCE IN EUROPE AND AMERICA: NEW ASPECTS AND DILEMMAS

The book is based on the materials of the 33rd Millersville University Conference on the Holocaust and Genocide, which took place on April 2-4, 2014. Selected essays by the top scholars in the field analyze the various forms of the resistance to the Holocaust: armed and passive resistance, uprisings in the ghettos and concentration camps, partisan and underground movements, aid and rescue of the victims of the Holocaust. Several essays are devoted to the topic of resistance to the attempts to erase the memory of the Holocaust in the Soviet Union after World War II, and the representation of Holocaust Resistance in literature and film.

Shianne Hargrove and Eugene Thomas, Speech Communication (BS) - Communication Studies | Presentation | 9:25 a.m. - 10:40 a.m.

THE EFFECT OF COLORISM ON THE PERCEPTION OF AFRICAN AMERICAN ENGLISH (AAVE)

Colorism is a well-known phenomenon in the African American and Latino communities. It refers to the effect that an individual's complexion can have on every aspect of their social interaction, as well as their self-concept. Research (Easter, 2013) has shown that AAVE as well as the speakers of AAVE are perceived more negatively than non AAVE and its speakers. Utilizing students at a mid-sized public institution, the researchers will investigate whether light skinned African American speakers of AAVE and their speech will be viewed more positively than the speech of dark skinned African Americans speakers of AAVE and their speech.

Timothy Hegberg, Anthropology (BA) | Presentation | 1:10 p.m. - 2:25 p.m.

HACKING LANGUAGES FOR NUMBERS: DECONSTRUCTING THE NUMBER SYSTEMS OF NORTH EASTERN FIRST NATIONS TRIBES

Language hacking is, simply put, a method of using carefully designed systems to understand a complex language through simplification and logic. Timothy Hegberg has spent the last year, exploring and breaking down the linguistic and mathematic number systems of First Nations tribes in and around the Mid-Atlantic region. Initially armed with only geographical, cultural and historical information, he has not only deconstructed the number systems of numerous tribes, but delved into their influence on each other and how their language has been influenced by outsiders. Through this process of deconstruction, we can see not only the logic of non-Western mathematics, but also the languages that bring them to life.

Dr. Lexi Hutto | Class Presentation | 10:50 a.m. - 12:05 p.m.

MINI ADVERTISING CAMPAIGNS FOR LOCAL NON-PROFIT ORGANIZATIONS

Eighteen student ad agencies from Dr. Lexi Hutto's Advertising classes in the fall of 2016 each created a mini advertising campaign for one of two non-profit organizations: A Week Away (aweekaway.org) or NuLife (part of HandzOnHope.org). Each campaign had two major components--one using social media or the Internet with the second component being a short video, usually of one to two minutes, highlighting some marketing need this organization had such a fund-raising or creating awareness. Each student ad agency worked directly with the client to develop meaningful and useful marketing support materials. Presenters' names are:

Carly Castle and Kierstyn Smith; Cheyenne Fischer and Jillian Newmoyer; Douglas Kyle, Caleb Albert and Michael Maccarino; Kelly Brieva and Maya Hershey; Robert Monzon, Anne Shuemaker and Alexandra Powell.

Dr. Stacey Irwin | Class Panel Presentation | 2:35 p.m. - 3:50 p.m.

MEDIA MESSAGES: FOUR CONTEMPORARY CASE STUDIES ABOUT MEDIA EFFECTS AND WOMEN

Our highly mediatized culture and environment has far reaching effects and consequences for women in today's contemporary world. This cross major and cross-disciplinary panel explores four distinct areas within the overarching topic of media effects. Students will share case study oral presentations about the sexualization, representation and misrepresentation of women. These presentations were first shared in the cross-listed Communication and Theatre/Women and Gender Studies Class COMM 330: Media and Women's Culture.

Presenters' names and research titles are as follows:

Britny Main, "Women Empowerment #AerieReal"

Ashley Gunnet, "How Media Affects the Way We View Ourselves and Others"

Samantha Blessing, "Breastfeeding in the Media"

Dr. Katarzyna Jakubiak | Class Presentation | 2:35 p.m. - 3:50 p.m.

HUMAN RIGHTS IN LITERATURE AND CREATIVE WRITING

Students from two classes ENGL 470 (taught in Fall 16) and ENGL 336 (Spring 17) will share their creative work and literary research that focus on the topic of human rights. They will explore the topic in connection with the issues of race, ethnicity, gender, sexual orientation, and discuss the ways in which contemporary literature from around the world provides models of responding to potential or real human rights violations.

Presenters' names are: Dylan Kranch, Eden Hertzel, LaChaun Freeland, Jason Leighty.

Jenna Johannes, Business Administration (BS) - Accounting | Poster | 9:25 a.m. - 10:40 a.m.

EFFECTIVE TRAINING

Comparing and contrasting effective training practices with methods used in today's field. Using known techniques to critique and learn from a company's current training method. Using this knowledge to continue to learn and build new training processes for companies and future human resource managers.

John Johnson, Speech Communication (BS) - Communication Studies | Presentation | 1:10 p.m. - 2:25 p.m.

THE RELATIONSHIP BETWEEN HELP SEEKING BEHAVIOR AND MENTAL HEALTH STIGMA AMONG AFRICAN AMERICAN COLLEGE STUDENTS

The low incidence of the utilization of mental health services by African Americans is well documented, even among college students (Masuda, Anderson and Edmonds, 2012). These authors found that both stigma and self-concealment were factors in the help seeking behavior of African American students, at a large Southern university. This study sought to replicate these results in a mid-sized public university. The author hypothesized that there would still be a strong positive correlation between help seeking behavior and stigma, but not self-concealment. The author believed that image was less of a concern for these students than for students at a Southern University. Seventy-five students in a mid-sized public university were given the Attitudes Toward Seeking Professional Psychological Help questionnaire, The Stigmatizing Attitudes-Believability Scale and the Self-Concealment Scale. The hypothesis was partially confirmed. Stigmatization and concealment were negatively correlated with positive attitudes towards help-seeking behavior. Results are discussed in terms of historical and cultural factors.

Ashley Jumbelick, Anthropology (BA) - Archeology | Presentation | 8:00 a.m. - 9:15 a.m.

EDWARD HOPPER & THE COUNTERCULTURE OF THE 1920S

This presentation will be a brief discussion on how Edward Hopper's art reflected the counterculture of the 1920s. It will also provide a short background on the artist himself and the era in which he lived in. Through extensive research, I found four paintings that reflect this the best. Along with the artist's own words, many of my sources were museums and processional analyses. This presentation was the last piece of my English 110 final project.

Kailey Kessinger, Speech Communication (BS) - Communication Studies | Poster | 1:10 p.m. - 2:25 p.m.

RETAIL'S IMPACT ON EMPLOYEE INTERACTION

With a current high demand on retail from the consumer market, there is more pressure on the lower level employees. This research is an examination of communication between upper management and their employees within retail. Retail CEOs face consequences when treating their employees unfairly, this is seen within performance of employers and how the company is viewed. A company that is utilized as an example is Restoration Hardware and the repercussions of the CEO communicating unprofessionally to his employees.

Travis Kurtz, History (BA) | Poster | 9:25 a.m. - 10:40 a.m.

Student Grants for Research and Creative Activity

UNDERSTANDING PHOENIX

The nature of counterinsurgency operations conducted by members of the CIA's Phoenix Program (a coalition of US and South Vietnamese governmental agencies unified in order to share information during the Vietnam War) is still, more than 40 years later, debated contentiously. Claims about the actions of this program range from, "torture, detention, and assassination" to, "not well understood outside of a small group of historians." This controversy, and the successes/failures of the program's pacification efforts themselves, result largely from politically motivated reports, cultural disparities, and incongruent tactical and strategic objectives of both the US and Republic of Vietnam. My research contributes to the analysis of trends uncovered by personal testimonies of participants and records released by the governments of the US and Vietnam. These perspectives shed light on operations that were conducted, and largely remain, in the shadows. Additionally, they provide context for understanding the nature of current day operations.

Alexander Lavely, History (BA) | Presentation | 10:50 a.m. - 12:05 p.m.

DEFINING TERRORISM: THE CONFLICT OF POLITICS AND OBJECTIVITY

The field of terrorism studies is one of some confusion, as it remains divided over parallel or conflicting definitions of the very term of study itself; this essay sets out to examine current definitions of terrorism as found in the Journal of American History and to compare, contrast, and debate such definitions in order to attempt an understanding that is more objective in both a political and historical sense.

Matthew Lee, Speech Communication (BS) - Broadcasting | Poster | 2:35 p.m. - 3:50 p.m.

Library Research Fellow

FOR BOYS, FOR GIRLS, FOR ALL OF THE ABOVE: THE EVOLUTION OF GENDER REPRESENTATION IN CHILDREN'S ANIMATED PROGRAMMING

The area of study regarding children's animated programming is rather uncharted in recent years. While there are numerous studies on older programs like The Flintstones up until the Rugrats in the 1990s, recent cartoons have not been discussed in terms of gender studies. I wish to discuss cartoons such as Steven Universe and how the presentation of boys, girls, and gender neutral characters have been established in comparison to older programs.

Rachel Mann, Social Studies Education (BSE) | Poster | 8:00 a.m. - 9:15 a.m.
Student Grants for Research and Creative Activity

STRATEGIC BOMBING: THE UNDERRATED TOTAL WAR ACTION

Strategic bombing played an important role in the European theater and contributed greatly to the war effort. The Allies, specifically the United States Army Air Force and the British Royal Air Force, used strategic bombing effectively. The British had different means of strategic bombing and used their resources differently compared to their American counterpart. The British went for a larger picture method of strategic bombing meaning they wanted to destroy overall and have lasting destruction. The RAF followed a different path of targeting while the Americans went with a more traditional way of bombing by going for associated war industries and destroying physical structures. Both organizations used strategic bombing to their benefit to secure victory. Each force had the common goal of defeating Nazi Germany and worked together to accomplish this goal but utilized strategic bombing in different ways to secure victory and reach their common objective.

Ty Martin, Interactive & Graphic Design (BDES) | Art Exhibit | 10:50 a.m. - 12:05 p.m.
3D PRINTING & OBJECT-ORIENTED PROGRAMMING

I took an in-depth study and exploration of current rapid-prototyping technologies used within the design industry. After visiting design studios such as Local Projects and Blue Cadet, I have developed a driving interest in object-oriented computing and designing for spaces. Throughout the course, I researched, planned, and designed my own prototype using the 3D printers available on campus. Pairing this prototype with programmable software I was able to build a functional piece that I could continue to improve before manufacturing.

Sara McLoone, Lindsey Hermann, Art Education (BSE) | Presentation | 1:10 p.m. - 2:25 p.m.
Wickersham-Burrowes Fund

MILLERSVILLE STUDENT RUN CHAPTER OF NAEA - RESEARCH PRESENTATION

Two Millersville art education students will be presenting their ideas and conclusions gathered from their recent trip to the 2017 National Art Educators Association Conference in NYC. A short presentation of ideas, as well as an open discussion will take place in order to help them decide how a Millersville chapter of the organization might benefit students.

Brett Morgan, Art (BFA) | Exhibits - All Day
Wickersham-Burrowes Fund

MULTIPLE MEANINGS: A DECONSTRUCTION OF DEFINITIONS

Thinking through our contemporary culture's language and systems, my recent work explores our culture's deep desire to label, define, and categorize everything. The objects and ideas that at first seem to be mutually exclusive or contradictory become my inspiration. Can a work of art be a mass-produced readymade, as well as a unique, handmade object? Why do we delineate art and design, but yet both are housed within the same department on campus? Where does one begin to understand an object, when it has multiple and equally valuable descriptions, or when multiple words describe essentially the same idea? These areas of contradictory multiple meanings are what I intend to explore throughout the rest of my research here at Millersville University.

Priscilla Mulrooney, Speech Communication (BS) - Broadcasting | Poster | 2:35 p.m. - 3:50 p.m.
COMMUNICATION EFFECTS OF DIVORCE ON CHILDREN

With the divorce rate hovering just above fifty percent, split households have become a normality in the United States. With one in two families prematurely splitting up, the effects on childhood and parenting have been in many cases devastating on the psyche of American kids. Particularly in the two years immediately following marriage termination, children are at serious risk of emotional, social, and psychological problems. Mental health issues ranging from crippling anxiety to acute depression often result from the stress of the familial schism; younger children are likewise prone to lashing out at their peers and having other related social outbursts (Keenan, 2016). However, many times it is not the divorce itself that is the root of all issue for the subjected youths. The home environment is often tumultuous; divorce can come as a relief to them. Rather, it is the manner in which parenting and the parents' post-divorce relationship is handled by both parties that has the most potential for support or damage on children (Karuppaswamy & Myers-Walls, 2013). Their communication can either make or break the conditions of their children.

Anastasia Muncie, Speech Communication (BS) - Communication Studies | Presentation | 8:00 a.m. - 9:15 a.m.
Library Research Fellow

LIVE-TWEETING FANDOMS: AN EXPLORATION OF CW'S THE FLASH FANBASE

"Social TV" is a phenomenon that has become something of increasing interest with the advent of new social media. D. Yvette Wohn and Eun-Kyung Na (2011) explain that previous research on Social Television had a broader definition of what it was; basically "any technology that supports social practices." Now Social TV is more than just talking at work the next morning about what you watched the previous night. Social TV is about "speaking" in real time with people you've never met through a social media platform. With an increasing amount of people "dual-screen viewing" their favorite television shows, networks are becoming more interested in how to engage these viewers and satisfy their fan bases. Research shows that live-tweeting is something that is becoming a more common part of the viewer's experience (Cameron & Geidner, 2014). However, there is no research exploring the underlying motivations behind why viewers use the social media platform Twitter to express their thoughts and engage with other viewers while watching shows. This paper is a theoretical exploration that attempts to begin to explain some of the possible reasons why fans of the CW program The Flash use Twitter while watching the show. By surveying members of the live-tweeting fanbase of The Flash, we can discover not only the motivations. As usually fanbases advocate for their "fandom," monopolizing on the supporters create a mutually beneficial outcome for broadcasters and their viewers.

Joseph Murse, Hunter Mengel, Caroline Hamersky, History (BA) | Round Table Discussion | 9:25 a.m. - 10:40 a.m.
THE PAST AND THE STORY IT TELLS TODAY

The presentation will inform viewers on what it means when someone says public history. From conservation to preservation to exhibition public history serves as a way to reach out to the public body to get them to react to the history that surrounds them. Several presenters will tell the story of the past to the science of today, historical digitization of old documents, the necessity of preserving historic knowledge, and finally the cultural heartland underneath our very own feet as told by history. The round table discussion is facilitated by Dr. Robyn Davis.

Luis Nieves, English (BSE) | Presentation | 9:25 a.m. - 10:40 a.m.
THE POLITICS OF HORROR

The horror genre is home to very opinionated directors and writers with their ideologies often leaking into their work. For the most part, horror films and television shows tend to be liberal in terms of characters and social commentary, but the majority of the genre's clichés and conventions mimic extremely conservative narratives. This dilemma highlights the internal conflict within the genre as it continues to focus on retaining its liberal audience.

Olivia Ober, Music (BA) | Musical Performance | 1:10 p.m. - 2:25 p.m.
OPERA WORKSHOP

A fully orchestrated performance of the one-act opera Trouble in Tahiti, by Leonard Bernstein.

Jason Orr, Art (BFA) | Art Exhibit | 2:35 p.m. - 3:50 p.m.
KILNIN' IT

Kilnin' It is a sculpture exhibition of work by the Spring 2017 Advanced Ceramics class. Artists are exhibiting a range of work that is based in clay with mixed media elements. This show explores repetition and refinement of wheel thrown forms; play with arrangement and elements of design via handmade forms and found objects, and experiments with display. Material is a driving factor in the work made. Each artist has been completely involved in every step of the ceramic process from making clay through to final glaze firings. What emerges are works that utilize a variety of wheel thrown, hand built, and alternative processes, culminating in a tactile group exhibition.

Dr. David Owen | Class Presentation | 8:00 a.m. - 9:15 a.m.
PANEL THEME: SOCIAL AND ECONOMIC INEQUALITY IN THE ASIA PACIFIC

Presenters' names and research titles are as follows:

Shianne Hargrove, "The Socioeconomic Impact of the Caste System on Gender Inequality: An Investigation into Indian Perceptions of Gender Equality"

Margaret Mumma, "Digital Media Coverage of the First U.S. Presidential Debate: An Empirical Analysis of the U.S. and Chinese Digital Media Narratives"

Jolene Bechtel, "The South Korean Chaebol: Family, Business, Government"

Kaitlyn Lundy, "A Multimethod Study of the Chinese Populace, Environmentalism, and Art as a Form of Protest"

Taylor Payne, Social Studies Education (BSE) | Presentation | 8:00 a.m. - 9:15 a.m.

HARRY LAUGHLIN: HONORARY DOCTOR OF DEATH

The eugenics movement in the early 20th century was a young but aggressive social and political movement focusing on better breeding. Focusing on the promotion of "good qualities" and the degradation or elimination of "bad qualities," the eugenics movement in America set a precedent for what defines what is unworthy of life. From this movement came Harry Laughlin, a curious biologist desperately interested in heredity and the eugenics movement. He worked closely with fellow eugenicists to publish papers in his field of study. Perhaps his greatest contribution to the eugenics community includes his creation of the Model Sterilization Law. While many eugenicists played a part in the spread of ideas across the ocean, it was Harry Laughlin that had the deepest effect on the expansion of eugenics into Nazi Germany. It was an American scientist that brought the idea of sterilization to the German scientific community, and the rest is history.

Haley Poust, Speech Communication (BS), Jessica Moore, Biology (BS), Madison Stoutland, Speech Communication (BS), Carley Weber, Psychology (BA) and Emily Young, Sociology (BA) | Poster | 12:05 p.m. - 1:05 p.m.

THE ANCHOR PROJECT

The stigma that accompanies mental health is prominent on a college campus. From our programs that we have held on campus, we have been able to shed light on mental health. We discovered the support systems that constantly surround you. We looked into how to help another woman become confident and how to look at a negative aspect of life and see a positive.

