

**Student Research & Creative Activity**  
**SYMPOSIUM**

**Wednesday, April 18, 2018**

**Hoeffner Science and Technology Center**



A Member of the Pennsylvania State System of Higher Education

## WELCOME TO EAST STROUDSBURG UNIVERSITY'S STUDENT RESEARCH AND CREATIVE ACTIVITY SYMPOSIUM

---

The Sixth Annual Student Research and Creative Activity Symposium brings together the ESU community to celebrate the accomplishments of students from disciplines throughout the University. The work on display represents the talent, effort, and Warrior spirit of our students, as well as the dedication and expertise of the ESU faculty and staff who mentor our students. Thank you for attending and participating in our showcase of student research and creativity at ESU – Where Warriors Belong!

— Kevin Quintero and Marianne Cutler, Committee Co-Chairs

“The function of education is to teach one to think intensively and to think critically.  
*Intelligence plus character* —  
that is the goal of true education.”

— *Martin Luther King, Jr.*

## **SCHEDULE OF EVENTS**

### **9 A.M. – 2:30 P.M., POSTER PRESENTATIONS**

1st Floor Lobby

- 9 a.m. – 10:30 a.m. - Session A
- 11 a.m. – 12:30 p.m. - Session B
- 1 p.m. – 2:30 p.m. - Session C

### **12:30–4 P.M., ORAL PRESENTATIONS**

Classroom: 135, 136, 144

### **2–4 P.M., SIGMA XI RESEARCH FORUM, NIEDBALA AUDITORIUM**

- Oral Presentations
- Poster Presentations

### **3:30–4:30 P.M., SPECIAL PRESENTATION, 1ST FLOOR**

Student Teacher Forum: *Practicing secondary certification students discussing their experiences in the field*

### **7 P.M., KEYNOTE SPEAKER, NIEDBALA AUDITORIUM**

Carol Muller, Ph.D.

Coming to Know Our Neighbors and Ourselves through Academically Based Community Engagement

*Dr. Muller serves as a Professor of Music at the University of Pennsylvania.*

“An investment in *knowledge* pays the best interest.”  
— *Benjamin Franklin*

## KEYNOTE SPEAKER



### **Carol Muller, Ph.D.**

*Professor of Music, University of Pennsylvania*

## **Coming to Know our Neighbors and Ourselves Through Academically Based Community Engagement**

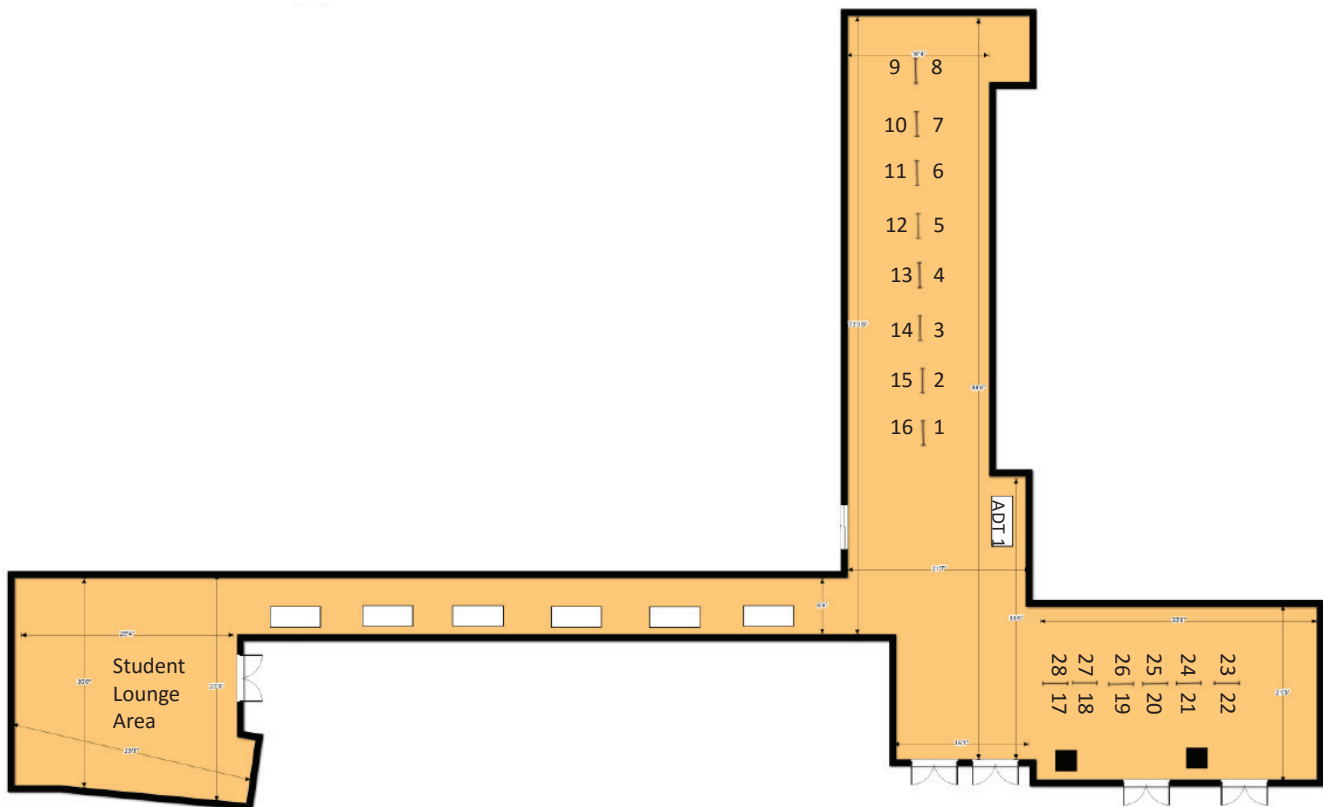
We live in challenging times. Immigration policies created in the 1960s in the USA set in motion significant shifts in what it means to be “American” and an immigrant. Soon everybody will belong to some kind of ethnic minority group. At the same time, scientists are arguing through studies of the human genome, that in terms of the make up of the human body, “race” is a human invention without a basis in biology. There are so many marches urging for social justice. Even higher education is experiencing turbulence in the wake of new technologies of knowledge distribution. Information seems to be everywhere and available with the simple click of a mouse, link, or button. And yet fewer Americans are reading books than before. And what about the issues of freedom of speech on campus? Do we even want leaders anymore?

So we ask, what and who should be represented in our curricula, what should be we be learning or teaching, and how does change come to the academy? I suggest we begin to address these changes through creative research partnerships

constituted with our campus neighbors in the context of the college curriculum. Using materials from almost twenty years of ABCS (Academically Based Community Service) classes at the University of Pennsylvania, mostly around music in faith based communities, I will suggest such knowledge production opens up pathways to intercultural understanding, engages with the diversity of our college campuses and towns, and gradually transforms the way we teach and learn about ourselves and others.

*South African-born Carol Muller is professor of music, graduate chair in music, and the Moorman Simon Civic Engagement Fellow at the University of Pennsylvania. She has published widely on South African music at home and in exile in a wide range of book and journals; her intellectual interests are in issues of gender, religion, music, diaspora, and post-colonial studies. Muller has done pioneering work in ethnomusicology on issues of civic engagement, community partnering and student research in West Philadelphia. Muller is also a gumboot dancer.*