Bryce Rinehart, English (BSE) | Poster with accompanying exhibit | 10:50 a.m. - 12:05 p.m.

USING GAME DESIGN TO INCREASE ENGAGEMENT

Game design can increase engagement, learning, and positive outcomes. Drawing on these concepts, this presentation reports on data collected at the Millersville art museum. The presentation covers the game designed by student groups, and the data collected when students played the student-designed game.

Professor Jeri Robinson-Lawrence | Exhibits - All Day

MATERIAL DESIGN IN ACTION

Material Design is a rapidly growing field within Graphic Design. Students from the class will create unique, one-of-a-kind pieces designed using Adobe Illustrator and laser cut with department equipment. Pieces range from wearable art and design, to ornamental works and functional objects. Each piece will focus on an individual concept determined by the maker. Presenters' names are: Aaron Apprey, Isiah Bush, Gabrielle Cohen, Alyssa Dill, Roy Engel, Elizabeth Fultz, Summer Gray, Aubrey Hoffert, Noah Jefferys, Megan Jones, Sara McLoone, Gabriella Minnich, Cody Nunn, Gabriella Portelles, Samantha Raum, Laura Sell, Lauren Smith, Renee Vance, Alina Vatafu, Cassidy Weaver, Ye Mei Zhou.

Philip Rooney, German (BA) | Presentation | 8:00 a.m. - 9:15 a.m.

TRANSCRIBING AND TRANSLATING GERMAN FROM THE 18TH CENTURY

This presentation details the process and results of translating texts from Pennsylvania German settlers during the 18th century. I will discuss the steps I have taken and the problems with which I have been confronted, such as the interpretation of handwriting, damaged paper, language shift, understanding of dialect, and ethical translation.

Elizabeth Root, History (MA) | Poster | 1:10 p.m. - 2:25 p.m.

WHO WILL HELP THE UNION SOLDIER?: A LOOK AT THE U.S. SANITARY COMMISSION'S WORK DURING THE CIVIL WAR

Early in the Civil War the Northern people became aware of the lack of care that the injured or ill Union soldier received from the federal government. In response, the U.S. Sanitary Commission formed to provide much needed medical equipment and provisions to the Union army. This work used reports from the Sanitary Commission, newspaper articles and official records of the Union Army to demonstrate the care of the Union soldier, both before and after the rise of the U.S. Sanitary Commission. This work demonstrates how the people of the Northern States rose to the challenge of taking proper care of the Union soldier.

Lindsay Roschel & Abigail Gruber, History (MA) | Poster | 8:00 a.m. - 9:15 a.m.

Noonan Endowment Award

DISTRESS AND DISPLACEMENT: A GEOGRAPHICAL CASE STUDY OF REVOLUTIONARY PENNSYLVANIA

The colony of Pennsylvania played a pivotal role in the progress of the American Revolution and the city of Philadelphia was at the center of this revolutionary era. Lancaster played a smaller, yet representatively important role. An analysis of the experiences of several elite families living in Lancaster and Philadelphia contributes to the larger narrative of revolutionary experiences and helps us better understand the effects of revolutionary conflict on daily life. Our study focuses on the Yeates and Hand families of Lancaster, and the Shippen and Drinker families of Philadelphia. Their individual narratives detail a spectrum of war experiences that range from emotional turmoil to physical violence and displacement; these, in turn, highlight the importance of geography, class, and gender as modes of analysis.

Lashae Rudolph, Speech Communication (BS) - Broadcasting | Presentation | 8:00 a.m. - 9:15 a.m. | Exhibit - All Day

GENDER SPECIFIC: MALE VICTIMS OF SEXUAL ASSAULT AND THE STIGMAS ATTACHED TO THEM

Gender Specific is a documentary short that centers around the stigmas and stereotypes that come with being a male victim of sexual assault. The short tells the story of two people trying to come to grips with their abuse. Featuring interviews and analysis from Millersville University's counseling center as well as the Title IX director Mr. Robert Wood, Gender Specific attempts to break the conventional image attached to sexual assault while also explaining why the mindset that men cannot get raped is so problematic.

Monica Rush, Government and Political Affairs (BA) | Class Panel Presentation | 1:10 p.m. - 2:25 p.m.

THE FIGHT TO END INTERNATIONAL SEX TRAFFICKING

This presentation will focus upon the international community's efforts to battle the global challenge of sex trafficking.The campaign will be explored from a variety of different perspectives, including emerging legal norms in the area and strategies employed by a variety of global governance actors to address this pressing human rights issue. Class panel presentation is facilitated by Dr. Kirsten Bookmiller.

John Schoenewald, Music (BA) - Music Business Technology | Presentation | 1:10 p.m. - 2:25 p.m.

Library Research Fellow

THE IMPACT OF CHANGES IN THE MUSIC INDUSTRY ON CURRENT ROCK MUSICIANS

The landscape of the music industry has drastically changed throughout its lifespan, especially within the past 15-20 years. Such changes include the rise of Internet music listening and the consolidation of many important record labels and other types of music businesses. However, while the economic challenges present in the rock/indie music industry are clear, the testimony of the performing artist has yet to be clearly heard. This project utilizes oral history methodology with rock/indie musicians that are currently active and connected to varying types of record labels. The report created from this project will serve as a record of the adaptations of the artists to economic and business changes, as well as a source of advice for aspiring professional musicians.

Dr. Timothy Shea | Dramatic Performance | 9:25 a.m. - 10:40 a.m.

CHANGING THE WORLD THROUGH STORIES!

The Millersville University Storytelling Experiences (MUSE) student team will perform a series of interactive narratives that draw from research in Theater of the Oppressed and Critical Literacy. Partnered with The Anne Frank Project and Neighborhood Bridges Program, this team is working in three different Lancaster County school districts this semester in artist residencies that infuse drama-based pedagogy in classes as a conduit of identity formation, conflict resolution, and reconciliation that leads to stronger communities.Come and join us as we celebrate our stories, both joyful and painful and, in the process, as we heal and revitalize! Presenters' names are: Julie Childs, Nita Childs, Riley Cooper, Sean HT Domencic, Dylan Kranch, Ciera Lovell, MaryBeth Nolt, Kaelin Thiboldeaux, Harrison Wallace with Ms. Marion O'Sullivan.

Ashley Sherman, English (BA) | Presentation | 10:50 a.m. - 12:05 p.m.

POST-AMERICAN REVOLUTION, MALE-CENTERED DISCOURSE AND ITS OPPRESSIVE EFFECTS ON WOMEN'S LITERATURE

From the appallingly small number of classes that versify their students on the historical overview of women's subjection, the impact of discourse remains routinely overlooked. Yet, within most societies, discourse remains the catalyst for all pivotal historical events, as well as the creator of the causes and effects that preceded or followed. This paper examines the intricate ties between post-American Revolution, male-centered discourse and its oppressive effects on women's literature. It draws contrasts between the writings of four 18th century women writers and each woman's utilization and comprehension of the male-centered discourse within their writing: Mary Wollstonecraft, Judith Sargent Murray, Hannah More and Martha Laurens Ramsay. It reveals the subjected images women created for themselves through their literature, which would ultimately add to their subjection in the future. More importantly, it reveals women's obliviousness to male-centered discourse, and its creation of the repetitious cycle of subjection.

Isak Sindler, Art (BFA) | Exhibits - All Day
MIM ARTIFACTS

1.) Display of my sculptural artwork. 2.) A "maker's table," directed by myself, where participants can engage with various art making processes. The inspiration for this project is to create a positive "working" environment, allowing students/faculty to come away with their very own MiM artifact. A few of the artifacts I have proposed are folded paper sculptures, handmade kaleidoscopes, and possibly a miniature screen printing demo.

Tyler Smith, Music Education (BSE) | Presentation | 10:50 a.m. - 12:05 p.m.
Library Research Fellow

PLAYING-RELATED INJURIES AMONG PIANISTS AND WHAT TO DO ABOUT IT

Playing the piano is an athletic event that requires precise coordination between multiple muscle groups across the whole body. A pianist's muscles can strain and become injured just as easily as an athlete's. When a muscular-skeletal injury occurs, it can be debilitating for the musician and challenging for medical professionals to diagnose and treat. Using an oral history approach, this study explores the experiences of pianists who have been injured, how their injury developed and what they did about it. Some were successful using technique retraining and alternative medical methods and others were forced to stop playing the piano all together. Help for injured pianists can be difficult to find. However, by learning from the experiences of others, it can be made much simpler. The goal of this project is to create a curriculum guide for injured pianists to help them recover as quickly as possible.

Kyle Thomas, History (BA) | Presentation | 8:00 a.m. - 9:15 a.m.
THE AMERICAN ARMY IN THE EARLY REPUBLIC

An examination of the founding of the American military from the end of the American Revolution to the beginning of the War of 1812. Also examined will be the relative strength of the military and the skill its members possessed in terms of military proceedings.

Margaret Thorwart, Speech Communication (BS) - Theatre | Presentation | 1:10 p.m. - 2:25 p.m.
PARENT-CHILD COMMUNICATION DURING TRANSITION TO UNIVERSITY LIFE

Heading off to college is often the first time young adults experience time away from their parents. There are growing amounts of studies suggesting that attending a university for the first time entails a transition in young adults' lives filled with a great deal of stress. Once at college, the communication between young adult and parent drastically changes.The transition to college proves to be difficult for most young adults and is a test on whether parent-child communication will continue or diminish. Every young adult transitions differently to college; indeed, sometimes communication between student and parent can become nonexistent, overbearing, or counterproductive. Doing a research study to evaluate how communication with parents affects first year college students' adjustment to university life would improve parent-child communication and help universities to adjust their first year experience programs and resources.

Anna Tran, Music (BA) - Music Business Technology | Musical Performance | 10:50 a.m. - 12:05 p.m.
MOURNING DOVE SONNET - A CASE IN EXTENDED VIBRAPHONE TECHNIQUES

Introduced in 1921, the vibraphone is a keyboard percussion instrument traditionally played with two to four mallets. It possesses a wide ranged variety of timbres and tones making it an extremely versatile instrument. Mourning Dove Sonnet is a solo vibraphone piece composed by Christopher Deane. It showcases the versatility of the instrument by incorporating a variety of techniques to produce sound though bowing, pitch bending, motorized vibrato, and the use of mutes in addition to the traditional mallets. Mourning dove Sonnet is one of many experimental pieces in percussion literature that contributes to the constant evolution of the percussion art form. It is necessary for composers to continue pushing boundaries in the world of music. In this way expression has new opportunity to be displayed and ideas are brought into reality. Mourning Dove Sonnet is an example of a great idea brought into reality.

Theodore Umble, English (BA) | Presentation | 9:25 a.m. - 10:40 a.m.
DIE ENDLÖSUNG DER GENRE-FRAGE

Welcome to genre.

Elizabeth Wahba, English (BSE) | Presentation | 9:25 a.m. - 10:40 a.m.
ZORA NEALE HURSTON: THE FIRST LOUD VOICE OF BLACK FEMINISM HONORS THESIS

Black feminism is a relatively new term in literary and political circles, dating to 1973. Fifty years earlier, Zora Neale Hurston (Zora) was writing on the issues of intersectionality in her fiction novels and stories, and her autobiographical works. I argue that Zora's racial pride and representative voice for Black women establishes her. Zora highlighted the themes of frustration for Black women while celebrating racial pride. She gave voice to the voiceless, leaving a legacy that encouraged women in the development of Black feminism. Her message was that Black women face trifold subjugation, including racial, gender-based, and social class oppression, the very ideals of Black feminism. Zora wrote at a time when Black women's struggles were hard to express, and she worked to give herself and those like her a voice, inspiring the later existence of a more cohesive fight to end oppression on all counts for women of color in America.

Cassidy Weaver, Art (BA) | Exhibit | 10:50 a.m. - 12:05 p.m.
THE DANGER OF MISPLACED CONFIDENCE

The Danger of Misplaced Confidence examines recent and current world issues. Guests are encouraged to explore the piece from all sides as it is a sculptural work meant to be viewed from afar and up close at every angle. This piece takes no side as it is purely an observation meant to ask why individuals think a certain way and encourage them to respond openly to peers. Hopefully this will allow a safe space to be created that invites individuals to discuss their opinions without the fear of judgement or accusation. If this can be accomplished by the work, the left and the right brained may begin to realize that there is a plethora of common ground and that both sides are ultimately not so different.

Mary Kay Witmer, Psychology (BA) | Art Exhibit | 9:25 a.m. - 10:40 a.m.
EXPLORING THE MANY APPLICATIONS OF POWDER COAT TECHNIQUES IN FINE ART METALWORK

I acknowledged the versatility of Powder Coating when viewing boldly colored jewelry designs at ECU's "Making Marks" Symposium. Inspired by this medium's colors and textures, I questioned how to apply it to my own jewelry designs. In 2016, I applied for and received SGRCA funding which allowed me to purchase the needed materials to experiment with powder coating techniques in my Fine Art Metal classes. I found that powder coat finishes produce bold colors on metal and are easy to apply. I will exhibit samples of powder coated metals along with finished jewelry designs (also colored with powder coat) that this grant allowed me to accomplish. I hope to share with others what a versatile medium it is when applied to metals.

Mary Kay Witmer, Psychology (BA) | Art Exhibit | 10:50 a.m. - 12:05 p.m.
Noonan Endowment Award, Student Grants for Research and Creative Activity

COLLECTIVE VOICES ECU SYMPOSIUM

The Jewelry and Metals Arts Guild received a Noonan Endowment Award which allowed five members and their advisor, Becky McDonah, to attend this year's Collective Voices symposium at East Carolina University. The symposium provided unique circumstances for participants to meet other students and professionals in their field of interest. The symposium's environment allowed us opportunities to converse with favorite artists and question their techniques and process. It also included gallery exhibitions that featured noteworthy work by artists such as Boris Bally, Tim McCreight and Linda Darty, among many others. There were numerous slide presentations, artist lectures and Break-Out Sessions which offered demonstrations on specific techniques and working methods. Each speaker offered a wealth of information for those in the field of Art and Fine Art Metals. This opportunity inspired each attendee in a unique way which will be demonstrated in their work at Made in Millersville, 2017.

Dr. Ping Yang | Class Presentation | 8:00 a.m. - 9:15 a.m.
PANEL THEME: SOCIAL JUSTICE, EQUALITY, AND BLACK LIVES MATTER

This panel examines Black Lives Matter from the communication perspective, addressing issues such as social justice, equality, black women's (in)visibility, political discourse, and changing culture. With different theoretical and methodological frameworks, three student scholars aim to investigate the Black Lives Matter movement within the intersectionality of race, gender, ethnicity, class, and power dynamics. The presenters' names and research titles are as follows:

Shianne Hargrove, "Black Women's Invisibility in the Black Lives Matter Movement"

Isis Waller, "Political Affiliation through Culture and Demographics: An Analysis of Political Discourse in #BlackLivesMatter"

Teanna Sibilly, "What Will It Take for Equality: A Study of Black Lives Matter"

Timothy Zettlemoyer, Music Education (BSE) | Presentation | 10:50 a.m. - 12:05 p.m.
Library Research Fellow

NORTHEASTERN WOODLAND NATIVE AMERICAN MUSIC: RITUAL AND SOCIAL MUSIC AND ITS APPLICATION IN A KODÁLY LEARNING ENVIRONMENT

The music of Native Americans from the Northeastern Woodland region of the United States is deeply spiritual. These indigenous people believe that all music is divinely inspired. This culture's music can be broken down into two categories: social music and ritual music. These two categories differ in their musical form and performance, their cultural significance and tradition, as well as from tribe to tribe in the local area. The goal of this project is to increase the understanding of the culture and heritage of Native American music and to enhance the Kodály Method for early K-12 music education.

Jessica Zetts, Speech Communication - (BS) Communication Studies | Presentation | 2:35 p.m. - 3:50 p.m.
MENTAL ILLNESS STIGMA IN THE MEDIA

In 1887 Nelly Bly published Ten Days in a Madhouse, probably the first attempt in American media to address the stigma surrounding mental illness. Sadly, 130 years later, it is more important than ever to discuss the ways in which American culture attaches a stigma to mental illnesses and how this silences those who suffer from them. This research reports on interviews with people with mental illnesses, sharing their experiences and how they feel this stigma can be reduced. The interviews were combined with a survey of Millersville students to hear about their experiences and perceptions of the stigma in the media. Finally, counselors were interviewed for their unique perspectives on this issue. Because of this stigma, those who suffer from mental illnesses often do not seek treatment. This research will contribute to a discussion to attempt to address that problem.

Janelle Zimmerman, Sociology (BA) | Presentation | 9:25 a.m. - 10:40 a.m.
ILLNESS AND HEALTH CARE IN NINETEENTH-CENTURY STRASBURG TOWNSHIP, PENNSYLVANIA

This paper examines health, illness, and healthcare practices in a nineteenth-century Pennsylvania German farm household through analysis of a receipt book and ledger from the period. The Funck Family Journal provides a fascinating contemporary perspective on health and illness. By examining the recipes for home remedies recorded, we can learn something about the illnesses or conditions that were recognized in this particular location and time, as well as what types of cures and palliatives were used to treat those conditions. The extensive litany of home remedies provides insight into the understandings and practices of medical care in one family over a period of time. If combined with other sources—contemporary and modern—this could serve as a basis for a comprehensive look at healthcare in the Pennsylvania German communities from the colonial era into the present day.