# POSTER SESSION FLOOR PLAN



## 9–10:30 A.M., POSTER SESSION A

| Location | Presenter(s)     | Title   | Abstract  | Department          | Adviser              |
|----------|------------------|---|---|---------------------|----------------------|
| 1        | Miranda Tripus   | The Princess and the Frog: An Exercise in Racial Ambiguity, Stereotypes, and Faux-Feminism    | Disney's The Princess and the Frog introduced their first black princess in 2009: Tiana. Although riddled with nuanced racism, the movie shows Disney is aware of its homogeneous princess canon and are attempting to diversity. Simply introducing a black princess, however, does not entirely fix the issue of representation. Tiana has an entirely different experience than her white counterparts. The Princess and the Frog handles issues of intersectional feminism weakly, avoids dealing directly with race, and works on a network of latent racial stereotypes.  | English             | Dr. Cynthia Leenerts |
| 2        | Sydney Thorsen   | Tutoring 101: Effective Strategies to Successfully Tutor ESL Students                         | ESL students and native English speakers require different strategies and learning techniques for effective writing tutoring. Through extensive research, I have studied techniques suggested to successfully tutor ESL students. Through data collection such as surveys and interviews, I have determined the needs of our tutors and students while creating a strategy guide to strengthen the Writing Studio's practices. My research will be beneficial to students and tutors everywhere and will help tutors to customize and tailor their sessions towards the need of the ESL tutee.  | English             | Dr. Sandra Eckard    |
| 3        | Ariel Mickey     | Quality Inclusion: An Exploration of Writing Tutor Needs in English Language Learner Tutoring | This study conducted at ESU's Writing Studio, collected data from 22 tutors on how effective they felt they were while working with Foreign Exchange students on the English writing process. After the initial data collection, researched supports were developed and put into place to see if there was a change in the comfort of both the tutor and tutee during sessions. This poster presents the initial research and the research findings.  | English             | Dr. Sandra Eckard    |
| 4        | Gabryella Wilder | The Role of Hunting in Porcupine Management   | The North American Porcupine, <i>Erethizon dorsatum</i> , is a native species in Pennsylvania and an important component of Pennsylvania's forested ecosystems. Porcupines have occasionally been labeled a nuisance because their drive for sodium leads to gnawing of human structures, which can cause human-porcupine conflicts. A hunting season for these mammals was recently established but the impacts of this season on porcupine populations are unclear. I am using population data plus fecundity and mortality rates to assess the current status of porcupines in Pennsylvania and assess whether a hunting season is an appropriate management technique for this species. | Biological Sciences | Dr. Howard Whidden   |

## POSTER SESSION A (CONTINUED)

| Location | Presenter(s)       | Title  | Abstract   | Department          | Adviser            |
|----------|--------------------|--|--|---------------------|--------------------|
| 6        | Samantha DeVivo    | Effects of Anthropogenic Noise on Crayfish Behavior            | Anthropogenic sound in the ocean has increased dramatically. Sound in the ocean is essential for many animals communication, orientation, mating, predator prey interaction, and echolocation. This study distributed a low frequency sound with long duration into a tank containing two crayfish. One set of observations were made to see if the amount of active behaviors decreased while a noise playback was in session. The second set of observations were used to see if crayfish that experienced noise distraction took a longer amount of time to emerge from shelter to retrieve food. Data from this study will be analyzed and presented.  | Biological Sciences | Dr. James C Hunt   |
| 7        | Kristina Roy       | Characterizing the Microbial Composition of Unpasteurized Milk | Pasteurization was invented by Louis Pasteur in 1864 to preserve food products, including milk, by killing microbes that are present. However, a recent health food trend, pushes the consumption of unpasteurized milk due to the belief that it contains beneficial probiotic bacteria. This study looks to compare unpasteurized milk samples from a farm in Northeast PA to that of pasteurized whole milk. Pathogenic bacteria are commonly associated with unpasteurized milk, due to common contamination with Listeria, Salmonella, and Campylobacter. Differential and selective agars as well as genetic analysis were used to characterize various bacterial populations found within unpasteurized milk. | Biological Sciences | Dr. Joshua Loomis  |
| 10       | Christopher Benson | The Rhetoric of Silence and the 1968 Olympic Protest           | The purpose of this study is to examine the role silence plays in communication. At first it was believed silence was the absence of communication, but in a modern realm where nonverbal communication is so prominent, the role silence plays must be redefined. I will conduct a rhetorical study of famous silent protests, predominantly, the 1968 Olympics' Black Power Salute, which Tommie Smith and John Carlos participated in. Using the definition and knowledge of the cases, I will break down the cases to fully understand what they were attempting to communicate, and how literal or nonliteral their protests were.  | Communication       | Dr. Cem Zeytinoglu |

## POSTER SESSION A (CONTINUED)

| Location | Presenter(s)   | Title                                    | Abstract  | Department    | Adviser            |
|----------|----------------|--|---|---------------|--------------------|
| 11       | Amanda Beal    | Undermined Women in The Field of Science | Not only was Susanne Langer not recognized for her contributions to the science of philosophy because of her gender, but the first running female president Victoria Woodhull, and women in the science field being told by Tim Hunt that labs should be sex-segregated. All of this situations prove to women why they need to stick together in order to show the men in their field that they are just as competent.   | Communication | Dr. Cem Zeytinoglu |
| 12       | Irvin Zuzic    | The Development of Feminism              | My study research is about the development of the ideology, Feminism. It goes through the definition. My work answers the questions like how is Feminism today against Feminism 100 years ago. How women express their dissatisfaction towards the patriarchy then and now. I have also looked from men's perspective and asked why not more men are positive for gender equality. I am a man and believe that all people should be treated equal, I can say that I'm a feminist. However, I have looked deep into the ideology's weaknesses and strengths.   | Communication | Dr. Cem Zeytinoglu |
| 13       | Breonna Smith  | Police Brutality                         | Police brutality is a major issue in our society. Now with the advancements of technology we are finally seeing proof of police brutality. We have newspapers displaying the truth, movies like Fruitvale Station and Detroit showing the unfair treatments of black males by police, televisions shows like Black-ish and Empire have also expressed these problems. Officials have called us, as a black society, super predators as stated in speeches by Hillary Clinton, Ronald Reagan, George H.W. Bush, and many higher up officials (DuVernay, 2016). They don't see black people as equals to them and that's a problem. | Communication | Dr. Cem Zeytinoglu |
| 14       | Adam Creighton | Emma Goldman vs The First World War      | All through the course of history there have been various people that can be credited with being influential. In most cases, men are the ones that get the credit, but one of the many women to break this mold was Emma Goldman. Through her anti-war speeches, her creation of the No Conscription League of New York, and some of the other anti-war actions she participated in throughout her life, many consider her to be the most influential anti-war protester during World War I, as well as one of the most influential women the world has ever known.   | Communication | Dr. Cem Zeytinoglu |



## POSTER SESSION A (CONTINUED)

| Location | Presenter(s)   | Title   | Abstract  | Department                             | Adviser              |
|----------|--|---|---|--|----------------------|
| 15       | Pu Tian  | Genomic Island Discovery Using an Isolation Forest Based on Anomaly Detection Algorithm | In a genomic sequence, a genomic island is a part in such sequences which were at first transferred from some other organisms and got stabilized into the host genome. In this project, an ensemble-based learning approach, GI-IsolationForest, is proposed to predict GIs based merely on the sequence itself provided. Inside the method, extremely randomized tree structure is used to server as the basic unit to determine whether a candidate segment among the whole sequence is a genomic island or not.  | Computer Science                       | Dr. Dongsheng Che    |
| 16       | Alexander Chaffers, Kurt O'leary, Tim Kelly  | Robotic Vision  | The goal of this project is to simulate cutting-edge robotic vision technologies on old hardware and a fixed budget. A Raspberry Pi, Python and Open CV libraries were used to enable an old robot arm to locate, grab and deliver different objects via a video camera. This was tested successfully with a Coca Cola can and various different solid-colored objects of a similar size.   | Computer Science                       | Dr. Haklin Kimm      |
| 28       | Duaa Alrasheed   | Bankruptcy Prediction Using Machine Learning Algorithms                                 | There is a continuous interest in finding better methods to predict bankruptcy because many financial decisions can be made based on the result of such methods. For example, banks can have an accurate risk assessment before lending money to companies. Also, investors in a company can evaluate whether their investments are safe or not. In this research, using a dataset of Polish companies, the objectives of this research are to identify the most important attributes that highly correlated to bankruptcy and to build models to predict the bankruptcy.                   | Computer Science                       | Dr. Dongsheng Che    |
| 17-27    | Melissa Burns, Ashley Gungor, Makenzie Hamilla, Kelly Howiszak, Nicole Karch, Alyssa Kelly, Stan Kuczawa, Danielle Laub, Lindsey Leahy, Katherine Liedberg, Kaitlyn Mack, Stephanie Manhart, Rebecca Owens, Briana Ragonese, Rebecca Samson, Dakota Sarbaugh, Kimberly Skorski, Taylor Snyder, Maria Stuebing, Brianna Sullivan, Victoria Villani, Jullian Von Barbier | Teacher As Researcher SLO Research  | The ECED student teachers each complete an inquiry research project in their K-4 classrooms, determining Student Learning Outcomes and related goals and standards, targeting students based on Benchmark Assessments with their co-operating teachers, and then, having selected a Research Best Instructional Practice, create and conduct 5-8 lessons, with a pre and post test. The students analyze their data, create an indicative bar chart and represent this on a Research Poster, along with their conclusions and discussion of their research on their instructional strategy. | Early Childhood & Elementary Education | Dr. Alison L. Rutter |