COLLEGE OF EDUCATION AND HUMAN SERVICES

Professor Jennifer Burke | Class Project - Exhibit | 8:00 a.m. - 9:15 a.m.
MAKING HISTORY MEANINGFUL: JOURNEY BOX UNITS FOR YOUNG LEARNERS

Journey Boxes are a pedagogical approach to historical instruction that allows learners to deeply engage with a historical topic. Pre-service teachers researched historical content, and were able to apply effective instructional strategies to create entire educational units contained within the box. The goal is for young learners to interact with history in a way that it becomes meaningful and therefore memorable. This often involved inquiry or simulations. The pre-service teachers also created assessments to be done at the conclusion of the unit to ensure the learning objectives of the box were met.
Presenters' names are:
Courtney Ingold- US Constitution, Julia Goussetis- Berlin 1936 Olympics Propaganda, Loredana Marin- Women in Civil War, MorganAnn Millinder- Johnston Flood,Thomas Walker- Jackie Robinson, Maria LaSpina- Amelia Earhart, Victoria Gillian- Shirtwaist Makers Strike of 1909, Lindsay Saienni- Jennifer Keelan and the Passage of the Americans with Disabilities Act, Alyssa Bomberger- Amelia Earhart, Samantha Leslie- Montgomery Bus Boycott, Nicole Thompson- Ellis Island, Markisha Peace- Race relations, Mackenzie Smith- Saint Augustine, Alicia Denmark- Cathay William-Buffalo Soldier, Amy Hershey- California Gold Rush, Tamara Green- Dust Bowl"

Jo Caruso, Psychology (BA) | Poster | 2:35 p.m. - 3:50 p.m.
THE EFFECT OF VIDEO GAMES ON PROCESSING SPEED IN CHILDREN

The effect of video gameplay on children's processing speed will be evaluated in this study. Previous research indicates video games may be beneficial to learning skills and could have a place in education. This research is dedicated to understanding the educational potential of video games, the immediate and prolonged benefits of commercial gaming, and the generalizability of skills enhanced through video gameplay. This will be evaluated by offering the participants non-violent, fast-paced racing gameplay in a commercial game for 15-20 minutes at a time followed immediately by a WISC-IV subtest to measure processing speed and a math fluency probe to assess skill generalization. Keywords: video games, processing speed, children.

Tyler Cook, Social Work (BA) | Presentation | 10:50 a.m. - 12:05 p.m.
AGING DISCRIMINATION AGAINST LGBT ELDERS

There are about 1.5 million people who identify within the LGBT community who are 65+ years old. In a 2014 study, 48% of same-sex couples faced discrimination in a residential housing facility. Almost half of the people in the same study also experienced higher costs of living and application fees, fewer amenities, and worse treatment compared to their heterosexual counterparts.

Kelsey Derrick, Psychology (BA) | Presentation | 9:25 a.m. - 10:40 a.m.
THE CONFUCIAN ELDER OR POWERFUL GURU? PORTRAYALS OF ELDERLY WITHIN JAPANESE ANIME

Professionals in human services fields have begun studying the effects of ageism on aging populations, particularly in developed countries. It is speculated that many people's' attitudes towards the elderly could be influenced by the cultural values often presented within television and movies. In particular, Asian societies who typically practice filial piety stemming from Confucian values could be an exception to modern ageism around the globe. Since the 1980's, Japanese animation has swept the world in popularity due to its unique drawing style, differing plotlines and range of characters. With the timely emergence of anime and ageism in popular culture, the goal of this paper is to discover how older adults are portrayed in anime. Through a content analysis of 6 different anime, the portrayal of elders seems to be that of a secluded, yet powerful guru, who often act as comedic relief in the program. Gender differences, however, are noted within these specific perceptions.

Sarah Drake, Social Work (MSW) | Poster | 8:00 a.m. - 9:15 a.m.
IN THE GLOW

Look for a light in the darkness.

Chelsea Fleeger, Clinical Psychology (MA) | Presentation | 10:50 a.m. - 12:05 p.m.
MILLERSVILLE UNIVERSITY PSYCHOLOGY GRADUATES: WHERE ARE THEY NOW?

We present the results of a social media search aimed at finding and identifying the current career status of two cohorts of psychology graduates from Millersville University; specifically, those receiving B.A. degrees in the 2005 and 2010 calendar years. Using publicly available information primarily from a single social media site (LinkedIn), we conclusively located over a third of each cohort and found that approximately half of each had gone on to pursue graduate study. This study demonstrates how a simple, non-intrusive strategy can be used to complement alumni assessment initiatives.

Deitra Harper, Social Work (BA) | Presentation | 9:25 a.m. - 10:40 a.m.
DIFFERENCES IN DEPRESSION AND SUICIDAL IDEATION AMONG AFRICAN AMERICANS AND EUROPEAN AMERICANS

Depression is a common psychological diagnosis among college students (Deasy et.al., 2014). At the same time, research indicates that African Americans and European Americans may display different symptomatology when depressed (Lamis & Lester, 2012). African American and European American College students who are depressed, as indicated by their score on a depression screening will be surveyed, concerning their symptomatology and ideation. It is hypothesized that there will be significant differences in ideation and symptomatology between African American and European American College students.

Jordan Heagy, Social Work (BA) | Presentation | 9:25 a.m. - 10:40 a.m.
THE IMPACT OF INTIMATE PARTNER VIOLENCE (IPV) ON CHILDREN

This research project focuses on short term and long term impacts Intimate Partner Violence has on children exposed to it. It also discusses protective factors and evidence-based interventions for children exposed. I also propose a few questions for future research on this topic.

Emma Hershey, Olya Hershey, Early Childhood Education (BSE) | Poster | 10:50 a.m. - 12:05 p.m.
Early Childhood/Special Education Dual

INCREASING ENGAGEMENT AT MUSEUM

Game design can increase engagement, learning, and positive outcomes. Drawing on these concepts, this presentation reports on the data collected at Millersville Art Museum. The presentation covers the game designed by student groups and data collected when students played the student-designed game.

Janelle Konkle, Rachel Howanetz, Serena Jones, Early Childhood Education (BSE) -PreK-4 | Presentation | 2:35 p.m. - 3:50 p.m.

CULTIVATING YOUNG WRITERS USING WEB-BASED RESOURCES IN WRITING

21st century students have grown up in a world where technology is an integral part of their daily lives. For these students, the Internet is a popular medium for expression and communication. However, elementary students need targeted instruction on how to use the Internet for their benefit, especially as they develop their writing skills. It is necessary for teachers to scaffold their students' entry into digital writing. Teachers need to become fully aware of the wide network of Internet resources that can benefit students and enhance the skills of young writers. Fostering the development of digital literacy skills is crucial as our students navigate their technology-driven world. In this session, attendees will explore various Internet resources and will learn how these tools align with standards. Participants will also have the opportunity to gain suggestions from the presenters and each other in regards to using these web-based resources in lessons with their students.

Rachel Lee, Psychology (BA) | Presentation | 10:50 a.m. - 12:05 p.m.

ON THIN ICE: A LOOK INTO THE FEDERAL DEPARTMENT OF IMMIGRATION AND CUSTOMS ENFORCEMENT

Illegal immigration typically leads discussions, and recently, family detention has been following in its footsteps. Family detention is the practice of placing whole families who have entered the country illegally into specialized detention facilities while they await a verdict on their ability to stay in the US. While detaining illegal immigrants is an old practice, the number of immigrants in US detention centers has recently swelled. Today, the Department of Homeland Security (DHS) operates the largest prison system in America (Martin, 2012), and spends more money than all other federal law enforcement agencies combined (González Fernández, 2013). This presentation aims to explore the reasons for the recent swell in illegal immigration, the U.S. government's' responses, and why several influential groups are attempting to end the process of family detention.

Rebecca Lurie, Psychology (BA) | Poster | 9:25 a.m. - 10:40 a.m.
Neimeyer-Hodgson Grant, Student Grants for Research and Creative Activity

THE USE OF VARYING SCHEDULES OF REINFORCEMENT IN A CONTINGENCY MANAGEMENT PROGRAM FOR INCREASING PHYSICAL ACTIVITY

The purpose of the present study was to evaluate the effects of schedule type on increases in physical activity for individuals between the ages of 18 and 64 years old. This study used a two-group ABA design, and the total potential earnings were the same for both groups. Both schedules included bonuses for meeting goals on consecutive days. Physical activity, or the number of steps taken each day, was measured using Fitbit OneTM activity trackers. Between group differences were evaluated, including the time it takes to reach the first step goal during intervention and the number of days on which goals were achieved.

Alexandra Maceiko, Early Childhood Education (BSE) - Early Childhood/Special Education Dual | Poster with accompanying exhibit | 9:25 a.m. - 10:40 a.m.

USING GAME DESIGN TO INCREASE ENGAGEMENT

Game design, specifically video game design can help to increase engagement, learning and positive outcomes. Drawing on these concepts this presentation reports on data collected at the Millersville art museum. The presentation covers the game designed by student groups and the data collected when students played the student designed game.

Cara Petersen, Social Work (BA) | Poster with accompanying exhibit | 2:35 p.m. - 3:50 p.m.

EXPLORING THE IMPACT OF PLAY THERAPY AND TRAUMA

This study is exploring the concept of play therapy and how it impacts children between a certain age group who have dealt with types of abuse related trauma. Play therapy allows the child to express him or herself as they see fit and have a safe space to do so.

Marie-Yves Preval, Social Work (BA) | Presentation | 1:10 p.m. - 2:25 p.m.
Student Grants for Research and Creative Activity

POLICE BRUTALITY AGAINST MINORITIES

Police brutality against minorities has been a commonality among African Americans. The largest concern about police brutality is the death rate ratio in the black communities. In the past two recent years, police have killed over 104 unarmed black people. This prevalent issue has become a widespread problem in our society today. Although African Americans comprise only 13% of the U.S population, the most recent research statistic shows that 42% of that population has been victimized by police violence. "African Americans are being killed at a rate disproportionate to their percentage of the U.S population"(Lowery, 2011). It almost seems like a normal condition in our daily lives. The police are supposed to be a protective system for their community, but unfortunately, it is becoming a dangerous force and element of destruction for some ethnics groups; a large number of people in our population are being affected by this issue. It is not only affecting our cities, but also others who may not be directly involved, moreover, it is causing fears in parents, young children, as well as the whole family. This problem is not a simple racial dilemma; police have been using deadly force against different ethnic groups, and different racial groups for decades. However, today it occurs more frequently and especially among African Americans and Latinos. Even though police officers play a role in our society, they still need to find a balance between fairness and enforcement. What can be done to shift this paradigm? It is impacting even those who have not been a victim or those who may have some privilege more than others or may not even feel that they are vulnerable. We need to bring an alternative paradigm to banish this matter. This issue is a social concern because the criminal justice system and many other branches that have power to ameliorate this have not yet viewed it as a social issue. The primary element here is that the police department is operating under an unlawful system, with police officers exercising their power without supervisions. "A significant factor in this mistrust is that police conduct reviewed infrequently, and as a result, police officers and police department are not held accountable for abuse"(Smith, 2016). This creates barriers of trust between civil and criminal systems. The justice system needs to implement a protection system to oversee when there are unlawful forces that are used unreasonably against civilians.

Natalie Thomas and Brianna Medura, Early Childhood Education (BSE) - Early Childhood/Special Education Dual | Poster with accompanying exhibit | 9:25 a.m. - 10:40 a.m.

GAME DESIGN TO INCREASE ENGAGEMENT

Game design can increase engagement, learning, and positive outcomes. Drawing on these concepts this presentation reports on game design and its data collected at the Millersville Art Museum. The presentation covers the game designed by student groups and the collected data when students played the student designed games.

Courtney Weaver, Psychology (BA) | Poster | 8:00 a.m. - 9:15 a.m.

ROGUE ARCHIVE & DATA ANALYSIS

With this project, I'm following a field hockey sports fandom blog. The data visualization will report on the repertoire practices used by the blogger and how the choices made (when to post, what to post, what images to include, what composition in images, and what colors in images) influence how the audience is asked to join the community. The enculturation practices selected (most likely subconsciously) by this blogger have real world applications.

COLLEGE OF SCIENCE AND TECHNOLOGY

Thelmelis Abreu, Applied Engineering & Technology Management (BS)| Poster | 10:50 a.m. - 12:05 p.m.

DETERMINING THE OPTIMAL EXPOSURE AND PROCESSING TIME FOR LIGHT SENSITIVE PHOTOPOLYMER PLATES

Procedures were established to determine the optimal exposure and processing time for light sensitive photopolymer plates. Test targets were designed and tested with multiple samples of photopolymer plates. All samples were exposed and processed using an Anderson Vreeland Table Top Flexo A4 exposure unit and processor. Data was collected and analyzed. Samples were evaluated with appropriate measurements of the image exposed on the photopolymer plates. Recommendations were made for further studies on the optimal exposure and processing times. Additional recommendations include considering the effects of different lightbulbs on output resolution.

Melody Aleman, Biology (BS) - Marine Biology | Poster | 10:50 a.m. - 12:05 p.m.

Noonan Endowment Award

CHARACTERIZING THE PHYTOPLANKTON COMMUNITY OF THE SOUTH CHINA SEA

The South China Sea (SCS) is a semi-enclosed tropical basin that receives nutrients from two main sources: coastal upwelling and river runoff from surrounding countries. The southwest (SW) summer monsoon that occurs between March and September drives upwelling off the coast of Vietnam. The size and location of the Mekong River plume changes due to the variation in rainfall and wind strength of the monsoon. Riverine input is also influenced by anthropogenic activity such as agriculture, damming, and land-use changes. Different nutrients are supplied from these two main sources and in different quantities, and affect the structure of the phytoplankton community. We sampled 22 stations along the coast of Vietnam aboard the R/V Falkor of the Schmidt Ocean Institute during the pre-monsoon season. High performance liquid chromatography (HPLC) and flow cytometric techniques will be used to characterize the phytoplankton community and its relationship with different water masses and nutrient sources.

Rachel Ashmore, Chemistry (BS) | Poster | 10:50 a.m. - 12:05 p.m.

Neimeyer-Hodgson Grant, Student Grants for Research and Creative Activity

FLUORESCENCE STUDIES ON A SERIES OF CARBOXYLIC ACID DYES

Dye molecules are important in bioanalytical chemistry because they can be used for pathogen detection. UV/visible absorption and emission spectra have been obtained for a series of Alexa Fluor® Carboxylic Acid dyes in solvents of varying polarity and pH values. Polarity effects have been studied using a series of alcohol solvents of varying chain lengths. The fluorescence intensity decreases with polarity. The wavelength of maximum absorption (λmax) increases as polarity decreases for the 488 and 647 dyes, but no effect was observed for the 568 dye. Experiments with the dyes in pH 2-12 buffers were also completed. At low pH, the λmax of the absorption and fluorescence spectra increases for dyes 488 and 568, while for dye 647 it remains the same. These effects are examined in terms of the energetics of frontier orbitals. Continued experiments using non-alcohol solvents and additional dyes are currently underway.

Mikael Baez, Applied Engineering & Technology Management (BS) - Graphic Communication | Poster | 10:50 a.m. - 12:05 p.m.

AN EXPERIMENTAL COMPARISON OF THE COLOR FASTNESS PROPERTIES OF SELECTED TEXTILE SCREEN PRINTING INKS

The problem of this study was to experimentally compare water based textile screen printing ink to plastisol textile screen printing ink. Specifically, the study tested industry grade textile screen printing ink from two companies, Speedball and NAZDAR. The textile screen printing ink was evaluated for color fastness. Test targets were designed and printed. The samples were subjected to numerous wash cycles. Density readings were collected and analyzed. Findings were stated, and recommendation were made.

Gregory Baldree, Chemistry (BS) - Environmental Chemistry | Poster | 10:50 a.m. - 12:05 p.m.

Student Grants for Research and Creative Activity

SYNTHETIC STUDIES TOWARD 2-BROMO-4,5-DIMETHYLANILINE EN ROUTE TO HUNANAMYCIN A

We have initiated studies toward an optimized synthesis of 2-bromo-4,5-dimethylaniline; this substituted aniline derivative will likely serve as the requisite starting material in route to Hunanamycin A (HA). Our studies have commenced with a two-step synthesis of N-2-bromo-4,5-dimethylphenylacetamide from 3,4-dimethylaniline based on the work of Guo et al. We plan to employ relatively inexpensive chemicals and operationally simple procedures; ideally, this will create an accessible, user friendly, and reproducible synthetic protocol. This work will enable longer-term project goals toward the synthesis of HA; an antibacterial natural product found in a marine derived Bacillus hunanensi.

Joshua Bard, Biology (BS) | Poster | 10:50 a.m. - 12:05 p.m.

SONGBIRD RECOGNITION OF CAT VOCALIZATIONS

House cats produce multiple different types of vocalizations, ranging from standard meows to unusual chattering noises. It has been suggested that the chatter functions as aggressive mimicry, attracting birds to make it easier to prey on them. If this is the case, are birds able to recognize chatter as a predatory sound? I hypothesized that chatter is unlike cat meows in that birds do not recognize chatter as the sound of a predator. I predicted, then, that birds will approach chatter sounds to investigate them further. I collected audio samples of various cat chatters and cat meows, played them back to northern cardinals (*Cardinalis cardinalis*), and monitored the birds' responses. My experiment showed that cardinals did not respond significantly differently to cat meows and cat chatters. My results do not support the hypothesis that the northern cardinal differentiate between cat meows and chatters. Further experiments are needed to determine the function of cat chatter and whether other prey species recognize different cat vocalizations.

Jaclyn Belew, Applied Engineering & Technology (AT) - Occupational Safety & Environmental Health | Poster | 8:00 a.m. - 9:15 a.m.

A COMPARATIVE ANALYSIS OF ERGONOMICS ASSESSMENT TOOLS USED IN ASSESSING RISKS OF MUSCULOSKELETAL DISORDERS

This research seeks to understand various ergonomics assessment tools and evaluate their results compared to what is actually happening in the field. Over the course of one month and four visits to a local factory, production line workers were interviewed and observed to gather data. The assessment tools were chosen after a literature review was done and there was an understanding of which ergonomics tools would be most effective given the situation. Upon completion of the literature review and data collection, an in-depth analysis is given. The analysis sheds light on what ergonomic issues pertain to these workers and the musculoskeletal disorders they are exposed to. The workers claim they experience no ergonomic symptoms, yet the results show there is a risk associated with the work they do. Therefore, the conclusion contemplates why there might be a difference in the theoretical results and the actual scenario these workers face.

Christian Boyer, Meteorology (BS) | Poster | 12:05 p.m. - 1:05 p.m.

UAV-BASED CALIBRATION FOR POLARIMETRIC PHASED ARRAY RADAR

Calibrating dual polarization in phased array radars is an important aspect of risk mitigation in moving towards a nationwide multifunctional phased array radar system. The calibration of scan-dependent polarization in phased arrays is a primary goal in achieving the same products provided by traditional dish-based systems, however, there are many challenges to the calibration process. The focus of this project is on the calibration of the radar's receive patterns. An unmanned aerial vehicle (UAV) has been developed to facilitate scan-dependent calibration of a fixed phased array, and the focus of this part of the project is on the "Twitching Eye of Horus" circuit. It provides a means for transmission of calibrated horizontal and vertical electric fields towards the radar from the UAV. This study takes a look at the process of calibrating the radar's receiver using a UAV and the Twitching Eye of Horus, as well as presenting initial results.

Eric Breeden, Chemistry (BS) - Biochemistry | Poster | 12:05 p.m. - 1:05 p.m.

Neimeyer-Hodgson Grant

SURFACE ENHANCED RAMAN SPECTROSCOPY USING SILVER AND GOLD NANOPARTICLES

Surface Enhanced Raman Spectroscopy (SERS) is a surface technique that is capable of increasing the Raman signal of a sample by several orders of magnitude. Analyte molecules are adsorbed onto metal nanoparticles. The size and shape of nanoparticles greatly affect the degree of signal enhancement. This investigation involves the production of silver and gold nanoparticles by several methods and comparison of the SERS enhancement associated with each method. The best method of preparation will be optimized and developed into an experiment for use in CHEM 465.

Joshua Brengel, Integrated Scientific Applications (MS) | Poster | 12:05 p.m. - 1:05 p.m.

USING FEATURE EXTRACTION AND THEMATIC CHANGE DETECTION TO MAP EROSION IN THE MISSISSIPPI AND ALABAMA GULF COAST REGIONS

We will review remotely sensed images and vector data, geospatial data, and annotations to detect and map thematic changes in Gulf Coast erosion between the years 2001 and 2011. Specifically, we will use Landsat TM imagery of the Mississippi and Alabama regions of the Gulf Coast. The data will be displayed in the visible, near infrared, and thermal bands of the electromagnetic spectrum. We will present the data, methodology, and results in a poster upon conclusion of our project.

Tyler Bridgehouse, Biology (BS) - Environmental Biology | Poster | 9:25 a.m. - 10:40 a.m.

TESTING THE EFFECTIVENESS OF SMALL MAMMAL IDENTIFIABLE MARKERS IN THE FIELD

The capture-recapture of wildlife is used to provide estimates of population density, survival, recruitment and movement. This information is important for guiding conservation management decisions. Capture-recapture involves placing an identifiable marker on a captured individual. Our objective was to test the effectiveness of small mammal identifiable markers. Ear-tag marking has been used successfully on small mammals, but can inhibit grooming and promote infection. For short term studies, non-toxic hair-dyes may be less invasive. We used three different marking techniques (ear-tagging, Clairol hair-dye and The Muromachi Kikai hair-dye marker) on Peromyscusleucopus. This study was conducted within Millersville University and consisted of two transect lines, each with ten Sherman traps checked twice weekly. Data for different marking techniques were photorecorded to validate effectiveness. Tentative results suggest that the Muromachi Kikai hair-dye marker outlasts the Clairol hair-dye and can be used to distinguish individuals after four weeks in the field.

Michael Buell, Chemistry (BS) | Poster | 1:10 p.m. - 2:25 p.m.
Student Grants for Research and Creative Activity

CONSTRUCTION OF A LOW-COST LEGO MICROCOMPUTER CONTROLLED VISIBLE ABSORPTION SPECTROMETER

Hands-on access to instrumentation in the high school and undergraduate classroom is a great way to engage students in the field of science. Hands-on access to instrumentation necessitates the need for low-cost instrumentation. Low-cost instrumentation coupled with low-cost microcomputers will allow for ease-of-use while still leaving the working principles exposed for the user. The spectrometer, constructed with LEGO building blocks, consists of a LED light source, sample holder, diffraction grating, and rotatable photodiode detector. The microcomputer is responsible for powering the LED, rotating the detector arm via a servomotor, acquiring the voltage from the photodiode, and processing the data. All of the working principles are readily accessible to the student to help them learn about the instrument function, that is sometimes lost when using a commercial grade instrumentation. The performance of the low-cost Arduino controlled spectrometer compares favorably with commercial visible spectrometers designed for teaching.

Michael Burns, Ocean Sciences and Coastal Studies (BS) | Poster | 2:35 p.m. - 3:50 p.m.
College of Science and Technology Travel Fellowship

A STUDY OF STRATIFICATION EFFECTS ON MID-SHELF WATERS OFF THE DELMARVA REGION

The shelf waters of the MAB show a clear seasonal progression of the water column, with strong stratification during summer followed by mixing during late fall, winter, and spring. In the shelf waters, the summer patterns in the vertical stratification of the phytoplankton community parallel spatial patterns in physical density stratification. The subsurface phytoplankton maxima track the thermocline/pycnocline. Dense phytoplankton biomass found in the thermocline/pycnocline represents a potentially highly significant source of carbon/energy for herbivores. The water-leaving radiance detected by passive ocean color satellites such as VIIRS and MODIS is from just the upper 1/5th of the productive euphotic layer (O'Reilly & Zetlin, 1998). Consequently, these strong subsurface chlorophyll maxima are not detected. We have sampled the nearshore waters of the MAB just off Delmarva coast from 2010 to 2015. In this study we illustrate that the region has two types of vertical chlorophyll profiles during the stratified season: inverted and bell shaped. The bell shaped chlorophyll is shown to be related to the subsurface chlorophyll maxima (SSM) in this region. We also show the strong correlation between SSM and the vertical density stratification represented by the Brunt-Vaisala frequencies (BV).

Jessica Butts, Mathematics (BS) - Statistics | Poster | 12:05 p.m. - 1:05 p.m.

COMPARISON OF PRINCIPAL COMPONENTS AND CANONICAL CORRELATION ANALYSIS

Two types of multivariate statistical analyses were investigated and compared. Principal components analysis (PCA) is a multivariate technique that reorients the coordinate axes to help explain the most variance in a collection of variables. Canonical correlation analysis (CCA) is a multivariate technique that creates a coordinate system the describes the most variance between two sets of two or more variables each. After introducing and comparing these techniques, a guide to performing these analyses in R is provided. Finally, both of these techniques are illustrated with an applied example using a data set collected from several locations in the Atlantic Ocean by Dr. Robert Vaillancourt. The data set contains environmental variables such as depth, sunlight, temperature, and salinity and measurements of the abundance of different types of phytoplankton.

Veronica Cadavid, Biology (BS) - Molecular/Biotechnology | Poster | 12:05 p.m. - 1:05 p.m.
Neimeyer-Hodgson Grant, Student Grants for Research and Creative Activity

TRANSGENESIS IN RHABDITOPHANES SP. KR3021: A MODEL FOR HUMAN PARASITIC NEMATODES

Medicine has greatly benefited from model organisms, which have permitted biologists to progressively understand challenging diseases that are difficult to study in the laboratory. Approximately 100 million people globally are infected with the parasitic worm Strongyloides stercoralis, with few treatment options. The recent identification of Rhabditophanes sp. KR3021 - a free-living relative of S. stercoralis - has presented an opportunity for researchers to begin to understand the parasitism of S. stercoralis and closely-related animal parasites. The aim of this study has been to construct a plasmid in which green fluorescent protein (GFP) can be expressed by Rhabditophanes to create a transgenic organism. This plasmid, which consists of the actin promoter and terminator is hypothesized to drive expression of GFP in the smooth muscle cells of transgenic Rhabditiophanes. The ability to visualize the tissues in which specific genes are expressed could provide insight into Rhabditiophanes and parasitic nematode biology.

Elizabeth Carey , Nursing (MSN) | Class Project - Posters | 12:05 p.m. - 1:05 p.m.

BREAST-A-VILLE: IMPACTING COLLEGE STUDENTS ABOUT BREAST HEALTH

Awareness of the modifiable lifestyle risk factors associated with breast cancer, especially among college-age women and men, can help alleviate fear and anxiety and ultimately may lead to earlier diagnoses. Breast cancer, which continues to be the most common type of cancer in women, is a major health concern for women and their families. Established in 2000, the Breast-a-Ville is an annual one-day wellness event, focused on breast health awareness and breast cancer education. Community based health organizations and student groups serve as exhibitors and provide students with interactive opportunities to test their knowledge and dispel myths and misunderstanding regarding breast health and breast cancer. Over the past five years, the "Breast-a-Ville" has successfully reached over 2,000 college students at a public university with approximately 8,000 students. Breast cancer awareness is lacking among the college age population. This is a population that lacks feelings of vulnerability, yet college students are also developing lifelong health behaviors during this time. It is imperative that these college-age women and men learn breast health awareness behaviors. Events such as the Breast-a-Ville provide healthcare providers and health educators with an opportunity to reach this highly vulnerable population.

Jacob Celli, Physics (BS) | Presentation | 1:10 p.m. - 2:25 p.m.
Noonan Endowment Award

MODELING PHOTOVOLTAIC CELLS USING MATLAB AND SIMULINK

We will present the modeling and simulation of photovoltaic cells using the MATLAB/SIMULINK environment. The main goal of this research is to determine the electrical characterization of cells using one diode equivalent circuit of the photovoltaic cells on MATLAB. Measuring the electrical characterization of a photovoltaic cell is critical for determining the cell's output performance and efficiency. Using our model, we have successfully obtained the nonlinear current-versus-voltage (I-V) and power-versus-voltage (P-V) characteristics curves for a photovoltaic cell and compared the results with the manufacturer's data sheet.

Shwu-Yn Chang-Nissley , Nursing (MSN) | Poster | 2:35 p.m. - 3:50 p.m.

CULTURAL HUMILITY CONCEPT ANALYSIS

Providers in disciplines with direct patient interaction interface with clients from various cultures and backgrounds. It is unreasonable to expect providers to be thoroughly knowledgeable about the culture of every patient they treat. Instead, providers can learn how a patient's culture influences the sickness event by implementing cultural humility. This paper analyzes the term cultural humility using a concept analysis. Cultural humility includes both self-examination in order to understand personal biases and self-reflection after the patient interaction to broaden understanding of the patient's culture as part of lifelong learning. A consequence of implementing cultural humility is increased patient satisfaction and compliance to treatment. A survey was developed to determine the presence of absence of cultural humility in provider-patient interactions.

Daniel Chapman, Physics (BS) | Poster | 12:05 p.m. - 1:05 p.m.

RANDOM NUMBER GENERATION THROUGH ELECTRONIC NOISE

The goal of this research is to create a circuit which reliably provides a source of random numbers. First, the method of generating random numbers through electronic noise must be investigated. Circuits will be tested on randomness of the data, reliability, and throughput. So far, the circuit in question has produced a stream of 1,000 bits per second which seem random; however, they do not pass the randomness tests created by NIST.

Gloria Chung, Chemistry (BS) | Poster | 9:25 a.m. - 10:40 a.m.

INDEPENDENT STUDY ON LIQUID CHROMATOGRAPHY/MASS SPECTROMETRY

For my undergraduate research, I will be working on troubleshooting, calibrating, and optimizing a liquid chromatography / mass spectrometry (LC/MS) to increase the Chemistry Department's analytical capabilities. Liquid chromatography / mass spectrometry is an analytical separation technique that is widely used in both research and industry. This automatized instrument is highly sensitive and has a ready-adaptability to accurate quantitative determinations. Other benefits include the capability of separating nonvolatile species, as well as a widespread applicability to substances that are important in the field of science: amino acids, proteins, hydrocarbons, carbohydrates, drugs, metal-organic species, inorganic substances, and much more. I will conduct an analysis with known standards to make sure the instrument is properly working after assembling the LC/MS. After this is achieved, I will be developing a method that can be utilized as a lab experiment for the chemistry course Analytical Chemistry (CHEM 465).

Gloria Chung, Chemistry (BS) | Poster | 10:50 a.m. - 12:05 p.m.

INTERNSHIP AT GLATFELTER'S CORPORATE ANALYTICAL SERVICES

Glatfelter, an increasingly global manufacturer of both engineered and speciality papers, strives to expand in product development with the dedication to decrease negative environmental impact. As an analytical chemist co-op/intern, I had the opportunity to work for

Glatfelter's Corporate Analytical Services. Some of my tasks include qualitative and quantitative analyses, chemical and physical analyses, instrumentation, sample preparation, and assisting senior chemists. In my presentation, I will be discussing the paper making process and two routine analyses that I perform weekly, featuring the Kraft Chemical Process and the Kraft Recover Process.

Delaney Costante, Biology (BS) - Marine Biology | Poster | 1:10 p.m. - 2:25 p.m.

AGAINST THE CURRENT - QUANTIFYING THREATS FACING THREATENED AND ENDANGERED FISH TAXA

The aim of this study was to analyze threats facing fish taxa protected under the U.S. Endangered Species Act. Utilizing species' federal listing documents, we identified threats to threatened and endangered (T&E) fish species and compiled them in on a database. For our analysis, fish were divided into freshwater and diadromous/marine groups. Threats to fish were compared with threats impacting other vertebrate taxa (e.g., amphibians, birds, mammals, and reptiles). We found that pollution impacted freshwater fish (53%) and amphibians (69%) more than other groups of taxa (10-29%), and overutilization impacted diadromous/marine fish (71%) and reptiles (63%) more than other groups of taxa (13-32%). Fish taxa are susceptible to threats resulting from human consumption, be it overharvest or pollutants from agriculture (fertilizers, pesticides, herbicides, etc.). Recovery of T&E fish taxa will require sustainable fisheries operations to reduce overharvest of global fisheries markets and cleaner practices that mitigate pollution from agricultural run-off.

Victoria Coutts, Biology (BS) | Poster | 12:05 p.m. - 1:05 p.m.

Neimeyer-Hodgson Grant

ISOLATION AND COMPARATIVE ANALYSIS OF TWITCHIN RNA SEQUENCES FROM DISTINCT MUSCLE TYPES IN THE LONGFIN INSHORE SQUID

Twitchin is a protein involved in the regulation of invertebrate muscle contraction. The gene for twitchin had been well characterized in the nematode C. elegans and the mussel M. galloprovincialis, but it was not known if the squid Doryteuthis pealeii also expresses this protein. Our goal has been to determine if squid produce twitchin and if differences in the expression or structure of twitchin are responsible for distinct muscle activities observed. To evaluate gene expression, messenger RNA isolated from funnel retractor and head retractor muscles was used to synthesize complementary DNA that served as PCR templates. PCR primers, designed using expressed sequences from D. pealeii that align with O. bimaculoides twitchin, were used successfully to generate products consistent with sizes expected for twitchin. DNA sequences for each muscle type have been obtained. Comparative analysis indicates that twitchin is similar in both muscles and that differences exist between octopus and squid.

Robert Curtis, Applied Engineering & Technology (AT)-Advanced Manufacturing Technology | Poster | 10:50 a.m. - 12:05 p.m.

College of Science and Technology Travel Fellowship

PRECIOUS PLASTICS SHREDDER BUILD

We will build a material shredder in order to bring a focus on the viability of making a machine to help solve the world's pollution issues due to plastics building up in our landfills.

Lauren Dalbey, Physics (BS) | Poster | 2:35 p.m. - 3:50 p.m.

DIRAC DELTA FUNCTION POTENTIALS

The purpose of this research is to find the eigenfunctions and bound state energies of a particle subject to a potential consisting of several attractive Dirac delta functions. I started with a symmetric single attractive Dirac, V(x)=-V0δ(x) and found there is only one bound state energy and wave function. I then constructed two delta potentials that are symmetrically located with respect to the origin. I then considered the even and odd solutions separately. For these solutions, the eigenvalues can be found by solving transcendental equations graphically and numerically. In the future, we will extend to three, four, and five attractive Dirac delta functions.

Brandon Daub, Meteorology (BS) | Poster | 12:05 p.m. - 1:05 p.m.

METHANE AND CARBON DIOXIDE CONCENTRATION PATTERNS OVER WASHINGTON STATE UNIVERSITY'S PACCAR BUILDING

Measurements were made from a 10-meter tall meteorological tower atop the roof of Washington State University's PACCAR Environmental Technology Building from June 28 to July 5, 2016. Meteorological quantities, including wind speed and direction, were measured along with methane (CH4) and carbon dioxide (CO2) concentrations. CH4 and CO2 concentrations were analyzed to understand diurnal patterns and determine if there are any wind direction dependencies. The Grimes Way Steam Plant is located 0.25 kilometers east of the measurement site and it is a potential source of CH4 emissions. Five-minute averaged data from the period were analyzed to relate CH4 and CO2 concentrations to wind speed and direction and determine the correlation between CO2 and CH4 concentrations. The primary goal of this study is to compare the variations between the concentrations of CH4 and CO2 in relation to wind direction, wind speed, and turbulence.

David Deighan, Applied Engineering & Technology (AT) - Graphic Communication Technology | Poster with accompanying exhibit | 2:35 p.m. - 3:50 p.m.

FLEXOGRAPHIC LABEL WITH AUGMENTED REALITY COMPONENT

This project involves the use of flexographic printing methods in order to produce a printed label that is compatible with augmented reality (AR) software. Flexography is a modern form of relief printing that uses flexible polymer plates that are capable of printing on a wide variety of substrates. Using graphics created with industry-standard software, as well as this printing process, a printed label was produced with a graphic that can be scanned and recognized by an augmented reality application installed on one's smartphone. The augmented reality component allows for a new degree of interactivity with the graphic, by allowing the smartphone to scan AR graphics, which can bring up text or images on the phone that can provide information or serve as hyperlinks to different websites.

Adam Dent, Chemistry (BS) | Poster | 12:05 p.m. - 1:05 p.m.