# 11 A.M.–12:30 P.M., POSTER SESSION B

| Location | Presenter(s)         | Title  | Abstract   | Department     | Adviser   |
|----------|----------------------|--|--|----------------|---|
| ADT1     | Kristina Turturiello | Ball-jointed Figure Made From Molds  | I have always been fascinated of the idea of bringing movement to my art. My latest project is creating ball-jointed figures from simple and complex molds. I wanted to combine my passion for ceramics and of 3D modeling to create posable figures of my cartoon characters. The model was created in the program call Rhino and printed on my personal 3D printer. A majority of my research was on creating multi-part, plaster molds to create clay versions of my 3D prints. Once the clay pieces have been created, they will be strung together with elastic, metal hooks, and epoxy.  | Art & Design   | Professor Joni Oye-Benintende                                   |
| 1        | Xuanxuan Zhu         | The relative factors associated with the differences of sedentary behavior between Asian international students and American students in PASSHE system | Background Few articles focus on the comparison between sedentary behavior among Asian international students in the United States and American students. Methods Data will be collected from college students from different public universities in the PASSHE randomly. To assess the performance of the sedentary behavior among Asian international students and American students, the instrument is going to be developed based on the combination of IBM, the revised IPAQ, and revised the SBQ questionnaires. The pedometer will also be used as an objective measurement of ambulatory physical activity. Results The results are expected at the beginning of April 2018. | Health Studies | Dr. Clare Lenhart   |
| 2        | Jennifer Medina      | Evaluating Knowledge, Perceptions, and Accessibility of Opioids Among Lehigh County High School Students   | The research is a cross sectional study that consisted of <b>students grades 9-12 from a Lehigh County high school</b> . Participants <b>answered</b> a survey with questions based on the 2015 Youth Opioid Survey. The purpose of this study is to determine if there are differences in the knowledge, perceptions, and accessibility of opioids among youth based on gender, lunch program, and socioeconomic status.  | Health Studies | Professor Elaine Rodriguez, Dr. Clare Lenhart, Dr. Rheinherimer |
| 3        | Elizabeth Hawley     | Physicians' Knowledge regarding Cochlear Implants  | The goal of my research is to discover whether physicians' are equipped with the information needed to make an appropriate and educated referral for a cochlear implant (CI) to a deaf/hard of hearing patient. In this process, I will be studying the CI to gather my own knowledge of patient eligibility, the implantation process, rehabilitation, and expectations about life with a CI to write a literature review. I will investigate the general knowledge, ideas, expectations, and referral ability of physicians', regarding the CI, by creating/ distributing a survey to about the CI.  | Health Studies | Dr. Susan Dillmuth-Miller                                       |

## POSTER SESSION B (CONTINUED)

| Location | Presenter(s)        | Title   | Abstract  | Department       | Adviser  |
|----------|---------------------|---|---|------------------|--|
| 4        | Misozi N. Houston   | Sleep Hygiene - how do ESU students measure up?<br>Evaluating sleep hygiene and health related factors of college students aged 18-24 years | Sleep hygiene is a fundamental process that if not observed may increase health risks and academic challenges for college students. This study analyzed secondary data from 2016 ACHA NCHA II measuring for prevalence of sleep problems, daytime fatigue and nutrition intake related to quality of sleep and alcohol use among ESU students (n=217). Results show a need for awareness and benefits of sleep hygiene among college students. Use of the Theory of Planned Behavior by campus wellness staff and resident hall management would be positively effective in helping students adopt sleep hygiene promoting behaviors and improve overall student health.                    | Health Studies   | Dr. Clare Lenhart, Professor<br>Alyson Patascher |
| 5        | Irakli Kakauridze   | Alcohol Knowledge and Effects on College Students   | More than 80% of college students report consuming alcohol"(Witkiewitz et al. 2014). Alcohol abuse among college students is a public health concern. As students transition from high school to college, there is new found independence. Along with this independence, comes the responsibility of making right decisions. There are numerous issues that come about from improper alcohol consumption, ranging from poor decision making, alcohol poisoning, and in severe cases, death. "According to the National survey on Drug Use and Health, and the Substance Abuse and Mental Health Services Administration, 45.5% of college students engage in binge drinking."(Iconis, 2014) | Public Health    | Dr. Kimberly Razzano                             |
| 6        | Danielle J. Cloward | Ángel y Arpía: A Comparison of the Treatment of Women in the Poetry of Sor Juana Inés de la Cruz and Lope de Vega                           | My poster summarizes my literary comparison on the treatment of women in "Hombres necios" by Sor Juana Inés de la Cruz and "Rimas humanas: CXCI" by Lope de Vega. I establish that a comparison between their poems has not been previously done, discuss similarities and differences in their works, demonstrate the possibility of a "response" to his poem within hers, and propose new research is needed comparing Sor Juana's writings with the works of popular writers with whom Sor Juana would have been familiar to look for other "responses."   | Modern Languages | Dr. Esther Daganzo-Cantens                       |

## POSTER SESSION B (CONTINUED)

| Location | Presenter(s)                                       | Title  | Abstract   | Department         | Adviser                                  |
|----------|--|--|--|--------------------|--|
| 7        | Marc Gaudet, Gus Turonis, John O'Grady             | The Correlation of 40 yard Sprint Times to Multiple Jump Performances in Division II Football Athletes | The purpose of this study was to evaluate the correlation of 40 yard sprint (40ys) times to jumping performances in division II football players. The 40ys is a standard test used to evaluate speed, while the vertical jump is a standard measurement of vertical power. With that being said, the current project sought out to investigate if the broad jump or triple broad jump, which are indicators of horizontal power, may have a better correlation with 40ys time. Sixty division II football players were evaluated for this project. Preliminary results indicate strong correlations between triple broad jump and 40ys.  | Exercise Science   | Dr. Matthew Miltenberger                 |
| 10       | Katherine Cygan, Jenna Rose Bilancia, Alexy Bantel | The Impact of Anxiety and Knowledge in College Aged Students with Attendance of a Fitness Facility     | There is limited research examining anxiety as a result of going to a fitness facility. The purpose of this study is to analyze anxiety levels and knowledge of exercise on a scale of one to ten among different majors. Do higher levels of anxiety and less knowledge about exercise prevent individuals from attending exercise facilities? The researchers believe those who do not go to fitness facilities and have anxiety about doing so are: not confident in their exercise skills, technique, body image, or have social and social physique anxiety, and the fear of injury.  | Exercise Science   | Professor Connor Saker, Dr. Emily Sauers |
| 11       | Daniel Malvey                                      | Pre-Service Physical Educators' Confidence in Teaching Students with Disabilities                      | Since the first special education law in 1975, teachers have been teaching students with disabilities (SWD) in general education settings. Being better prepared to teach SWD in physical education is important. The purpose of this study was to examine pre-service physical educators (P-SPEs)' confidence in teaching SWD before and after a community based physical activity program (CBPAP). P-SPEs completed a simple survey. The results showed a significant increase in P-SPEs' confidence level after CBPAP (M=4.30) compared to confidence level before CBPAP (M=2.87). Also, 92% of P-SPEs valued their working experience in CBPAP as a great educational opportunity. | Physical Education | Dr. Mihye Jeong                          |
| 12       | Shane McGrath, Chris Gallagher                     | Technology is Everywhere, Let's put it in Physical Education   | Technology runs our lives these days. It is important to understand technology in physical education (PE). The purpose of this study was to examine advantages and effectiveness of using technology in PE. We used Heartzones System and figured out our target heart rate (THR) using a specific formula. We witnessed an increase participation due to the students idea of their THR due to the real time data. In conclusion, technology helps enhance students' participation and improves physical fitness that will support for students to have a healthy lifestyle in the future. We will share more findings at the symposium.  | Physical Education | Dr. Mihye Jeong                          |