Neimeyer-Hodgson Grant

DIFFERENTIAL SCANNING CALORIMETRIC ANALYSIS OF ELASTOMERS FOR OPTIMIZATION OF EXTENDED USE

We have begun a collaboration with David Lindt to analyze the valves distributed to customers. The valves are composed of various elastomers, including a PTFE co-polymer and EPDM (ethylene-propylene-diene monomer), and function as open/close operators for various liquids. The valves are heated and cleaned during moulding. However, information on the thermal stability is lacking. Often, repeated use of these valves leads to warping and cracking of the valve, which renders it useless. David is continually trying to find the optimal polymer composition that will minimize this degradation.We are testing the thermal stability of various valves, using differential scanning calorimetry (DSC), to determine the oxidation induction time. We will test the valves at different temperatures and hold each temperature for varying durations. Monitoring the resulting endotherms, we will be able to pinpoint oxidation and degradation of the valves and, based on their composition, make suggestions as to the optimal valve material for extended use.

Amy-Charlotte Devitz, Biology (BS) - Animal Behavior | Poster | 9:25 a.m. - 10:40 a.m.

Student Grants for Research and Creative Activity

INVERTEBRATE COGNITION: RELATIONSHIPS BETWEEN STABLE PERSONALITY TRAITS AND COGNITIVE ABILITY IN HERMIT CRABS

This study explores several components of personality and cognitive ability in an invertebrate model to determine the nature of the relationships between these traits. Strong links in personality and cognition have been observed in vertebrates, including humans, and understanding these interactions provides insight for other areas of research such as animal sentience. It was thought that the lack of a complex central nervous system in many invertebrates indicated that these organisms were less intelligent than their vertebrate counterparts. It is only in recent years that these myths have been debunked. What this study aims to do is to demonstrate that a relationship between personality and cognition is also exhibited in invertebrates.

Anthony DiNorscia, Meteorology (BS) | Poster | 12:05 p.m. - 1:05 p.m.

SIMULATING THE CIPS INSTRUMENT

We present preliminary results of simulating the view of the Cloud Imaging and Particle Size (CIPS) instrument onboard the Aeronomy of Ice in the Mesosphere (AIM) satellite. The CIPS instrument is a four-camera imager that captures backscattered light in the ultraviolet range. Its primary objective is to capture images of Polar Mesospheric Clouds (PMCs). These images are captured every 43 seconds over the summer pole. This allows direct measurement of the cloud scattering phase function. From the phase function, the cloud albedo, ice water content, and particle radius can be calculated. However, the AIM satellite's orbit has changed significantly. It is important to simulate the CIPS to understand what data and products can be returned with this new orbit. We do this by first projecting the instrument's FOV at a given latitude, longitude, and altitude. We then add a simulated cloud field designed to match the Level 1a data product. Our initial simulations indicate that we can very closely match the FOV of existing images and the data products closely match those derived from the cloud field.

Angela Ditri, Meteorology (BS) | Poster | 10:50 a.m. - 12:05 p.m.
Noonan Endowment Award, Student Grants for Research and Creative Activity

VALIDATION OF HIMAWARI-8 AND MTSAT-2 SEA-SURFACE TEMPERATURES IN THE WESTERN TROPICAL PACIFIC OCEAN

Over several decades, the improvement of Sea-Surface Temperatures (SSTs) derived from satellites has been an area of focus in the scientific community. Knowledge of the accuracy of the SSTs is critical for climate and weather predictions and other research applications. In 2015, the Japanese MTSAT-2 geostationary satellite was replaced by the Himawari-8, which produces data with a higher spatial and temporal resolutions. In this study, SSTs from both satellites were validated with subsurface in situ temperature measurements from the Tropical Atmosphere Ocean (TAO) array and self-recording thermometers at the depths of corals of the Great Barrier Reef (GBR), during a three-month overlap period when both satellites were operational. Results show that in general the Himawari-8 provides more accurate SST measurements compared to the MTSAT-2. At various in situ locations, the mean Himawari-8 SST error shows an improvement of ~0.15 K. Errors in the validation of the satellite with in situ SST fields were related to wind speed and diurnal heating. The improved accuracy of the Himawari-8 SSTs can benefit various studies within this region and in the wider area of the western Pacific and eastern Indian Oceans covered by Himawari-8.

Lindsey Ditzler, Earth Sciences (BS) - Environmental Geology | Presentation | 1:10 p.m. - 2:25 p.m.
Student Grants for Research and Creative Activity, Library Research Fellow

FRACTURE CHARACTERISTICS IN DRILL CORE OF THE APPALACHIAN PLATEAU

Due to societal and industrial needs, a remarkable amount of interest exists in studying fractures. However, there is still uncertainty concerning where and why fractures form, how they interact with fluids, and what controls the density of fractures in an area. This study aims to determine whether a correlation exists between fracture characteristics and modern day depth in the Appalachian basin, whether fracture characteristics and rock type are related in sedimentary rocks, and whether topography affects fracture type. During this research, two cores are examined from the Appalachian basin in Pennsylvania. The age of these cores ranges from Pennsylvanian to Late Devonian and the rock contained within the cores is primarily mudstone and sandstone. Both natural and induced fractures are observed in both cores and the dip angle of natural fractures varies from horizontal to steeply dipping. At least six different types of natural fractures are distinguishable. Along with this, some natural fractures show evidence of interaction with groundwater. This study confirms that a correlation exists between present day depth and fracture intensity and that particular lithologies are intensely fractured compared to others.

David Doerr, Physics (BS) | Poster | 12:05 p.m. - 1:05 p.m.

X-RAY ANALYSIS OF SUPERNOVA REMNANT 0103-72.6 IN THE SMALL MAGELLANIC CLOUD

Supernova explosions (SNe) are the extremely energetic deaths of certain stars. Supernovae are defined by the presence, or absence, of particular spectral lines in their initial spectrum: H, He, and Si. They are further classified by the mechanism of the explosion. The possible mechanisms are the gravitational core collapse of a massive star, or the thermonuclear detonation of a White Dwarf star which exceeds the Chandrasekhar mass limit in a close binary system. Supernovae are responsible for the creation of all the heavy elements in the universe. Supernova remnants (SNRs) go through three evolutionary stages: the early ejecta-dominated phase, the Sedov-Taylor phase, and finally the radiative phase. SNR 0103-72.6, located in the Small Magellanic Cloud, has been observed using NASA's Chandra X-ray Observatory. The morphology of this remnant shows a central region of ejecta emission and an outer limb region dominated by swept up interstellar medium (ISM). This study performs spatially-resolved spectroscopy to examine the variations in the spectrum and attempts to determine the explosion mechanism that created SNR 0103-72.6.

Cara Dombroski, Chemistry (BS) - Biochemistry | Poster | 1:10 p.m. - 2:25 p.m.
Neimeyer-Hodgson Grant, Student Grants for Research and Creative Activity

CONSTRUCTION OF A HIS-TAGGED EXPRESSION PLASMID FOR SFNAB OF THE STAPHYLOFERRIN A BIOSYNTHETIC PATHWAY

Staphyloferrin A is an iron-binding siderophore produced by the pathogenic bacterium Staphylococcus aureus. It is synthesized in three steps using the enzymes, SfnaC, SfnaD and SfnaB. SfnaB, which catalyzes the final reaction in the pathway, combines a citryl-D-ornithine intermediate with citrate to produce staphyloferrin A. The long term goal of this research is to develop inhibitors of SfnaB thus preventing the production of staphyloferrin A resulting in reduced iron uptake. If successful, these inhibitors could be used as therapeutic agents to battle bacterial infections caused by methicillin-resistant S. aureus, or MRSA. This organism is becoming a major health threat due to its increased resistance to several commonly used antibiotics. The sfnaB gene has been amplified by polymerase chain reaction (PCR) and progress towards the construction of a His-tagged expression plasmid is presented. The structures of two proposed competitive inhibitors, a mono-citryl ornithine intermediate and a novel cyclic-citryl ornithine are also presented.

Wyatt Drancheck, Speech Communication (BS) - Communication Studies | Poster | 12:05 p.m. - 1:05 p.m.

AN EXPERIMENTAL COMPARISON OF SYNTHETIC SUBSTRATES

The problem of this study was to determine the durability of synthetic substrates. Specifically, selected samples were exposed to freshwater and saltwater. The samples tested were FPG 95 Yupo synthetic substrates. Durability of the substrates were gauged through measuring color density and a stress test. Procedures were established. Test targets were designed and evaluated. Data was collected and analyzed.

Alexandra Eberly, Geology (BS) | Poster | 2:35 p.m. - 3:50 p.m.
Library Research Fellow

AN EXAMINATION OF THE EFFICACY OF STREAM RESTORATION EFFORTS PERFORMED ON A SWALE, WITH REGARDS TO STORM WATER INFILTRATION RATES

This project looks to identify whether stream bed restoration efforts performed by Land Studies of Lititz, PA has had a positive effect on the soil infiltration rates of storm water within the Butterfly Acres swale. This is done by analyzing data from pressure transducers installed at various points in the area to be studied.

MU Coding Club with Prof. Todd Echterling | Group Poster | 2:35 p.m. - 3:50 p.m.

MUCS PROGRAMMING TEAM COMPETITIONS

MU Cyber Defense Organization with Prof. Todd Echterling | Group Poster | 2:35 p.m. - 3:50 p.m.

CYBER SECURITY AWARENESS

Brandon Frey, Chemistry (BA) | Poster | 9:25 a.m. - 10:40 a.m.
Neimeyer-Hodgson Grant, Noonan Endowment Award, Student Grants for Research and Creative Activity

STUDIES EN ROUTE TO ALTERSOLANOL DERIVATIVES

Altersolanol P (AP), a new member of the altersolanol family of compounds, is the inspiration for multiple synthetic studies in our laboratory. Previously, we synthesized an intermediate, containing the complete carbon framework of AP, via Lewis acid-mediated Diels-Alder cycloaddition on multi-gram scale (in 80% yield and 8:1 regioselectivity). Current synthetic efforts are focused on dihydroxylation and epoxidation reactions of the Diels-Alder adduct. The long-term goal of this research project is to synthesize AP, and structurally related derivatives, as efficiently as possible; then, the biological activities of AP, and related compounds, can be further studied.

Kelsey Fulton, Computer Science (BS) | Poster | 2:35 p.m. - 3:50 p.m.

IMPLEMENTING AN OPTIMIZED 4X4 MATRIX MULTIPLICATION USING SIMD INSTRUCTIONS

Matrix multiplication is an operation fundamental to scientific and graphical applications. For graphical applications in particular, 4x4 matrices are used to perform 3D transformations like projections, rotations, shears, and translations. A Single Instruction Multiple Data (SIMD), or vector instruction, is an instruction that performs the same operation on multiple pairs of elements, in parallel. For example, one SIMD instruction can add two vectors of length 4, whereas four scalar instructions would be necessary. SIMD instructions are beneficial because they allow multiple calculations to execute synchronously, and thereby increase the performance of various matrix algorithms. The goal of this research was to create an optimized matrix multiplication at a low level and high level.The high-level implementations used C and compiler directives and the low-level implementations will used handwritten assembly code with Intel's AVX SIMD instructions. The performance of the different implementations was analyzed and compared.

Katherine Geating, Biology (BS) - Molecular/Biotechnology | Poster | 9:25 a.m. - 10:40 a.m.
Neimeyer-Hodgson Grant, Student Grants for Research and Creative Activity, Biology Student Investigator

DIFFERENTIAL GENE EXPRESSION ANALYSIS IN MUSCLE TISSUE OF SQUID, DORYTEUTHIS PEALEII, USING SUBTRACTIVE HYBRIDIZATION

In the squid, Doryteuthis Pealeii, distinct muscle types exist, but little is known about the cellular mechanisms responsible for these differences. Genes with products that may play a role in the regulation of muscle activity can be identified using a technique called subtractive hybridization. To compare head and funnel retractors, the messenger RNA isolated from each tissue was copied into stable cDNA collections, which represent the genes expressed in each muscle type. When the two collections are hybridized, cDNAs common to both muscles bind together while unique cDNAs remain independent. These independent sequences, which represent the genes expressed in one muscle type or in the other, are isolated and cloned to allow DNA sequencing. Comparison to sequence databases should enable the identification of genes that are differentially expressed in the two muscle types. Identifying these gene products would provide insight into the molecular basis for invertebrate muscle structure and function.

Adam Gochnauer, Biology (BS) | Poster | 8:00 a.m. - 9:15 a.m.

PEDAGOGICAL IMPROVEMENT IN LEARNING MACROINVERTEBRATE TAXONOMY

Students in Biology 343 (Ecology and Evolution) have been having a hard time with the identification of aquatic insects during a water quality lab. To improve the accuracy and ease of identification I will create a dichotomous key along with a synaptic teaching collection created using preserved specimen. The key will accurately identify specimen that are known to the sites the students are sampling to family level.

Gary Grimm , Nursing (MSN) | Poster | 1:10 p.m. - 2:25 p.m.

FOOD AS MEDICATION: A CONCEPT ANALYSIS

From the moment we are conceived until the time of our death, we maintain an ongoing relationship with food as it plays a major part in our lives. In America we spend incredible amounts of money on healthcare, yet we continue to have one of the unhealthiest populations in the world. There seems to be disconnect amongst providers and the healthcare system about the effects food can have as a treatment. The aim of this analysis is to explore the essence of the concept food as medication using Walker & Avant's method, and arrive at an operational definition of the concept. Food as medication is defined; attributes, antecedents, consequences, cases, and empirical referents are also included.

Dakota Grove, Physics (BA) | Poster | 1:10 p.m. - 2:25 p.m.

THE PHYSICS OF AERODYNAMICS AT SUPERSONIC SPEEDS

The purpose of this research is to understand the effects of aerodynamics as an object exceeds the speed of sound. The research is being conducted in test three-dimensional models of airfoils to simulate the additional challenges that occur after reaching and exceeding the speed of sound. These models will be created in the SOLIDWORKS program. The program will allow for the simulation of forces acting on the models in a realistic manner. The major comparison is between traditional non-supersonic models of airfoils versus airfoils designed to to get around the difficulties experienced at supersonic speeds. As the speed of sound is reached, the geometry of the airfoils display different levels of mitigation for shock waves forming in the trajectory direction.

Laura Guevara , Technology & Innovation (M.Ed.) | Poster | 2:35 p.m. - 3:50 p.m.

INTRAPARTICLE EXPANSION: MECHANICAL ALLOYING AT ROOM TEMPERATURE FOR SOLID-STATE FOAMING BY OXIDE REDUCTION

Metal foams (porous metal powders) can be used as lightweight structural materials, catalysts, and filters, to name a few. A recently developed process allows for porous metal powders and compacts to be created and their properties to be controlled. This method incorporates oxides throughout the matrix material during mechanical alloying then reduces those oxides to create porosity within each metal particle, and it is therefore referred to as intraparticle expansion. This powder feedstock can be applied to current powder metallurgy processes without modification, and it is fully compatible with other solid state foaming methods to result in additional porosity (up to 40% more). Intraparticle expansion was used to produce porous metal powders from a variety of room temperature milled alloys to compare to those made from cryogenic milled alloys.

Matthew Hamilton, Biology (BS) - Marine Biology | Poster | 12:05 p.m. - 1:05 p.m.

SEASONAL POPULATIONS OF SHARKS AROUND ASSATEAGUE, VIRGINIA

The objective of this project is to determine if there is any seasonal pattern in abundance and species composition of sharks off Assateague Beach, VA. Prior research conducted around Assateague reveals that around twenty species seasonally inhabit the waters off the coast of Virginia. Some of the common species include the smooth dogfish (Mustelus canis), the sandbar shark (Carcharhinus plumbeus), the dusky shark (Carcharhinus obscura), Atlantic sharpnose (Rhizoprionidon terranovae), the blacktip shark (Carcharhinus limbatus), and scalloped hammerhead (Sphyrna lewini). Each month starting in April 2016 we used a longline, approximately 1 kilometer in length, to survey the shark populations located 3 miles off of the beaches of Assateague. We also used oceanographic data to find potential relationships between shark species and water parameters retrieved from a CTD. Our major finding from our trips has been that spiny dogfish (Squalus acanthias) migrate through Assateague, VA during late April and early December.

Jennifer Hane, Meteorology (BS) | Poster | 12:05 p.m. - 1:05 p.m.

MEASUREMENTS AT FP3 IN SUPPORT OF PECAN SCIENTIFIC OBJECTIVES USING SURFACE FLUX TOWER

The Plains Elevated Convection at Night (PECAN) field campaign took place from 1 June through 15 July 2015. The primary objective of this campaign was to gain a better understanding of nocturnal precipitation occurring in the Great Plains as well as the mechanisms that help fuel such occurrences, such as the low level jet. The surface flux tower is part of the Millersville University Atmospheric Research and Aerostat Faculty (MARAF) measuring system, and was located at the fixed PISA 3 (FP3) site in Ellis, Kansas during this campaign. Mounted on the tower were six instruments: two 3-D sonic anemometers, Li-COR open-path gas analyzer, temperature and relative humidity sensor, Micromet Systems net radiometer, and Setra barometric pressure transducer. During the PECAN campaign, the flux tower was used to obtain 10 Hz measurements of u, v, w, T, p, absolute humidity, and net radiation. From this raw data, one-minute averages of a full suite of mean and turbulence quantities is derived and are available through the PECAN archive. Mean and turbulence properties of momentum, heat, and absolute humidity (e.g., TKE, kinematic fluxes) were used to observe the passage of an undular bore on 07 June 2015. Measurements will be summarized and used to elucidate the surface response to the passing bore. The change in the scalar wind components and temperature, and the fluctuations were documented during its passage and will be reported here. By examining these measured and derived variables, and integrating flux measurements with other observations obtained at FP3 (see N. Midzak and K. Pozsonyi posters) and across the PECAN domain, we can advance the knowledge on how bores propagate across the Plains.

Annika Harder, Mathematics (BS) | Poster with accompanying exhibit | 2:35 p.m. - 3:50 p.m.