## POSTER SESSION B (CONTINUED)

| Location | Presenter(s)              | Title  | Abstract  | Department  | Adviser             |
|----------|---------------------------|--|---|-------------|---------------------|
| 13       | Angela Marzuoli           | The Causality of Body Image and Media  | This work looks at the way media influences the way young women perceive their body image. The project demonstrates that the thin ideal is found in all media, even those focused on attracting young children. The research identifies how young women are incredibly influenced by what they see in the media, and depending on what it is, can seriously harm the mental growth of the individual and cause them to suffer from depression or anxiety. The work also talks about the growth the media has made in trying to further itself from the thinness ideal.  | Sociology   | Dr. Marianne Cutler |
| 14       | Nicole Plavin             | The Cost of Having a Vagina  | Forget the clichés about women spending unnecessary amounts of money on unneeded shopping sprees, the necessities that women need are what costs us deeply. In a world of gender inequality, it's no surprise that women are up charged for the same things that men pay half for. However, what women really pay more for is the cost of having a vagina. Other than the over the counter care items such as tampons and pain relievers, women spend a significant amount of dollars more in prescriptions and health care costs than men do simply because of the reproductive organ they have  | Sociology   | Dr. Marianne Cutler |
| 15       | Tamar Cato                | Attitudes Toward Statistics Among Criminal Justice, Social Work and Sociology Students | This study sampled Research Methods classes in the Sociology, Social Work & Criminal Justice Department. Students filled out a questionnaire about their math background, experience in their required statistics class, and views on learning statistics for their professions. Briggs, Brown, Gardner, & Davidson (2009) found that many criminal justice alumni wished they would have valued statistics while in school. Briggs et al. (2009) also found that statistics is "one of the most anxiety-provoking courses that most sociology students are required to take," and "the most dreaded part of the curriculum for social work majors" (p. 224). | Social Work | Dr. Chin Hu         |
| 16       | Trent George, Jack Morris | Hunger on College Campuses   | Student hunger is a growing problem on college campuses throughout America. As college costs rise, college students find it increasingly difficult to make trade offs in living expenditures, resulting in many being forced to endure having little or no food. This research presents the problems, describes the practical solutions colleges are offering, and the discusses the problematic policy that contributes along with policy solutions.   | Social Work | Dr. Laurene Clossey |

## POSTER SESSION B (CONTINUED)

| Location | Presenter(s)  | Title                                       | Abstract  | Department                         | Adviser                   |
|----------|---------------|---|---|------------------------------------|---------------------------|
| 17       | Kelsey Saylor | Lyme disease: Cognitive linguistic deficits | Lyme borreliosis, Lyme disease, is a multisystem illness caused by a tick-borne spirochete. Common manifestations of Lyme disease consist of a skin rash, persistent headaches, and flu like symptoms. Research has shown Lyme disease is associated with cognitive linguistic deficits in patients diagnosed with this illness. Studies have provided evidence that patients with Lyme disease exhibit varied deficits in their cognitive linguistic abilities. Deficits have been noted in processing speed, memory, and language. My research will delineate the specific areas of deficit observed in individuals and identify areas where further research is necessary. | Communication Sciences & Disorders | Dr. LuAnn Batson-Magnuson |
| 18       | Sarah Yinger  | Assistive Listening Device for Grace Park   | It is common for older adults to have less than ideal hearing. In addition, they have to overcome background noise to retrieve messages in their daily world. The goal of this project is to raise awareness about assistive listening devices for the senior center, Grace Park. After interning at Grace Park, I noticed factors affecting the noise in the resident's environment. This project will provide evidence to present a proposal to the owners of Grace Park and potential sponsors. Two FM systems would help the seniors overcome distance, noise, and reverberation of their environment to participate in daily activities.                                 | Communication Sciences & Disorders | Dr. Susan Dillmuth-Miller |
| 19       | Carly Gregas  | Impact of Lyme Disease on Memory            | Lyme disease is an inflammatory condition resulting from an infection by a tick-borne bacteria called <i>Borrelia burgdorferi</i> . This bacterial infection results in fevers, headache, arthritis, and neurologic issues including encephalopathy. Studies show that patients with Lyme disease perform statistically lower on memory tests compared to a healthy control group. Deficits are noted across varied aspects of long and short-term memory. This project aims to compare the current findings on the impact of Lyme disease on memory to the findings of an ongoing research study.  | Communication Sciences & Disorders | Dr. LuAnn Batson-Magnuson |

## POSTER SESSION B (CONTINUED)

| Location | Presenter(s)                 | Title  | Abstract   | Department                         | Adviser                        |
|----------|------------------------------|--|--|------------------------------------|--------------------------------|
| 20       | Sophia Messner               | Analysis of similarities and differences in the oral narratives of two identical twins with autism | <p>"Purpose: Analyze and compare oral narratives of 9 year old identical twin males diagnosed with autism spectrum disorder.</p> <p>Hypothesis: Based on research indicating that autism has a strong genetic component and genetic match between identical twins, it is hypothesizing that narratives between subjects will be linguistically similar.</p> <p>Rationale: There's limited research on narrative discourse skills of identical autistic twins.</p> <p>Methods: Narratives were recorded and transcribed using an online "SALT" program to compare linguistic characteristics between discourses.</p> <p>Results: In contrast to hypothesis, there were differences in twins' narratives, such as utterance length and utterance types. More results will be presented."</p> | Communication Sciences & Disorders | Dr. Rachel Wolf                |
| 21       | Amy Corradino                | The Beatles: What's Inside Their Heads?  | In my independent study I learned many different advanced techniques in Adobe Photoshop and applied them to several projects throughout the semester culminating in a series of four photo collages. I did this to make a cohesive collection of collages of my favorite band, The Beatles.  | Art & Design                       | Professor David Mazure         |
| 22       | Aisling Kerr                 | Painting with Light  | I created three images using techniques that were taught in Advanced Photoshop ART 487. I used images that I took myself and then painted over them in Photoshop to make the images appear as if they could be bio-luminescent.  | Art & Design                       | Professor David Mazure         |
| 23       | Rachael Swartz, Evelyn Baron | Scoby the Duck: Regaining Mobility with 3D Printed Prosthetics                                     | A Muscovy duck named Scoby had an infected leg and needed it to be amputated. The animal sanctuary named Indraloka came to ESU to see if we could provide a prosthetic for him using 3D printing. There have been many people involved with this project and we are still continuing to work with Scoby to give him a final prototype that he will be able to walk in to live a happy life!  | Art & Design                       | Professor Darlene Farris-LaBar |
| 24       | Laila Andujar                | Risen Structures   | For my independent study, I am making a series of stylized house sculptures using clay. Clay is significant to my project because it is versatile and accepting to a variety of materials used with it. I have been experimenting with different recipes of glaze and other media like ink and paint. My goal is to have a full table of these sculptures that integrate what I have learned to create pieces that are unique but work together.   | Art & Design                       | Professor Joni Oye-Benintende  |

## POSTER SESSION B (CONTINUED)

| Location | Presenter(s)     | Title  | Abstract   | Department                         | Adviser  |
|----------|------------------|--|--|------------------------------------|--|
| 25       | Rachel Neff      | Society's Perception of Persons with Fluency Disorders (stuttering)  | This study focuses on society's perceptions of people with fluency disorders. A wide variety of individuals were interviewed, ranging from adults to high school and college students. They were asked the same set of 5 questions focusing on how they view the social and intellectual abilities of people who stutter (PWS). Information was obtained from PWS and speech language pathologists (SLP) who work with fluency disorders in order to get their viewpoints from a different perspective. This presentation takes a deeper look at WHY people associate stuttering with intellectual competence.   | Communication Sciences & Disorders | Professor Katherine Lazzara, Professor Ann Millett |
| 26       | Sarah Scheidell  | Concussion and Hearing Screening Results in College Athletes Involved in Impact Sports vs. Non-Impact Sports | Student-athletes that suffer one of the 1.6 to 3.8 million sports-related concussions that occur in the United States each year can acquire both physical and cognitive impairments that may affect their coursework. Sustaining a concussion can increase the likelihood of concomitant injuries such as hearing loss due to physical damage to the auditory system. The purpose of this study is to compare hearing screening results of collegiate athletes involved in impact sports to athletes involved in non-impact sports and investigate the incidence of concussion within these sports.  | Communication Sciences & Disorders | Dr.Susan Dillmuth-Miller                           |
| 27       | Megan U. Reinert | Audiological Manifestations of Systemic Lupus Erythematosus  | The purpose of this study is to identify the audiological manifestations associated with the autoimmune disease Systemic Lupus Erythematosus. The goal of this study is to determine if any unique audiological characteristics have been identified in patients with Systemic Lupus Erythematosus. For my research two clients diagnosed with Systemic Lupus Erythematosus were evaluated. An age match control has been established for one client. Data has been conducted through an extensive audiological test battery, as well as through questionnaires and follow up appointments with a certified audiologist and speech-language pathologist. A case study will be discussed. | Communication Sciences & Disorders | Dr. Susan Dillmuth-Miller                          |



## POSTER SESSION B (CONTINUED)

| Location | Presenter(s)  | Title  | Abstract  | Department                         | Adviser         |
|----------|---------------|--|---|------------------------------------|-----------------|
| 28       | Samantha Ward | Investigation of Differences in Performance on a Language Screener by Early and Late 4 Year Olds | <p>"Purpose: To analyze whether variations exist among older and younger 4 years olds when given a language screening tool<br/> Hypothesis: A significantly higher number of children in group 1 will not pass the screener when compared to children in group 3 (young vs older 4 year olds).<br/> Rational: There's little research to support the validity of the PLS-5 language screener.<br/> Methods: Data was collected regarding the PLS-5 screener pass/fail rates of 4 year olds and analyzed for significance.<br/> Results: A significantly higher number of children in group 1 did not pass the screener when compared to group 3."</p> | Communication Sciences & Disorders | Dr. Rachel Wolf |

## 1–2:30 P.M., POSTER SESSION C

| Location | Presenter(s)  | Title  | Abstract   | Department          | Adviser  |
|----------|---|--|--|---------------------|--|
| ADT1     | Eric Fabianski, Justin Seda   | Demonstrating computer games written for the Computer Game Development course (CPSC 442). Specifically, these will be multi-level, 2D platform games (similar to Super Mario) developed using the Unity game engine. |  | Computer Science    | Dr. Robert Marmelstein                         |
| 1        | Katherine French (Assistant Director), Natasha Smith (Dramaturg), Madison Petro (Ruth Putnam) | Beyond Arthur Miller: The Crucible Today   | Students will display and discuss their research and collaboration involved in preparation for ESU's The Crucible. Dramaturgs will share background on the play, Miller's inspiration, and an in-depth look at the historical characters, as well as other modern events and people that tie into the central themes of the production. Actors and dramaturgs will discuss their unique personal journeys while working on the show, especially about the research trip they took to historic Salem, Massachusetts, with help from their faculty director, Stephanie French. | Theatre             | Professor Stephanie French                     |
| 2        | Sebastian Wielgolaski, Dylan Evert, Samantha Lamont, Darrell Costenbader                      | Community Bank Case Study Competition  | The purpose of this project/competition is to learn how community banks are using technology within day-to-day operations. We will prepare an analysis of the partner bank's financial performance, identify regional trends within that community banking organization's market, and determine how technology impacts those trends.   | Business Management | Dr. Yue Xi, Dr. Sangyong Han, Dr. Sheila Handy |

## POSTER SESSION C (CONTINUED)

| Location | Presenter(s)            | Title   | Abstract   | Department                 | Adviser                       |
|----------|-------------------------|---|--|----------------------------|-------------------------------|
| 3        | Stefanie Stricker       | Blogging in the Elementary Classroom: An Empirical Study on the Effects of Blogging on Student Writing                      | The goal of this action research study was to examine the effects of blogging on student writing. In East Stroudsburg Area School District, every elementary student now has access to a Chromebook to be used in all subject areas. With this increase in technology, there are also increased opportunities for students to publish their written work outside of the classroom. This study aimed to examine whether publishing student writing to a blog and using the blog as a revision tool would increase student writing scores.   | Digital Media Technologies | Dr. Carol Walker              |
| 4        | Tammy Castles           | Puerto Rico before and after Hurricane Maria: The status of a devastated country and how it has impacted the United States. | Puerto Rico before and after Hurricane Maria: The status of a devastated country and how it has impacted the United States.  | Health Studies             | Prof. Elaine Rodriguez        |
| 5        | Michael J. Burns        | Examining The National Resident Matching Program: Stable Matches Produced With Coupled Applicants                           | Medical students apply for residency positions in the last year of their program. The National Resident Matching Program (NRMP) is responsible for coordinating the acceptance of these medical students to their positions at hospitals. The NRMP holds a Main Resident Match every year in which medical students apply to hospitals and hospitals list acceptable candidates. Both groups do this with Rank Order Lists (ROL's). Individual applicants can apply and two applicants can apply together. The interaction of the properties of ROL's, single applicants, and applicant pairs is being examined for an explanation of their stable match behavior.                                 | Mathematics                | Dr. Olivia M Carducci         |
| 6        | Nathan Sheneberger      | Comparison of Foam Rolling and Ischemic Compression in the Treatment of Hamstring Tightness                                 | "Hamstring injuries account for 4-5% of all collegiate basketball injuries. Literature has shown that limited hamstring flexibility may predispose an athlete to hamstring injury. This study looks to compare foam rolling, and ischemic compression to see if one is more effective than the other in treating hamstring tightness.<br><br>Participants are recruited from Division II and Division III basketball teams. Hamstring flexibility, tenderness and functionality are the variables that this study is evaluating. From the literature it can be concluded that both ischemic compression and foam rolling will affect hamstring tightness, but it is unsure which will be greater." | Athletic Training          | Dr. Kelly Harrison            |
| 7        | Loretta DiDonato Thomas | From Earth to Tea   | Many cultures include tea as an important part of their lives. So much so, that they include intricate ceremonies before it can be enjoyed. After seeing a poster in the art building, I became inspired to throw teapots and mugs on the pottery wheel, showing the progression of taking raw clay from the earth and turning it into a usable vessel from which to serve tea or a decorative vessel representative of the tea cultures.  | Art & Design               | Professor Joni Oye-Benintende |

## POSTER SESSION C (CONTINUED)

| Location | Presenter(s)  | Title  | Abstract  | Department                         | Adviser                  |
|----------|---------------|--|---|------------------------------------|--------------------------|
| 11       | Justin Besz   | Investigation of Generalization versus Specialization on Athlete Development/Success | This introductory research is on the effects of sport generalization versus specialization with reference to athlete development/success. The research is intended to define the correlation between these two ideologies, generalization and specialization, and how the ideologies impact athlete development/success. An investigation into this subject area was conducted through a literary review and organized to present the advantages/disadvantages of sport generalization and specialization   | Sport Management                   | Professor Ed Amer        |
| 12       | Joseph Givens | Swiss Workforce Training: A Possible Model for the U.S.                              | Former U.S. President Lyndon Johnson once said, "Education is the key to opportunity in our society". Unfortunately, data from the Federal Reserve Bank of New York revealed during the final quarter of 2016, that 44 percent of college grads were employed in positions that do not require a degree. The United States should look to Switzerland as a model to reform higher education. Switzerland has what is known as the Vet system, a program that works in tandem with the business community by placing young people in vigorous apprenticeships that lead to both white and blue-collar work.  | Political Science                  | Professor Cynthia Hamill |
| 13       | Emily Boyle   | Can we connect Neuroscience with Secondary Biology Education?                        | There have been phenomenal findings in Neuroscience. However, none of these findings are made clear to the high school curriculum. The incorporation of Neuroscience would not only result in a better understanding of the world, but students will also gain a better understanding of themselves. In collaboration with Dr. Sockman, I have been investigating the Neuroscience connections in secondary biology education. Over recent weeks, I have found that there is an overlap of biology standards, examined local school biology curricula, and interviewed teachers and professors to gain educational perspectives on Neuroscience in the classroom. | Professional & Secondary Education | Dr. Beth Sockman         |