THE INESEÑO CHUMASH NUMBER SYSTEM

I am a descendant of the Ineseño Chumash indigenous people of the Santa Ynez Valley in California. I spend every summer with my family at Santa Ynez Reservation. My great-great-grandmother, Maria Solares, was the last full-blooded Chumash who spoke our language in the tribe; she is responsible for what we know today about our tribal language. Many of the Chumash artifacts on display at the National Museum of the American Indian have been donated by my family. We, the Chumash, take pride in understanding and appreciating our history. In this presentation I will display some original Chumash artifacts together with the base-four number system with rules to create compound numbers used by my tribe. Examples of the tribal use of this number system will be provided. As a math major and a descendant of the Chumash I am deeply committed to protecting and preserving my ancestors' culture and mathematical heritage.

Dylan Houseal, Geography (BA) | Poster | 9:25 a.m. - 10:40 a.m.

USING ARCGIS TO IDENTIFY THREATENED SPECIES HABITATS AND ANTHROPOGENIC THREATS TO FUTURE LAND PRESERVATION ACQUISITIONS IN LANCASTER COUNTY

The Lancaster Conservancy is a non-profit organization with a central mission to preserve natural lands in and around Lancaster County. These preserved lands are threatened by old and new sources of land use/land change. The Conservancy has identified five taxa of concern e.g., Prairie Dropseed, Jeweled Shooting Star, American Holly, Giant Swallowtail, and Price' s Cave Isopod, for which the study focused. The purpose of this study was to identify land use/land change threats to current habitats of five selected threatened species for future land preservation. Using habitat characteristics sourced from the taxa list, habitat locations were mapped via remotely sensed ima imagery in ArcGIS. Once habitat locations were determined, anthropogenic threats to these areas were identified and potential habitat loss was quantified. This study will ultimately provide updated evidence that supports or refutes the Conservancy's current strategy for their conservation management plan and will look to direct the plan for future protection efforts.

Dylan Huska, Physics (BS) | Poster | 1:10 p.m. - 2:25 p.m.

USING SPECTROSCOPY AND MICROSCOPY TO ANALYZE THE NANOSTRUCTURE OF A PEACOCK FEATHER

Humans have been interested in colors since the dawn of time, that is no different now. Our understanding of color has increased from

learning how to harvest colors, to creating pigments. The next step is to move to structural colors, colors produced by light interacting with bio-nanostructures. The blue and green iridescent colors with metallic sheen that are found in nature, are all products of structural coloration. One of the most beautiful displays of color is found in the eye of the feather of the Pavo cristatus, more commonly known as the Peacock. This project will analyze the eye of the peacock feather using techniques in spectroscopy and microscopy. The spectrum reflected by the eye will be tested through multiple angles and lighting scenarios. The eye of the feather will be observed under a polarizing microscope to investigate the polarizing effects. In addition, the eye will be observed under a scanning electron microscope (SEM) to determine the shape and nature of the nanostructures that generate the magnificent color of the feather.

Karam Idrees, Chemistry (BS) | Poster | 1:10 p.m. - 2:25 p.m.

College of Science and Technology Travel Fellowship, Neimeyer-Hodgson Grant, Noonan Endowment Award, Student Grants for Research and Creative Activity

GREEN CHEMISTRY CATALYSTS FOR TRANSFER HYDROGENATION REACTIONS

Novel triazole based N-heterocyclic carbene complexes of rhodium and iridium with bidentate phosphine ligands have been synthesized and characterized using multinuclear NMR and x-ray studies. They show promising catalytic properties in the reduction in transfer hydrogenation reactions.

Ivanny Jacome Ottati, Chemistry (BS) | Poster | 9:25 a.m. - 10:40 a.m.

Neimeyer-Hodgson Grant, Student Grants for Research and Creative Activity

SYNTHESIS AND REACTIONS OF SOME 1,2-DIACYLDIAZIRIDINES

Since the first synthesis of diaziridines in 1959, these compounds have been employed in the development of unknown heterocyclic systems, photo-affinity labeling experiments, enzyme chemistry, and more. Diaziridines have been modified to provide useful functionalities primarily via C-N bond cleavage of the ring; however, there is little knowledge about possible N-N bond cleavage. This study investigates the bond-breaking selectivity of the three-membered diaziridine ring through the Quantitative Structure/Activity Relationship (QSAR) method. Bond breaking is monitored by systematically changing substituent electronic effects. Hence, we plan to exploit the use of carbene insertion chemistry with 4-phenyl-1,2,4-triazoline-3,5-dione (PTAD) to give various 1,2-diacyldiaziridines needed for this study. Thus far, various para-substituted diazoacetates have been synthesized. They will be reacted with PTAD, shedding light on the effect that substituent electronics have on the reactivity of the diaziridine ring. The results of this study may also provide different antidepressant, antipsychotic, and anxiolytic pharmaceuticals.

Kyle Jola, Jacob Lewis, Integrated Scientific Applications (MS) | Poster | 9:25 a.m. - 10:40 a.m.

DEVELOPING AN URBAN MAP OF AL-FALLUJAH, IRAQ

Al-Fallujah, is a city in the Iraqi province of Al Anbar with a population of around 275,128 (2011) and it is located forty-three miles west of Iraq's largest city, Baghdad. Al-Fallujah has recently been the center of attention with it being in the center of the Iraq-ISIS (ISIL) conflict over control for the city. The goal is to develop a map of the urban landscape of Al-Fallujah by extracting a large percentage of building footprints in a semi-automated fashion and limiting the amount of hand digitization using ENVI Analytics software and to also compile a new base map by integrating the generated footprints with other classification shapefiles in ArcGIS. Converting this data to shapefile gives the ability to use this map and analyze further using other geospatial applications that are not available within ENVI. With this generated landscape, information that can be identified are features such as vehicles, buildings, roads, bridges, rivers, lakes, and fields. The data being used is multispectral and classification vector output data obtained from DigitalGlobe Quickbird Imagery. ENVI uses an extraction feature to extract information from a high-resolution panchromatic or multispectral imagery based on spatial, spectral, and texture characteristics. ENVI is different than traditional remote sensing techniques because it uses an object-based approach to classify imagery rather than the traditional pixel-based approach. This project highlights the use of pedagogy in real-life practical applications.

Erin Jones, Meteorology (BS) | Poster | 8:00 a.m. - 9:15 a.m.

College of Science and Technology Travel Fellowship, Student Grants for Research and Creative Activity

CONTRIBUTION OF LAKE-EFFECT TO ANNUAL SNOWFALL TOTALS IN THE VICINITY OF LAKES MICHIGAN, ERIE, AND ONTARIO

In the Great Lakes region, total winter snowfall receives contributions from both lake-effect (LE) and non-LE events. This research examined these contributions with focii on the winters of 2009/2010, a less active LE winter, and 2012/2013, a more active LE winter, for the regions surrounding Lakes Michigan, Erie, and Ontario. Using satellite imagery, each day was classified as a day either with LE present over the specified lake or with no LE over the lake. GIS analyses of snowfall data across the two winters showed LE days maximized snowfall contribution in the snowbelts, while non-LE days provided a uniform distribution of snowfall across the regions. The percent contribution for LE days to the annual snowfall varied by region, ranging from 20% to 70%. Although LE snowfall amounts were typically greater during the active LE winter, the percent of LE contribution to the annual snowfall totals varied by region and year.

Alix Joy, Chemistry (BS) - Nanotechnology | Poster | 10:50 a.m. - 12:05 p.m.

FILTRATION OF GOLD NANOPARTICLES

As the industry of nanotechnology emerges within the field of sciences, more products containing nanoparticles are being introduced into the consumer market. Although certain nanoparticles are considered to be innovative and progressive technology advances, little is known about the life cycle of the nanoparticles themselves and what potential harm they could do if leached into the environment or consumed by humans. As the technology advances, filtration methods to combat potential issues such as nanoparticles leaching into surface water need to advance as well. Our objective is to determine the efficiency of filtering gold nanoparticles suspended in a solution through carbon nanofoam materials. The carbon nano foams are produced via carbon vapor deposition on metal catalysts and will be tested using both gravity filtration and vacuum filtration methods.

Alexander Kaltenbaugh, Meteorology (BS) | Poster | 1:10 p.m. - 2:25 p.m.

THE INTER-ANNUAL AND INTER-DECADAL VARIABILITY OF ATMOSPHERIC TELECONNECTIONS FROM 1851 TO 2014

Atmospheric teleconnections are large-scale spatial patterns that characterize the linkages between different weather conditions in different locations around the world. These patterns are long-lasting and can have great impacts on weather and climate over time. This study used SOM (self-organizing map) analysis to generate the dominant sea-level pressure (SLP) anomalies over the time period from 1851 to 2014 as well as each pattern's frequency of occurrence for the months from December to February. A 2X2 SOM grid for the North Pacific and for the North Atlantic was generated. For the North Pacific, the dominant patterns are the positive and negative phases of the Pacific/North American (PNA) and Western Pacific (WP) patterns. The corresponding North Atlantic teleconnections are the two phases of the North Atlantic Oscillation (NAO) and East Atlantic (EA) patterns. These patterns were identified by correlating the SOM frequencies with indices of major teleconnection patterns for the time period from 1950 to 2014. The positive PNA decreased in frequency from 1850 to 1940, while the WP patterns underwent two large-amplitude oscillations over the time period. On the other hand, the North Atlantic patterns did not exhibit any large amplitude trends or oscillations.

Randy Warner with Dr. Mehdi Khalighi | Class Project- Posters | 9:25 a.m. - 10:40 a.m.

EXPOSURE TO BISPHENOL A ON MILLERSVILLE UNIVERSITY CAMPUS

The effects of Bisphenol A (BPA) on human health and the environment were examined. Research findings indicated that Bisphenol A is a chemical found in polycarbonate plastics and epoxy resins. BPA is commonly found in food and beverage packaging along with various other consumer products. Studies, including an expert panel consensus supported by the National Institutes of Health, have found that BPA can negatively affect the endocrine system in humans and animals. Based on these findings, a study will be conducted to determine the prevalence of BPA in the plastic food and beverage containers offered to Millersville University students by the on-campus dining service. The study will record the number of containers with a resin code of 7 and calculate the percentage of containers that contain BPA. The research will conclude the extent of exposure to BPA on campus.

Morgan Darrah, Nicholas Mancini with Dr. Mehdi Khalighi | Presentation | 1:10 p.m. - 2:25 p.m.

TRAFFIC POLLUTION: A STUDY OF CONGESTED AREAS ON ROUTE 30 OF LANCASTER, PENNSYLVANIA

In August 2016, the Environmental Protection Agency declared Lancaster County, Pennsylvania a maintenance area in regards to air quality. Parts of Lancaster's air pollution levels fail to meet the NAAQS standards, specifically for exposure to PM. Fine particles emitted from motor vehicles on major highways pose enormous health risks to humans exposed and can lead to short and long-term respiratory health effects. Due to the number of trucks that travel on Route 30 in Lancaster daily, the most congested areas surrounding Tanger and Rockvale Outlets are likely to be strong areas of concern. Real-time air sampling at fixed locations will be taken from 2090 Lincoln Hwy East to 35 S Willowdale Drive and the results will be compared to the NAAQS. Standards. The research will assist city and public health officials to consider control measures of reducing traffic-induced PM air pollution and adverse health effects to the population exposed. Keywords: Particulate Matter, Lancaster City, Route 30, Air Quality, Motor Vehicles.

Erica Lehman, Nursing (MSN) | Poster | 2:35 p.m. - 3:50 p.m.

HEARTS TOGETHER: CONCORDANCE AND THE ROLE OF THE HEALTHCARE PROVIDER

Healthcare is an ever-changing field of study. New terminology and colloquialisms are introduced in medical and nursing literature constantly. Concordance is now evident in the vernacular of healthcare literature. The terms compliance and adherence are the predecessors of concordance.The origin, evolution, and the use of the term concordance is reflective of patient-centered healthcare. Concordance embraces this ideal and promotes an equal partnership between patients and healthcare providers. The creation of concordance correlates to the interactions of patients and healthcare providers. The role and qualities of healthcare providers impact the degree to which concordance is achieved.

Heather Leonard, Nursing (MSN) | Poster | 9:25 a.m. - 10:40 a.m.

CONCEPT ANALYSIS: NONCOMPLIANCE IN CONGESTIVE HEART FAILURE PATIENTS

The purpose of this paper is to analyze the concept, noncompliance, and how it is being used by healthcare providers caring for congestive heart failure (CHF) patients. Using Walker and Avant's process of concept analysis, the term noncompliance and its uses are defined and literature is reviewed for common themes. Noncompliance has a negative connotation and this paper explores if it is being used properly and/or if it should be used at all. Traditionally, it was used as a negative descriptive term for patients who refused to follow a prescribed regimen, however more recently, the term is being used as an entrance into a conversation with patients to determine why they are unable to follow the regimen. The term can still be used in today's health care as long as it explains an inability to follow a prescribed regimen with an intent to explore causes, as opposed to a refusal to comply by patients.

Amber Liggett, Meteorology (BS) | Poster | 2:35 p.m. - 3:50 p.m.

DEVELOPING A QUANTITATIVE MEASURE OF CONVECTIVE FORCING TO EVALUATE HIGH RESOLUTION RAPID REFRESH ENSEMBLE (HRRRE) VARIANCE

Hazardous weather events have the greatest impact when they are not accurately forecasted. The quest for advanced lead times of accurate forecasts has motivated the need for understanding the correlation between convective forcing and ensemble skill/variance of the High Resolution Rapid Refresh Ensemble (HRRRE) model. To analyze this relationship, this study developed the Reflectivity Convective Forcing Categorization (RCFC), a quantitative method to categorize convective forcing using Multi-Radar Multi-Sensor composite reflectivity observations. Both reflectivity coverage and rate of change of reflectivity were examined during May and June 2016 utilizing RCFC. Several events exemplifying strong and weak forcing regimes were qualitatively analyzed using Storm Prediction Center mesoscale/surface analyses and upper air maps, for RCFC verification. Findings included strongly forced days having a greater reflectivity rate of change and coverage than weakly forced days. Results enabled future examination of the correlation between convective forcing and HRRRE ensemble variance/skill, facilitating HRRRE improvements.

Ntajneeb Lo, Chemistry (BS) - Biochemistry | Poster | 1:10 p.m. - 2:25 p.m.

College of Science and Technology Travel Fellowship, Noonan Endowment Award, Student Grants for Research and Creative Activity

PURIFICATION OF HORSERADISH PEROXIDASE FOR BIOCHEMISTRY LAB

Horseradish peroxidase (HRP) is an enzyme extracted from horseradish roots that is classified as an oxidoreductase. HRP has proved to be a robust enzyme that maintains activity over an extended time, making it suitable for study in an undergraduate teaching lab. The focus of this project is to isolate HRP using multiple protein purification techniques, such as gel filtration, ion exchange, and hydrophobic interaction chromatography. Prior work found that some purification could be achieved using a hydrophobic interaction column (HIC) after an ammonium sulfate precipitation step. We are working to further purify HRP eluted from the HIC column using ion exchange chromatography. Since various HRP isozymes of HRP exist with a wide range of isoelectric points, our study will compare anion exchange, using diethylaminoethyl cellulose (DEAE), versus cation exchange, using carboxymethyl cellulose (CM). We will evaluate which column best separates HRP from protein contaminants remaining after the HIC column step.

Seth Martin, Biology (BA) | Poster | 1:10 p.m. - 2:25 p.m.

Neimeyer-Hodgson Grant, Biology Student Investigator

MULTIPOTENCY OF TRUNK NEURAL CREST CELLS IN TRACHEMYS SCRIPTA

Craniosynostosis is a common deformity involving premature fusion of the skull bones. A better understanding of the process by which the skull bones form (intramembranous ossification) could result in treatment options. Skull bones are produced by a population of migrating, multipotent cells from the developing brain, known as neural crest cells (NCCs). In turtles, the bony plates that comprise the ventral part of the shell are also formed by intramembranous ossification. I am investigating whether similar migrating NCCs, arising from the developing spinal cord instead of the brain, form the plastron. Turtle NCCs were isolated, allowed to differentiate, and the resulting cell types are being analyzed. The fraction that produced typical NCC-derived cells, such as neurons and pigment cells, will be compared to the fraction that produced bone-forming cells. This will test the model that NCCs that migrate through the body of turtle embryos are capable of differentiating into bone.

Gabriela Mata Lopez, Applied Engineering & Technology (AT) -Graphic Communication Technology | Poster | 12:05 p.m. - 1:05 p.m.

AN EXPERIMENTAL COMPARISON OF THE ADHESIVE QUALITY OF SELECTED PAD PRINTING INKS

The problem of this study was to experimentally compare the adhesive quality of pad printing inks for polycarbonate plastics. Specifically, the study determined the optimal ink to catalyst ratio for pad printing inks. The two pad printing inks evaluated for the study included, PLT9 acrylic-based one-or two-component ink from Engineered Printing Solutions and 990 two component ink from Print Printa.

Angelica Mena, Applied Engineering & Technology (AT) -Graphic Communication Technology | Poster | 10:50 a.m. - 12:05 p.m.

DETERMINING THE PROPER SCREEN FABRIC MESH COUNT FOR SELECTED CERAMIC GLAZE APPLICATIONS

The problem of the study was to determine the proper screen fabric mesh count for ceramic glaze applications. Specifically, the study evaluated various mono-filament polyester fabrics to screen print on ceramic substrates. Procedures and quality control measures were established. Test targets were designed and validated. Samples were collected and the data was analyzed. Findings were reported and recommendations were made.

Natalie Midzak, Meteorology (BS) | Poster | 9:25 a.m. - 10:40 a.m.