## POSTER SESSION C (CONTINUED)

| Location | Presenter(s)   | Title                               | Abstract  | Department                         | Adviser                 |
|----------|--|-------------------------------------|---|------------------------------------|-------------------------|
| 14       | "PSED 420/520 - Seminar I<br>Elizabeth Armstrong Zane<br>Bettinger Michael Blair<br>Emily Boyle Emily Brady<br>Victoria Collins Adam<br>Eisenberg Mackenzie<br>Feldman Angela<br>Fish Michael Fleming<br>Samantha Girod Devin<br>Heffernan Stasha Heinrich<br>Kaitlynn Keiper Alicia<br>Lowry Jessica McKeown<br>Jennifer Meck Lily<br>Moresco Levi Murphy<br>Mariel Novak Madison<br>Pope Tanayia Robinson<br>Christine Romano Caitlin<br>Simpson Allison White<br>Christopher Wolfington<br>Samantha Zeruth" | Do we have a Growth Mindset?        | The theory of Growth Mindset (Dweck, 2008) is based on brain's ability to change, which is still not incorporated into the modern narrative of ourselves. In an effort to see if this could be incorporated into our beliefs, PSED 420/520 studied themselves. First, students took a survey about their growth mindset beliefs. Then, students read <i>The Growth Mindset Coach: A Teacher's Month-By-Month Handbook for Empowering Students to Achieve</i> . Lastly, students took a post-survey after learning about the growth mindset. We compared the results to determine if there was any shift in mind about one's ability to change their brain.  | Professional & Secondary Education | Dr. Beth Sockman        |
| 15       | Timothy Beery, Austin<br>Cavanaugh, Christian<br>Josephs-Spaulding   | Moisture Farming                    | With the increasing global need for fresh water, our research is aimed to find the most efficient technique of extracting water from the atmosphere. This information will then be used to design, test and implement a sustainable, practical device to provide water for industry, military, private consumers and critical disaster relief support.  | Physics                            | Dr. John Elwood         |
| 16       | Ciera Romero-Wright,<br>Martin Ksepka, Saige N.<br>Osterhout, Stefanie N.<br>Sandt, Sierra Keegan,<br>Carly J. Moran   | Police Diversity Leadership Project | In recognition of Black History Month, several current ESU criminal justice students constructed a collaborative project that identifies and celebrates numerous current and former African-American law enforcement leaders from large American cities. As many recent conversations surrounding policing and race often have negative overtones, the students agreed that sharing less known aspects of diverse leadership in U.S. law enforcement provides a positive aspect into locating solutions to complex social issues in our communities. The project also takes direct focus at providing some perspective of an evolution and change in approach to representation of historically marginalized groups in American policing. | Criminal Justice                   | Dr. Richard A. Ruck Jr. |

## 1–2:30 P.M., PERFORMANCE OR ARTISTIC DISPLAY

| Location | Presenter(s)                                  | Title   | Abstract  | Department   | Adviser              |
|----------|---|---|---|--------------|----------------------|
| 17-28    | Karl Bohnenberger                             | Turbojet Engine   | ESU's propulsion laboratory would like to do a live demonstration of our Turbojet Engine out on the front lawn of SciTech   | Physics      | Jerry Ross           |
| 17-28    | Jamie Reese, Ben Schaumloffel                 | Foucault Pendulum   | <p>The Foucault Pendulum allows observers to measure the latitude of their position on Earth based on a geometric analysis of its apparent rotation. Because the Earth rotates about the poles, a pendulum started there free from external influence should appear to rotate once per day, according to Newton's First Law. At the Equator, one would expect no rotation at all.</p> <p>We will discuss The Foucault Pendulum at ESU, the new installation we designed and implemented, as well as future additions we plan to make to it, such as a driving mechanism, which aim to counteract external influences, like air resistance.</p>  | Physics      | Dr. John Elwood      |
| 17-28    | Anthony Caprario                              | Acoustic Tractor Beam   | Drawing upon the work of Asier Marzo and his fellow researchers at the University of Bristol, this project employs an array of ultrasonic transducers to form a 3-dimensional acoustic trap within which particles can be suspended and held against the force of gravity from any direction.   | Art & Design | Darlene Farris-Labar |
| 17-28    | Joshua Weidenbaum, Alison Wieder              | Feeding the Senses: How We Use Projections and Sound to Enhance Theatre | Arthur Miller's "The Crucible" is about the 1692 Salem Witch Hunts as an allegory to the 1950's McCarthyism. Both of these major historical events share common elements of scapegoating, sensationalism, and public fear that relate to numerous current events. The projection design used newspaper articles, historical drawings, propaganda posters, and original video clips to draw parallels between the Red Scare, Witch Trials, extremist cults, and modern day political prisoners. The sound design significantly enhanced the tone of the projections. Additionally, the style of the sound design binded the past with the present to create the world of The Crucible. | Theatre      | Stephanie French     |
| 17-28    | Alison Wieder, Tyrell Clark, Samuel Kashefska | Projection Design for The Laramie Project                               | Stage II produced The Laramie Project, a docudrama style play based on a compilation of interviews conducted by Tectonic Theatre Project following the murder of Matthew Shepard. Our projections design created a digital backdrop to help create the numerous locations in which this play and the interviews are set. We used actual pictures of Matthew and his hometown, but we also created original images and videos to turn ESU's black box theatre into the town of Laramie. This important performance allowed students to dive head-first into projections work, which is a new element found in many up-and-coming productions.  | Theatre      | Christopher Domanski |

## 3:30–4:30 P.M., SPECIAL PRESENTATION

| Location  | Presenter(s)  | Title                            | Abstract   | Department                         | Adviser    |
|-----------|---|----------------------------------|--|------------------------------------|------------|
| 1st floor | Carmen Cespedes, Danielle Cloward, Trevor Hunt, Kathryn Kolar, Amy Kucheruck-Keller, Thomas Leeds, Migdalia Lira, Travis Ressler, Kathleen Siekonic | Journal of Student Teacher Forum | <p>Practicing secondary content student teachers visited PSED 421/521, Seminar in Secondary Education II: Teaching Secondary Students in Diverse, Inclusive Classrooms, on March 8, 2018. This is a seminal workshop in the Seminar II curriculum. Adolescent Psychology students who are preparing to be middle level content teachers and their professor Dr. Maryellen Mross, joined the forum</p> <p>Following the Student Teacher Forum, each Seminar II student and Adolescent Psychology student will writes a reflective article on his/her experience during the STF. Our graduate students curate the articles and create a journal featuring student articles and photos. We plan to distribute journals.</p> | Professional & Secondary Education | Jan Gebert |

## 2-4 P.M., SIGMA XI RESEARCH FORUM, NIEDBALA AUDITORIUM

| Sequence | Presenter(s)                   | Title  | Abstract  | Department          | Adviser            |
|----------|--------------------------------|--|---|---------------------|--------------------|
| 1        | Justin Clarke                  | The Northern Waterthrush: Analyzing the Distribution and Abundance of a Secretive Songbird in Pennsylvania   | Parkesia noveboracensis (Northern Waterthrush) showed a drastic decline between the first and second Pennsylvania Breeding Bird Atlas (PBBA). This is one of the largest declines of any PA breeding species in the ~20 years between the two atlases. I conducted avian point counts through Northampton, Monroe, and Pike counties in Pennsylvania for singing males. At each site I conducted vegetation surveys and collected any relevant natural history data with an emphasis on reproductive behavior. This data will be used to compared previously occupied blocks with currently occupied blocks to determine the reason for this decline.   | Biological Sciences | Dr. Terry Master   |
| 2        | Jonathan Adamski               | Quantifying the Effects of Habitat Disturbance on the Timber Rattlesnake, Crotalus horridus, in Pennsylvania | This project examines the relationship between anthropogenic habitat disturbance and population levels in Crotalus horridus, the timber rattlesnake. This ongoing study relies on population and habitat information collected by the Pennsylvania Fish and Boat Commission (PFBC) during a previous study known as the Timber Rattlesnake Assessment Project (TRAP). Geographic information science (GIS) is being utilized to measure features such as canopy, trails, and roads through C. horridus habitat. Using the information from TRAP in conjunction with GIS technology is producing quantitative results that are being analyzed to construct a clear picture of how human interactions affect C. horridus populations. | Biological Sciences | Dr. Thomas LaDuke  |
| 3        | Alyssa Fitzgerald, Amanda Capp | Cross Cultural Comparison of Compassion  | Compassion of other lives' scale was given to 1,602 subjects. Western Culture was collected from a northeastern United States university while the Latin-American data was collected from 10 South American countries. Turkish data was also collected. An ANOVA test was conducted to determine if there were significant differences at ( $p=.05$ ) between the data collected from the United States, Latin America, and Turkey. Findings concluded significant differences at ( $p=.00$ ) for each subset; empathy ( $F(2,1647) = 1494.72$ ) and behavior alleviating suffering scores ( $F(2,1647) = 2460.42$ ) as well as the total level of compassion ( $F(2,1647) = 2303.31$ ).  | Psychology          | Dr. Jyh-Hann Chang |
| 4        | Brina Marcellus, Will K. Jones | Implications of Stressors contributing to changes in methylation of microRNA and microDNA in sperm           | Epigenetic inheritance expressed in the offspring can be related to changes in methylation of microDNA and microRNA. Stressors in the male's lifetime can have adverse affects leading to behavioral and other mental health issues passed on to their offspring. This research incorporates a series of interviews and testimonials to provide the causative stress factors that may contribute to the micro DNA and micro RNA mutation. There are significant challenges of studying epigenetics and sperm proclivity. Nonetheless, this approach will serve as an analysis for the multiple implications of epigenetic paternal stress and serve to evaluate protocol for future research.                                       | Biological Sciences | Dr. Joshua Loomis  |

## SIGMA XI RESEARCH FORUM (CONTINUED)

| Sequence | Presenter(s)   | Title   | Abstract  | Department                        | Adviser                                 |
|----------|--|---|---|-----------------------------------|---|
| 5        | Clay Steber  | Prevalence of Babesia odocoilei Infections in Pennsylvania Elk  | Babesia odocoilei is a tick-borne protozoal parasite that infects erythrocytes of cervids. This study aims to examine the prevalence of Babesia odocoilei infections in harvested Pennsylvania elk. 190 blood samples were submitted by the PA Game Commission. Samples were analyzed using a nested PCR reaction specific for Babesia odocoilei and positive PCR samples were confirmed with DNA sequencing. Results indicated 26 percent of elk were infected with Babesia odocoilei. Infection can cause hemolytic anemia and mortality within elk populations. Due to the isolated nature of PA elk populations they are at high risk for population decline.   | Biological Sciences               | Nicole Chinnici                         |
| 6        | Kristine Bentkowski, Nicole Chinnici, Kacie Chern                              | Prevalence of Borrelia burgdorferi, Babesia microti and Bartonella spp. in questing adult Ixodes scapularis (Blacklegged ticks) collected from Milford Borough Pennsylvania | In the United States, humans and animals are at increasing risk for acquiring tick borne diseases (TBDs), specifically in the Northeast and Mid-west. The purpose of this project is to determine pathogen prevalence of Borrelia burgdorferi, Babesia microti and Bartonella spp., within sampled locations of Milford Borough, Pike County PA. Pathogen prevalence and co-infection was determined sampling 100 adult blacklegged ticks (Ixodes scapularis) from 3 sites. An overall 45% of ticks tested positive for at least one pathogen and 3% were co-infected with B. burgdorferi and B. microti.   | Biological Sciences               | Nicole Chinnici                         |
| 7        | Ariel A. Tucci, Anthony C. Savercool, Christopher M. Galanti, Peyton Robicheau | Logistical Challenges When Measuring Attitudes  | "Self-reporting measures of attitudes are limited. Participants lie, and participants have to be consciously aware of their attitudes to report them. While attempting to create a protocol for measuring attitudes that do not require self-reporting and is not influenced by the effects of social desirability, we found a pattern of logistical challenges that interfere with a measure's validity. These methodological challenges and their impact will be identified along with methods for mitigating their effects."   | Psychology                        | Dr. Bonnie A. Green                     |
| 8        | Elizabeth Barcellona, Samantha Pelletier, Nicole Chinnici                      | The Potential for Dermacentor albipictus to Pose a Future Risk on Pennsylvania Elk: A Baseline Study  | Overfeeding by Dermacentor albipictus ticks can result in severe anemia and high mortality rates in hosts. While moose are the most common host for these ticks, elk are also susceptible to infestation. Recently, Dermacentor albipictus ticks have been discovered in Pennsylvania putting our small elk population at risk for an epizootic outbreak. The objective of this study is to determine the average tick load on Pennsylvania elk as well as identify percentage of tick species per elk and throughout the population. Results of this study will create a baseline to monitor Dermacentor albipictus populations over time.   | Northeast Wildlife DNA Laboratory | Nicole Chinnici                         |
| 9        | Danielle Swingle   | The Characterization of The Microbiome of American Dog and Deer Tick Mouthparts   | American dog and deer ticks are medically important vectors, which carry pathogenic bacteria. Although extensive research has been conducted on the microbiome of whole ticks, there is little information to be found about the microbiome of the mouthparts alone. Additionally, many studies focus only on pathogenic bacteria. This study characterizes the nonpathogenic microbiome of American dog and deer tick capitulum collected in East Stroudsburg. The bacterial genera identified include Paenibacillus, Psuedomonas, and Curtobacterium. This data can aid in research concerning environmental control of ticks, prediction of emerging tick-borne pathogens, and the specific interactions between ticks and the bacteria they harbor. | Biological Sciences               | Dr. Joshua Loomis, Nicole Chinnici      |
|          | Jessica Burns  | Habitat preferences and species distribution models for bats in the Delaware Water Gap National Recreation Area   | The massive mortality of bats has made their conservation a critical concern. We have recorded echolocation calls along car-based mobile transects in the Delaware Water Gap National Recreation Area (DEWA) since 2012. These calls are identified to species using SonoBat 3 and then mapped along the transect route using GIS and the program TransectPro. This study assesses habitat preferences and develops species distribution models using vegetation data layers in GIS and a MaxEnt model in R. We found significant habitat preferences several species, which are consistent with known preferences of these species.  | Biological Sciences               | Dr. Howard Whidden, Dr. Emily Rollinson |
|          | Brina Marcellus, Will K. Jones   | The epigenetics effects of paternal stressors on the methylation of the microRNA and microDNA   | Although there are limited empirical data, recent studies have shown more evidence to support epigenetic gene expression altered by paternal stress affecting offspring. Lifelong stress in the male's lifetime can have adverse effects leading to behavioral and other mental health issues passed on to their offspring. This research incorporates a series of interviews and testimonials to provide the causative stress factors that may contribute to the micro DNA and micro RNA mutation. There are significant challenges of studying epigenetics and sperm proclivity. Nonetheless, this approach will serve as an analysis for the multiple implications of epigenetic paternal stress.  | Biological Sciences               | Dr. Joshua Loomis                       |

## SIGMA XI RESEARCH FORUM (CONTINUED)

| Sequence | Presenter(s)  | Title  | Abstract   | Department          | Adviser              |
|----------|---|--|--|---------------------|----------------------|
|          | Alyssa Fitzgerald, Dominic Brown, Lisa Cerenov, Amanda Capp | Compassion in Nursing Students   | The Compassion of Other Lives' Scale was given to 186 nursing candidates from a Pennsylvania state university in two cohorts. Cohort one took place in 2015 and cohort two in 2017. Compassion levels were compared between three education levels. Results showed a significant decrease in compassion levels from sophomore to senior year. Initial one way ANOVA indicated significance with the empathy subscale $F = 5.314$ ; $p < .066$ and total compassion $F = 3.89$ ; $p < .022$ . It was nonsignificant with behavior to alleviate suffering at $F = 1.67$ ; $p < .189$ .   | Psychology          | Dr. Jyhann Chang     |
|          | Samantha Miller, Conrad Richman                             | Analysis of Macro and Micronutrients in Vineyard Petioles and Soils  | A healthy vineyard involves promotion of sufficient nutrients in grapevines and soils. Maintaining proper nutrient levels reduces disease and bolsters fruit to ripen as quickly as possible. The goal of this project is to develop and validate two methods for nutrient analysis to make available to regional wineries. The analytes of interest are macro and micronutrients that are stored in grapevine petioles and available to the plants in the soil they grow in. Nutrients in higher abundance will be quantified using flame atomic absorption spectroscopy and nutrients in lower abundance will be quantified using graphite furnace atomic absorption spectroscopy. | Chemistry           | Dr. Richard S. Kelly |
|          | Joseph Schell   | Using Occupancy Modeling to Document the Presence of Eastern Small-footed Bats ( <i>Myotis leibii</i> ) in the Delaware Water Gap National Recreation Area | Eastern small-footed bats have traditionally been considered one of the rarest species in northeastern North America. While attempting to document the presence of eastern small-footed bats, I compared three survey techniques: active acoustic monitoring, stationary acoustic monitoring, and visual roost search surveys. I used occupancy modeling to compare these techniques. I selected five research sites of suitable habitat in the Delaware Water Gap National Recreation Area in eastern Pennsylvania and western New Jersey. Eastern small-footed bats were detected at three of the five sites.  | Biological Sciences | Dr. Howard Whidden   |