Student Grants for Research and Creative Activity

MEASUREMENTS AT FP3 IN SUPPORT OF PECAN SCIENTIFIC OBJECTIVES USING MFAS SODAR WITH RASS

The primary objective was to gain a better understanding of the mechanisms that play important roles in the maintenance and vitality of nocturnal precipitation systems. One of PECAN's scientific objectives was to better understand the relationship between the stable boundary layer (SBL), nocturnal low-level jet (NLLJ), and the high values of convectively available potential energy (CAPE) above the SBL on the initiation of nocturnal convection. The original PECAN domain spanned from northern Oklahoma, central Kansas and south-central Nebraska, but expanded throughout the project. Measurements were obtained by the Millersville University Atmospheric Research and Aerostat Facility (MARAF) located in Ellis, KS at Fixed PECAN Integrated Sounding Array 3 (FP3). Instrumentation used to capture this phenomenon included an acoustic SODAR with a RASS extension, a micropulse LiDAR, radiosondes, and ground-based sensors. A Scintec MFAS SODAR (1650 – 2750 sequential and polyphonic multi-frequency) w/ RASS operated nearly continuously at 1290 MHz. Data were collected and averaged over 30 minute intervals and assimilated over 120 minute intervals. Parameters measured by SODAR with RASS included 3-component wind and virtual temperature and their variability to produce a suite of derived turbulence statistics. A full list of all variables measured can be found on the PECAN EOL data catalog. A case study of the strong LLJ (30 m/s) of 22 June 2015 is presented. SODAR data provided information about the evolution, duration, and dissipation of the low level jet (LLJ). Differences in the strength of the LLJ core influenced the height of the residual layer and the mixing within the boundary layer, which were also evident in MARAF MPL-111 Lidar data. These SODAR w/RASS data are supported by Lidar and surface flux measurements obtained at FP3 (see posters by K. Pozsonyi and J. Hane). Using data collected at FP3 in support of the data collected across the entire PECAN domain, we can advance the understanding of nocturnal precipitation.

Dr. Aimee Miller | Class Posters | 10:50 a.m. - 12:05 p.m.

MECHANISMS OF PHARMACEUTICAL DRUGS

A series of posters produced by students in Biochemistry II will explore the mechanisms of various pharmaceutical drugs. Each poster introduces the drug or drug family and shows its structure, highlighting key chemical groups. Details are given about the biochemical pathway influenced by the drug, indicating the target enzyme and relevant physiological responses. An explanation of the drug interaction with its target is also demonstrated through a student-generated model.

Presenters' names are:

J. Nick DiMino, Timothy Fair, Cara Discavage, Moira Dougherty, Cara Dombroski, Melanie Snyder, Katherine Geating, Zachary Mansfield, Joy Thames, Benjamin Grosso, Katelyn Nguyen, Ntajneeb Lo, Alexander Parry, John-Paul Marrazzo, Samantha Gills, José Ureña and Seth Martin.

Kyle Miller, Physics (BS) | Poster | 9:25 a.m. - 10:40 a.m.

Neimeyer-Hodgson Grant

AUTOMATION OF SURFACE PLASMON RESONANCE MEASUREMENTS

Automatizing surface plasmon resonance measurements has been done in several different ways, but this will lead to a much easier way to take measurements. The known configurations hold the sample at the bottom or horizontally in the apparatus. This experiment aims to build an apparatus that places the sample at the top of the apparatus allowing for more applications in the bio-sensor field. Silver thin films will be used for this experiment because this metal has been widely tested in the realm of surface plasmon resonance. The Ag film will be deposited on a microscope slide by vacuum evaporation; after that it will be placed in optical contact with a cylindrical prism for total internal reflection. The results of the apparatus trials will be compared to well-known theoretical models.

Nathan Murry, Integrated Scientific Applications (MS) | Poster | 2:35 p.m. - 3:50 p.m.

COASTAL BAYS AND SEA LEVEL RISE: A LONG TERM ANALYSIS OF THE CHINCOTEAGUE BAY BARRIER ISLAND SYSTEM

The physical setting and dynamic processes of coastal bays provide the foundation for a complex and productive ecosystem. Stresses to the coastal bay systems and management challenges for the coming century are related largely to the increasing pace of development in the coastal zone as well as by the prospect of accelerated sea level rise driven by global climate change. The Chincoteague Bay, located behind a barrier island system, supports a critical habitat for migratory shorebirds, waterfowl, and numerous other plant and animal species, many of them endangered. Against this background, a 50 to 100 year storm can exert a powerful influence on the area by dramatically restructuring the barrier island system and coastal bays. In this study, we intend to illustrate how Hurricane Sandy exerted such an influence on the Chincoteague Bay in 2012. Using long-term tidal data, we will show how storm surges from Hurricane Sandy inundated and altered low lying areas of the region.

Martha Osborne, Chemistry (BS) - Biochemistry | Poster | 8:00 a.m. - 9:15 a.m.

Neimeyer-Hodgson Grant, Student Grants for Research and Creative Activity

CONSTRUCTION OF HISTIDINE-TAGGED EXPRESSION PLASMID AND PRODUCTION OF SFNAD ENZYME FROM THE STAPHYLOFERRIN A BIOSYNTHETIC PATHWAY

Staphylococcus aureus is a gram-positive bacterium responsible for numerous types of infections in humans, including those of the skin, eye, heart, and bone. The antibiotic resistance of methicillin-resistant S. aureus (MRSA) has increased in recent years, creating an urgent need to develop novel combative therapeutic agents. SfnaD is the second enzyme in the biosynthetic pathway of staphyloferrin A (SfnA), one of two siderophores produced by S. aureus. Inhibition of SfnA production could reduce the ability of S. aureus to acquire iron and potentially reduce the virulence of this dangerous organism. The objective of this research is to produce and purify SfnaD for use in inhibition studies using a proposed mechanistic inhibitor. Progress towards the cloning, overexpression, and purification of SfnaD is presented.

Lauren Ostopowicz, Chemistry (BS) | Poster | 8:00 a.m. - 9:15 a.m.

Neimeyer-Hodgson Grant

THE SYNTHESIS AND CHEMISTRY OF 1-AROYLDIAZIRIDINES

The objective of this project is to synthesize 1-aroyldiaziridine derivatives that contain a variety of different substituents, in order to study how the electronic effects of the substituents might affect the bond-breaking selectivity of the diaziridine ring. In other words, will the substituents help to direct C – N, or N – N bond breaking, of the ring system. Diazirdines, a class of three-membered ring heterocycles that contain one carbon and two nitrogen atoms, are useful intermediates in the synthesis of more complex heterocyclic compounds, some of which have been utilized in the pharmaceutical industry. Although there are a number of Literature studies that address the breaking of the C-N bond to form more complex heterocyclic compounds, there are no reports of N-N bond cleavage. This research project is designed to study the factors that may influence the cleavage of either bond, potentially resulting in the formation of different pharmaceutically active ingredients.

Robert Parkes, Ocean Sciences and Coastal Studies (BS) | Poster | 2:35 p.m. - 3:50 p.m.

ATLANTIC TIME SERIES OF SHELF BREAK DATA

This project looks at data collected by the Pioneer Array operated by Ocean Observatories Initiative. This project shows over a years worth of data collected from inshore and offshore moorings. Some of data collected and presented compares temperature, salinity, density, oxygen content, chlorophyll, as well as photosynthetic active radiation.

George Pearson, Chemistry (BS) - Biochemistry | Poster | 9:25 a.m. - 10:40 a.m.

GPC ANALYSIS OF STYRENE POLYMERIZATION USING VARIOUS INITIATORS FOR UNDERGRADUATE POLYMER LABORATORY

Our research objective is to develop a laboratory exercise utilizing a gas permeation chromatography (GPC) instrument. GPC separates and quantizes polymer chains, relative to a standard, based on their size. The laboratory procedure we develop will facilitate students' understanding of polymer chemistry by instructing them to A. first synthesize polymer chains of varying lengths and then B. analyze polymer chains based on their molecular weight distribution. The data collected will be reported with a graphical visualization of dispersity (D), weight average molecular weight (Mw), number average molecular weight (Mn), and asymmetry factors (As).

David Perillo, Chemistry (BS) | Poster | 1:10 p.m. - 2:25 p.m.

Neimeyer-Hodgson Grant, Student Grants for Research and Creative Activity

SYNTHESIS OF GOLD AND SILVER NANOTRIANGLES USING PLANT EXTRACTS

The objective of this research is to synthesize gold and silver nanotriangles via green chemistry using plant extracts. The plant extracts will act as the reducing agents and capping agents. By simply altering the reaction conditions (pH of solution, concentration of extract, or temperature of reaction), it should be possible to control the properties of the nanotriangles produced such as size and shape. The optical properties of the synthesized nanotriangles will be measured using UV-visible spectroscopy. It is well known that triangular nanoparticles exhibit two characteristic absorption bands referred to as the transverse (out of plane) and longitudinal (in plane) surface plasmon resonance bands. While the out of plane transverse absorbance more or less coincides with the surface plasmon resonance of spherical gold nanoparticles, the in plane surface plasmon band is a strong function of the edge length of the triangles.

Kristen Pozsonyi, Meteorology (BS) | Poster | 12:05 p.m. - 1:05 p.m.

Student Grants for Research and Creative Activity

MEASUREMENTS AT FP3 IN SUPPORT OF PECAN SCIENTIFIC OBJECTIVES USING MPL-111 LIDAR

The Plains Elevated Convection at Night (PECAN) field campaign took place from 1 June through 15 July 2015. The primary objective of the campaign was to gain a better understanding of conditions and mechanisms contributing to nocturnal precipitation. PECAN focused on the study of nocturnal convection initiation, the internal structure of mesoscale systems, and the wave-like disturbances that occur as a result of these convective storms. Measurements from the Sigma Space Micropulse Lidar MPL-111 located at FP3 in Ellis, Kansas during this project will be summarized alongside a case study of the low level jet event that occurred on 22 June 2015. The Great Plains low level jet is a recurring feature of the summertime boundary layer over the central plains, and is responsible for the influx of heat and moisture important to the initiation and maintenance of convection across the PECAN domain. The Lidar was used mainly to determine the height of the planetary boundary layer, as well as support the other instruments at FP3 and the PECAN domain as a whole. The MPL-111 has the ability to generate three products that are compiled from thirty second averages: Raw, R2, and Normalized Relative Backscatter. The backscatter plot denotes the location of aerosols, cloud tops and bottoms, and the location of the boundary layer up to five kilometers. A case study of the 22 June nocturnal low level jet event is presented. The passage of the jet can be observed in the Lidar data through examining the dissipation of the residual layer and the collapse of the boundary layer. Through examination of the data collected at FP3, we hope to expand the understanding of these nocturnal precipitation events in the Great Plains.

Kayla Rafferty, Chemistry (BS) | Poster | 12:05 p.m. - 1:05 p.m.

Neimeyer-Hodgson Grant, Student Grants for Research and Creative Activity

CONTROLLED SIZE & SHAPE SILVER NANOPARTICLE SYNTHESIS USING PHOTOCHEMICALLY INDUCED GROWTH

The main goal of this research project is to grow silver nanoparticles of different sizes and shapes. In order to do this, light is used to transform the starting colloidal solution of spherical silver nanoparticles into larger nanoparticles of a different shapes. Choosing the wavelength(s) of light used to drive the photochemical growth will control the particle shape and size. Throughout the reactions, the evolution of the nanoparticles will be monitored in intervals using a commercial UV-vis spectrophotometer. This project aims to produce a new way of thinking regarding the growth of nanoparticles in a solution and will also show the possibility that light can be used as one of the major control parameters in metallic nanoparticle growth reactions.

Deepak Rai, Chemistry (BS) - Polymer Chemistry | Poster | 9:25 a.m. - 10:40 a.m.

Student Grants for Research and Creative Activity

SYNTHESIS OF BIODEGRADABLE PLASTICS TO ENHANCE THE MECHANICAL PROPERTIES THROUGH CHEMOSELECTIVE SUPRAMOLECULAR CROSS-LINKING

Unsaturated polyester resin (UPR) are brittle in nature. Its mechanical property can be suitably cross-linked to improve the macromolecular interactions in between the polymer strands. This research is emphasized to carry out the process with the chemoselective reaction with

the commercially available materials. In this experiment, my goal is to make UPR backbone through polymer synthesis by condensing maleic (MAn) with diols. This polymerization of MAn with diols will be employed to increase the hydrophobicity, flexibility, controllable degradation, and introduce to reactive groups for crosslinking in the reaction. I will be adding aniline functional group as a Michael donor to the b-position of the polymerized MAn mer. This reaction will network the polymer and enhance the supramolecular interaction of the polymer. The polymer obtained in the reaction will be verified with the physical tests like viscosity, tensile strength, DSC, GPC, IR and NMR.

Andrew Reese and Robert Curtis, Applied Engineering & Technology (BS) | Presentation | 8:00 a.m. - 9:15 a.m.

VOLUME REDUCTION AND SURFACE ROUGHNESS

We are measuring volume reduction, shrinkage, and surface roughness of 3D printed objects that are used for investment casting and vulcanization.

Tyler Riggs, Geology (BS) | Class Project - Posters | 2:35 p.m. - 3:50 p.m.

MAGNETIC SURVEY OF SILVER MINE PARK

Silver Mine Park in Conestoga, PA has recently experienced several sinkholes due to the limestone geology and/or historical mining of the bedrock, but the size of these sinkholes is unknown, and there may be underground voids present that are not currently recognized. Magnetic data will be collected with a proton precession magnetometer in three areas within the park to locate and determine the size of any sinkholes/voids. Void areas are filled with air and/or water and thus have near-zero magnetic signature, allowing them to be differentiated from areas of solid soil/rock with relatively high magnetic field strength. Data collected will be analyzed using contouring software, and a report on the size and location of voids in the park will be written and submitted to park management.

Melissa Salter , Nursing (MSN) | Poster | 8:00 a.m. - 9:15 a.m.

JOB SATISFACTION IN NURSING: A CONCEPT ANALYSIS

Job satisfaction in nursing is defined as a positive state in which one views their current role and is proportionately related to stress, burnout and retention. Current data states a 17.2% turnover rate in the nursing industry with a significant cost impact on healthcare organizations as the need to train new personnel arises. By 2022, there is a projected 19% increase needed in registered nurses to address new growth and replacements per the Bureau of Labor Statistics and Employment (2013). To address turnover rate, we look at the factors that promote retention and the attributes defining satisfaction within employment. When employees' needs are met physically, emotionally, socially, and economically, there is decreased absenteeism, an overall reported improved physical health and productivity leading to increased retention.

Alexander Sandercock, Biology (BS) - Marine Biology | Poster | 1:10 p.m. - 2:25 p.m.

Noonan Endowment Award

QUANTIFYING THREATS THAT IMPACT FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES

This project involves the review of federal register documents for threatened and endangered species from 1967-2016. Working in collaboration with student researchers from the College of William and Mary, our goal is to quantify the threats that impact endangered species and to eventually compare the last 40+ years of documented threats to federally listed species. We will be reviewing all Federal Register documents outlining the justification for why species have become federally listed as threatened or endangered. Upon completion, we will be able to identify the top human impacts causing threatened and endangered species to become listed and quantify how these threats have changed over time. Preliminary results suggest that not only are alien species and habitat degradation still major threats to listed species, but that climate change has since emerged as the third leading threat to listed species in the last 20 years.

Dr. Kathleen Schreiber | Class Posters | 10:50 a.m. - 12:05 p.m.

THE MU CLIMATE RESILIENCY PLAN: PROTECTING CAMPUS HEALTH IN A WARMER WORLD

This poster explains the steps in campus climate resiliency planning using the US Climate Resiliency Toolkit, and shows how they were carried out in the development of a plan to protect the campus population from health threats caused or furthered by a warming climate.

Presenters' names are:

Steven Copertino, Robert Helmerick,Sarah Holland, Drew Hughes, Jason Malkowski, William Matthews, Brandon Mitchell, Katie Prichard, Jessica Stokes, Derek Yoder

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Nicole Seese, Computer Science (BS) | Poster | 1:10 p.m. - 2:25 p.m.

USING MACHINE LEARNING TO UNCOVER RELATIONS BETWEEN MENTAL ILLNESS AND SOCIAL MEDIA

This research aims to explore the intersection of mental illness (depression) and social media (Twitter) and how information and opinions concerning mental health issues are presented in that social media context. I collected tweets that mention depression via the Twitter Streaming API, then used various machine learning and data mining techniques on those tweets to uncover patterns in that data set. I also attempted to uncover an accurate manner with which to quantify or represent interactions between users who tweet about mental illnesses. Finally, I explored predictive aspects of this domain, attempting to achieve tasks such as: predicting whether a specific user will tweet about depression; determining what attributes of a tweet most accurately predict if that tweet will concern depression; and predicting which aspect of mental illness – treatment, experience, etc. – a tweet discusses.

Heather Shuker, Nursing, (MSN) | Poster | 1:10 p.m. - 2:25 p.m.

HEALTH PROMOTION IN PRIMARY CARE

Health promotion is considered an important function of primary care providers. Therefore, it is important to understand the concept of health promotion and what that translates to in clinical practice. Examining the definition, defining characteristics, case studies, and randomized clinical trials where health promotion interventions are being tested enhances understanding of the concept. Providing health promotion interventions to patients is an intentional act that requires more than standard care within the medical model.

Elizabeth Siebold, Biology (BSE) | Presentation | 1:10 p.m. - 2:25 p.m.

AN AUTOETHNOGRAPHIC STUDY ON THE USE OF THE FLIPPING METHOD & THE FLIPPED CLASSROOM MODEL IN A SCIENCE CLASSROOM

The flipping method and flipped classrooms are becoming more popular in classrooms at all age ranges across the country. Written in the style of an autoethnography, this study examines the effects of these modes of teaching on the students of a college undergraduate organic chemistry course. The research explores the impacts on the learning culture of this collegiate classroom and discusses the potential implications of these effects on science classrooms at a secondary level. Examined from the perspective of a future secondary biology teacher, these results inform both the authors' future classrooms, but can also have an impact on others' classrooms as well.

Peter Sitarik, Chemistry (BS) | Poster | 1:10 p.m. - 2:25 p.m.

Neimeyer-Hodgson Grant, Noonan Endowment Award, Student Grants for Research and Creative Activity, Havemeier Research Endowment

HYDROGEN BONDING IN POLYLACTONES TO IMPROVE INTERMOLECULAR STRENGTH

Biodegradable plastics are a growing field in the realm of renewable resources. Non-biodegradable plastics use carbon chains and aryl rings as a main component of the polymer plastic backbone. Polyhydroxyalkonoates (PHA) integrate oxygen into the backbone, which makes the polymer biodegradable by certain bacteria and organisms. These molecules have small intermolecular forces that lead to reduced mechanical properties, such as brittleness, which make them unusable for everyday plastic uses. My research involves taking δ-valerolactone, alpha substituting with aryl rings of different functionality, and polymerizing with ring-opening polymerization. The product will have increased order and mechanical properties because of the aryl π-stacking. Aryl rings with hydrogen bond donors/acceptors will further increase the order by increasing the intermolecular forces between the aryl rings. The higher ordered systems will make a stronger polymer plastic that can potentially replace non-biodegradable plastics and still retain the biodegradable characteristics that are valued.

Melanie Snyder, Chemistry (BS) - Biochemistry | Poster | 1:10 p.m. - 2:25 p.m.

Neimeyer-Hodgson Grant, Noonan Endowment Award, Student Grants for Research and Creative Activity

GOLD NANOSHAPES SYNTHESIS FOR SURFACE ENHANCED RAMAN APPLICATIONS

The goal of this research is to synthesize gold nanoparticles of various shapes and sizes. The particles could range from 30-300 nanometers in size. Once these particles are produced, their absorbances will be determined by the use of an Ultraviolet visible spectrophotometer. Their absorbance spectra and maximum wavelengths (lambda max) can be correlated to the shape and size of these particles. The different nanoparticles will be used as signal enhancers with the fluorescent dye Rhodamine B in Raman spectroscopy (SERS). It has been shown that nanoparticles with larger surface area and shape can produce a higher intensity Raman spectra. Using the gold nanoparticles can enhance the molecules signal up to 14 levels of magnitude. These nanoparticles will also be observed using a Transmission Electron Microscope, which aims a beam of electrons through the sample, to produce a high-quality image of the distinct shapes and sizes developed throughout this research project.

Christopher Soelle , Emergency Management (MS) | Poster | 9:25 a.m. - 10:40 a.m.
Student Grants for Research and Creative Activity

COMMUNICATING WINTER HAZARDS BY NAMING WINTER STORMS

This study analyzes winter weather information shared on Twitter using the names of winter storms. Tweets from the United Kingdom (UK) and the United States (US) were collected and analyzed to determine the users who were actively adopting winter storm names and the type of content they were sharing. The study compares and contrasts the usage of names in the US and UK. Additionally, the results offer a basis to conclude utility in naming winter storms.

Marie Stoltzfus, Biology (BS) - Molecular/Biotechnology | Poster | 12:05 p.m. - 1:05 p.m.
Neimeyer-Hodgson Grant, Biology Student Investigator

IDENTIFICATION OF SEX-SPECIFIC SEQUENCES IN THE SQUID DORYTEUTHIS PEALEII

To investigate if genetic differences exist between male and female squid (Doryteuthis pealeii), a DNA fingerprinting technique known as amplified fragment length polymorphism (AFLP) analysis was used. In AFLP, genomic DNA is digested with enzymes that cut DNA at specific sequences. The number and sizes of fragments produced is affected by variations in DNA that could be sex-specific sequences. Primers complementary to adaptors that are added to fragment ends enable their amplification using polymerase chain reaction (PCR). Agarose gel electrophoresis separates fragments by size to permit direct comparison of DNA from different sexes. Adding nucleotides to the 3'ends of primers reduces the number of fragments and simplifies gel banding patterns. A band observed in only one sex indicates a genetic difference. DNA from sex-specific bands is cloned, sequenced, and evaluated with site specific PCR primers in several individuals. Consistent differences could identify sequences that are potentially important in sex determination.

Thomas Tchistiak , Applied Engineering & Technology Management (BS) -Graphic Communication Technology | Class Project - Posters | 1:10 p.m. - 2:25 p.m.

MAXIMIZING EFFICIENCY IN THE SCREEN PRINTING PROCESS

This research study looks into the standard screen printing process. The goal of this study is to create a system that maximizes resources, cuts production costs and production time. Data will be collected and implemented for the development of a franchise business model not typically found in the screen printing industry.

Joy Thames, Samantha Gillis, Chemistry (BS) - Biochemistry | Poster | 9:25 a.m. - 10:40 a.m.
College of Science and Technology Travel Fellowship, Noonan Endowment Award, Student Grants for Research and Creative Activity

AMIDE FORMATION STUDIES EN ROUTE TO HUNANAMYCIN A

Hunanamycin A (HA), a natural product isolated in small quantities from Bacillus hunanensis, has exhibited antibacterial properties against Salmonella and E. Coli. Synthetic intermediates en route to HA, and related derivatives, may exhibit antibacterial activity. Our current route begins with a methods development study focused on the intramolecular conjugate addition/electrophilic aromatic substitution (CA/EAS) of acrylolyated aniline derivatives. Through catalyzed conjugate addition, this route should produce N-(4-Methylphenyl)-3-methyl-2-butenamide from p-toluidine and N-(2-Bromophenyl)-3-methyl-2-butenamide from 2-bromoaniline. To obtain the starting materials for CA/EAS, amide formation studies have commenced. The requisite amides have been obtained in limited quantities with some impurities; purification of the products, scale-up, and optimization is currently underway.

Kayli Thomas, Biology (BS) - Environmental Biology | Poster | 8:00 a.m. - 9:15 a.m.
Neimeyer-Hodgson Grant, Biology Student Investigator

THE CHARACTERIZATION OF LOUSE FLY MICROBIOMES ON MIGRATING RAPTORS: IMPLICATIONS FOR AVIAN PATHOGEN DISPERSAL

Ectoparasites can affect long-term survival of raptors by reducing reproductive success and negatively affecting their ability to compete for resources and avoid predation. Migrating birds have played a role in the spread of several known human pathogens e.g., Borrelia burgdorferi, the causative agent of Lyme Disease and West Nile virus. The specific aim of this project is to characterize the abundance of louse flies (Order: Diptera; Family: Hippoboscidae) on different migrating raptors over time as well as the microbial communities found within blood feeding hipposboscids to gain a better understanding of potential avian pathogens and the potential dispersal of these pathogens during migration. A temporal survey of the microbiomes within louse flies throughout the migration period will provide baseline information on the possible movement and dispersal of avian pathogens via migrating ectoparasites and the role, if any, raptor diversity plays on ectoparasite abundance and microbial community diversity and dispersal.

Jamie Thorpe, Computer Science (BS) | Presentation | 1:10 p.m. - 2:25 p.m.

USING MACHINE LEARNING TO IDENTIFY PHISHING ATTACKS

The term "phishing" refers to a type of cyber attack in which the attacker send fraudulent emails. What makes this email attack unique is that it often requests that the user follow an included link, where the user is asked to enter private information. Phishers will go to great lengths to make emails look legitimate, relying on the user's naivete and tendency to trust the email if the sender seems to be an authority figure or large company. This project explores the possibility of using machine learning techniques to differentiate between legitimate and phishing emails. Machine learning models look at samples of both types of email, attempt to decide the identifying factors of the two types of emails, and then classify unseen samples. A strong model will be able to identify a phishing email by analyzing the text of the email in addition to the characteristics of the included link.

Jose Urena, Chemistry (BS) | Poster | 9:25 a.m. - 10:40 a.m.
College of Science and Technology Travel Fellowship, Neimeyer-Hodgson Grant, Noonan Endowment Award, Student Grants for Research and Creative Activity

THE SYNTHESIS AND CHEMISTRY OF SOME NOVEL DIAZIRIDINES

Diaziridines are a class of three-membered ring heterocycles that contain one carbon and two nitrogen atoms. They are useful intermediates in the synthesis of more complex heterocyclic compounds, some of which have found applications in the pharmaceutical industry. Although several studies on the synthesis and chemistry of 1,2-diaroyl-diaziridines have appeared in the chemical literature, there are no reports on their dibenzenesulfonyl or 2-sulfobenzoyl analogues. We are attempting, therefore, to synthesize a variety of these novel diaziridine derivatives in order to study their chemical reactivity. It is expected that this project will shed some light on how different electron withdrawing groups influence the reactivity of the three-membered diaziridine ring. Furthermore, it is anticipated that these molecules may lead to some interesting new antidepressant, antipsychotic, and anxiolytic pharmaceuticals.

Dr. Robert Vaillancourt | Class Posters | 12:05 p.m. - 1:05 p.m.

THE CHEMISTRY OF THE OCEAN (ESCI 363)

Posters in this group present various topics on the chemistry of ocean waters. Seawater is a very complex solution of salts, gases and dissolved organic molecules, reflecting the broad array of materials and substances that participate in the geochemical cycling of earth's materials. These posters feature student research of the peer-reviewed literature of chemistry topics that have implications for our understanding of the ocean's role in the earth system, and practical applications for human societies and economics.
Presenters' names are: Christopher Albaugh, Cassandra Alexander, Toby Barnhart, Donald Brown, Michael Burns, Angela Ditri, Marie Clair Egbert, Amber Fake, Britta Gamache, Amanda Hardin, Robert Helmerick, Jason Irwin, Luke McConville, Alexander Parry, Allison Sheetz, Calvin Webber, Alison Wood.

Josephin Vincent, Technology & Innovation (M.Ed.) | Presentation | 1:10 p.m. - 2:25 p.m.

RESEARCH AND DEVELOPMENT IDEAS

Technology can do amazing things. It can make things easier for everyone in the world, specifically engineers. Imagine a world where persons with visual impairments can walk by themselves without any aid. Or conceptualize a world where people with speech impairments can communicate with ease. The following presentation will discuss a possible solution for everyone to harness their full potential.

Rita Waugh, Applied Engineering & Technology Management (BS) -Occupational Safety & Environmental Health | Poster | 9:25 a.m. - 10:40 a.m.

AN ERGONOMIC ASSESSMENT OF A MOLDING DEPARTMENT

The primary objective of ergonomics is to optimize the functioning of any system or process by adapting it to human capacities and needs. Adjusting the job to fit the worker can help reduce ergonomic stress and eliminate many potential musculoskeletal disorders (MSDs). An ergonomic assessment was conducted for the molding department to evaluate the THM7 and ST-20 processes at DSM Biomedical, Exton. There has been a history of ergonomic related injuries associated with tasks in this department. This assessment consists of observations from different shifts and employees as well as short interviews. All associated tasks are based on an eight-hour workday although at times employees do work extended hours to finish the task or complete the product lot. The engineering team is evaluating the long-term options of which automatic machine would be the most effective for these processes. Short term corrective actions have been found and will be implemented.

Matthew Weidinger, Applied Engineering & Technology (AT) -Graphic Communication Technology | Poster | 12:05 p.m. - 1:05 p.m.

AN EXPERIMENTAL COMPARISON OF THE ARCHIVAL QUALITY OF SELECTED PRINTER PAPER AND RECYCLED PRINTER PAPER

The problem of this study was to experimentally compare the archival quality of selected printer paper and recycled printer paper. Specifically, all tests were conducted using Staples multi-purpose 8 ½ x 11 paper and Staples 100% recycled multi-purpose 8 ½ x 11 paper. Test procedures were established and documented. Test targets were designed and evaluated. Data was collected and analyzed. Recommendations were stated. The study was conducted over a multi-week period. The study was conducted at Millersville University.

Leisha Wilt, Applied Engineering & Technology Management (BS) -Graphic Communication Technology | Poster | 1:10 p.m. - 2:25 p.m.

AN EXPERIMENTAL COMPARISON OF SELECTED CORRUGATED BOARD ADHESIVES

The problem of this study was to experimentally compare corrugated board adhesives. Specifically, the two adhesives evaluated were products of 3M and Dupont. The adhesives chosen were starch-based powder, dextrin-based powder, and corrugation gum powder. A corrugated test pattern was designed consistent with industry standards. Samples were tested and evaluated using a universal tester for low force tension and torque. Data was collected and analyzed. Findings were documented and reported. Recommendations were made.

Joseph Wright, Applied Engineering & Technology Management (BS) -Nanofabrication Manufacturing Technology | Poster | 8:00 a.m. - 9:15 a.m.

DIRECT SYNTHESIS AND PROPERTIES OF LOW-DENSITY NANOFIBROUS CARBON STRUCTURES

A recently developed method can create bulk, three-dimensionally tailored structures by confining the growth of carbon nanofibers. This technique has been demonstrated to produce non-woven materials with controllable density, and it results in mechanically robust structures of less than 3% theoretical density for amorphous carbon. This material has been found to be stable under cyclic mechanical loading at strains exceeding 0.40, and the elasticity can be controlled through processing conditions. The structures are readily infiltrated with gases and liquids, and the as-grown fibers have a surface area exceeding 200g/m2 and may be increased through activation of the carbon. This method has primary benefits of being low-cost, scalable and able to create stable bulk structures with nearly any geometry, thereby easing application integration. The methods, properties and applications will be compared and contrasted to current aerogel materials.

Andrew Yarosh, Emergency Management (MS) | Poster | 12:05 p.m. - 1:05 p.m.

MILLERSVILLE UNIVERSITY COMMUNITY EMERGENCY RESPONSE TEAM (CERT)

The FEMA Community Emergency Response Team (CERT) course is designed to provide education and training focused on community disaster preparedness and to create a culture of resiliency and awareness. The course covers topics such as disaster preparedness, light search and rescue, and disaster medical operations among others. The sessions are taught by professionals with subject-matter expertise.

Darcey Young, Biology (BS) | Poster with accompanying exhibit | 2:35 p.m. - 3:50 p.m.

BOTANICAL ILLUSTRATION: A STUDY OF SARRACENIA PURPUREA

Sarracenia purpurea is a species of insectivorous pitcher plant that grows throughout Eastern North America. This perennial forb is a protected species and is native to Pennsylvania. I produced a series of illustrations to accompany my research of this plant. The illustrations focus on the form and unique structure of S. purpurea and demonstrate the method by which S. purpurea lures, captures, and digests its prey. The research and illustrations have been compiled as an infographic poster that can be used as an educational tool to raise awareness of this species of carnivorous plant.

Andrew Zimmerman, Physics (BS) | Poster | 10:50 a.m. - 12:05 p.m.

OFF-LATTICE RANDOM WALKS IN 2 AND 3 DIMENSIONS

The general properties of lattice random walks with constant step lengths have been explored. For a lattice random walk, the return probability to the origin of the walk will be one in both one and two dimensions, proven by Hungarian Mathematician George Pólya. However, less is known about off-lattice random walks. This paper discusses off-lattice random walks with a constant step length. Pólya's theorem for lattice random walks will be generalized to the off-lattice case with a return area in the shape of a circle or sphere, generally called a ball. The probability of return to a ball of radius e < 1/2 will be found for off-lattice walks in two and three dimensions. Simulations of the walk will be run and compared to the probabilities of return for finite numbers of steps given in the theoretical model. In addition, generalizations for off-lattice random walks in higher dimensions will be considered.

EXPERIENTIAL LEARNING AND CAREER MANAGEMENT

Michele Bote | Poster | 12:05 p.m. - 1:05 p.m.

A DAY IN A LIFE OF MILLERSVILLE INTERNS

A Day in a Life of Millersville Interns offers the Millersville community the chance to learn about the opportunities MU students engage in with employers and non-profit organizations. These internships not only afford the students to receive hands-on learning and mentorship but they also own academic credit toward their degree requirements. This presentation will provide an opportunity for students who aren't yet doing internships to learn about the process and begin planning on securing an internship for academic credit.

Presenters' names are: Hunter Mengel, Stephanie Rineer, Franklin Herr, Michael Brockett,Gregory Quillian, Jonathan Beuerle, Megan Hunt.

SOCIAL HOUR (4-5 p.m.)

Please join us after the conference for the annual Made in Millersville Social Hour! Stop by McNairy Library's first floor lobby throughout the hour for ice cream, fun, and a professional photo booth, and enjoy the opportunity to meet faculty members, student presenters, and the volunteers behind the scenes.

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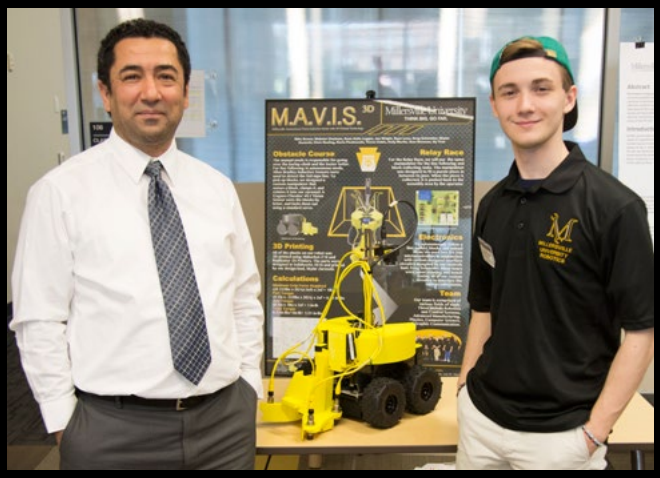

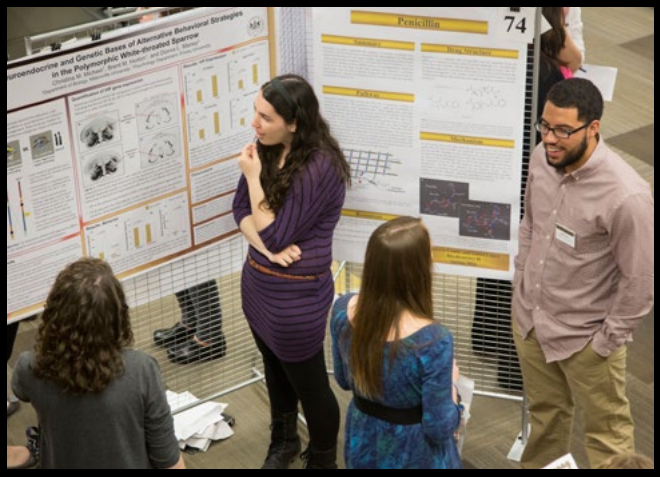

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