## 12:30–4 P.M., ORAL PRESENTATIONS

| Location | Time       | Presenter(s)    | Title  | Abstract   | Department       | Adviser               |
|----------|------------|-----------------|--|--|------------------|-----------------------|
| 135      | 12:30 p.m. | Melissa Vicenty | The Leadership of Fidel Castro in Cuba                       | Fidel Castro, president of Cuba from the beginning of the Cuban Revolution in 1959 until 2008, was revered for his leadership style on the island. As Castro went through different phases, so did the country. He gained the support of the people of Cuba easily by using his utilitarian point of view. This oral presentation will discuss Castro's vision for Cuba and how it changed throughout his almost half-century leadership. This paper is a direct result of research conducted before, during and after my travel to Cuba with ESU in May 2017.   | Modern Languages | Dr. Annie Mendoza     |
| 135      | 12:30 p.m. | Taina Moore     | The Contradictions or Cuba                                   | There are many perceptions of Cuba. As an outsider, especially an American, Cuba is portrayed to not value the rights of their citizens and capitalize on the power the government has over its citizens. However, one difference that Cuba and the United States is the fact that Cuba provides health care for every citizen. People ask how this works in Cuba, and an answer to that is isolation. Their health care system works for them because of their culture, politics and the U.S Embargo. My paper discusses the development of a national health care system in Cuba.  | Modern Languages | Dr. Susanna Maiztegui |
| 135      | 12:30 p.m. | Thomas Stocker  | José Martí and Fidel Castro: Mirrors of Independence in Cuba | "Cuba has always been fighting for its freedom." These words by renowned Cuban author Miguel Barnet perfectly describe the history of Cuban politics for the last two centuries. José Martí and Fidel Castro are two of the most well-known leaders of Cuban independence. Although these two led their respective drives for independence almost 60 years apart, the similarities of their causes are striking. To say Castro was influenced by Martí is an understatement, as sociologists and historians alike have found that Castro studied Martí extremely closely and seemed to have a desire to emulate his philosophy and ideals. | Modern Languages | Dr. Annie Mendoza     |



## 1–2 P.M., ORAL PRESENTATIONS

| Location | Time      | Presenter(s)  | Title   | Abstract   | Department                         | Adviser            |
|----------|-----------|---|---|--|------------------------------------|--------------------|
| 135      | 1 p.m.    | Abigail Onufer,<br>Zachary Buss,<br>Deveney Young                         | "Alpha-Gal Allergy to Red Meat Induced by Lone Star Tick ( <i>Amblyomma americanum</i> )" | A tick-acquired red meat allergy may not be widely known; however, it is a growing problem worldwide. $\alpha$ -gal (Galactose- $\alpha$ -1,3-galactose) is linked to Lone Star tick bites and red meat antigens. The goal of this study is to characterize immunological cross-reactivity between tick antigens and different types of red meat (beef, pork, lamb, and deer meat) antigens. Tick salivary glands were removed then homogenized. Red meat and salivary gland proteins were separated by SDS-PAGE then analyzed for $\alpha$ -gal epitope expression by Western Blots. ELISA will be used to study the factors that affect the antigenicity of $\alpha$ -gal in red meat. | Biotechnology                      | Dr. Abdalla Aldras |
| 135      | 1:15 p.m. | Joseph Ryan,<br>William Luttmann  | PedometerTest   | I have been working on a computer science internship using android programming. I am completing this internship with the help of Professor Haklin Kimm and student alumni Will Luttmann. I am currently making a pedometer application for android phones using android studio and coding the app in Java so it can run on an android phone. The phone is an older android phone and runs with an Android 4.4 operating system also known as KitKat. Though still in progress, I hope to show how the app works and what it does during the research symposium.  | Computer Science                   | Dr. Haklin Kimm    |
| 135      | 1:30 p.m. | Jessica Bruch,<br>Kathy Post,<br>Michelle Schoeneberger,<br>Michelle Cook | Learning Analytics  | We are four ESU doctoral students currently in our second year second semester. We are also a part of a research team with Dr. Lare and ESU doctoral graduate Greg Cottrell. The research focuses on how learning analytics and the "Thinking App," developed by Dr. Lare and Dr. Cottrell, impact teaching and learning. We will present how information gathered can provide teachers and students with information to help drive and inform instruction. We will be presenting what Learning Analytics is, research that is currently taking place, and the lens we will be viewing it through in our own dissertations.  | Professional & Secondary Education | Dr. Douglas Lare   |

## 2–3 P.M., ORAL PRESENTATIONS

| Location | Time      | Presenter(s)     | Title   | Abstract   | Department            | Adviser               |
|----------|-----------|------------------|---|--|-----------------------|-----------------------|
| 135      | 2 p.m.    | James McMahon    | Investigations of shear/compressional waves in various liquid/solids. | Using ultrasonic waves, water will be investigated in order to see if it is able to support shear waves. Preceding materials have been studied and under normal conditions it is not possible for a liquid such as water to support shear waves since the molecules need to be somehow attached to one another. Using techniques previously used to find waves speeds of several other materials a conclusion will be drawn on whether or not it is possible for water to support a shear wave when cooled or when it has some mixture added to it (i.e. cornstarch/water, Jell-O).  | Physics               | Dr. John Elwood       |
| 144      | 2 p.m.    | Jonathan Mostafa | Sports Sponsorship and effects on Consumers                           | NASCAR has grown to one of America's most watched forms of entertainment. From moon-shining to being one of the flashiest sports, NASCAR has taken over as one of the go to marketing strategies for companies wanting to get their name out to the public. In this paper, I look at NASCAR from the perspective of communication theories. Specifically, the theory of agenda setting helps to explain the success of NASCAR from the beginning through viewing marketing strategies and how they have progressed over time.  | Communication Studies | Dr. Andrea McClanahan |
| 135      | 2:15 p.m. | Leah Bergman     | Substrate Preference of Summer Flounder in the Barnegat Bay           | The substrate preference of Summer Flounder, <i>Paralichthys dentatus</i> , is observed in the Barnegat Bay, New Jersey. Previous studies about Summer Flounder in the Barnegat Bay claimed that they prefer sand, but only collected data from mud substrate and had little fishing success. Sampling for this study occurred in two primary locations, one with sand substrate and one with mud. Data was collected on the physical and chemical composition of the water and the morphometrics of the fish caught. This study established that there is no substrate preference for this population of Summer Flounder using a Chi-square analysis. | Marine Science        | Dr. James Hunt        |

## 2–3 P.M., ORAL PRESENTATIONS (CONTINUED)

| Location | Time      | Presenter(s)        | Title   | Abstract  | Department       | Adviser          |
|----------|-----------|---------------------|---|---|------------------|------------------|
| 144      | 2:15 p.m. | Faith C. Robinson   | The Effects of Natural Grass vs. Artificial Turf Among Female Collegiate Soccer Players                     | Artificial turf is the most commonly used playing surface throughout various sports because of its advantage (e.g., easy for maintenance). However, artificial turf playing surface has caused an increase in injuries among athletes of all levels. Therefore, the current research addresses the amount of injuries they've endured while playing on artificial turf and natural grass. A questionnaire involving factors (e.g., amount of injuries, locations) will be distributed to Division II female soccer players. This research will support in comparison to natural grass, artificial turf has in fact increased the amount of injuries on athletes.  | Sport Management | Dr. Minkyo Lee   |
| 135      | 2:30 p.m. | Elaine L. Letki     | The Skillful Triangulation of French Military Religious and Economic Strategies: 1676-1763                  | Previous to the Seven Years War, American colonists built frontier settlements on lands claimed by both Native Americans and French who prized it geographically as a lucrative source of furs. This presentation explores the unified French and Native American military, religious, and economic strategic triangulation against outpost communities. American colonists remained virtually defenseless against numerous violent raids, as separate colonial government organizations struggled with a lack of funding and an unorganized militia. Journals and personal correspondence detail invasions that led to a new economy in human trafficking.   | History          | Dr. Michael Gray |
| 144      | 2:30 p.m. | Megan Carroll       | Situational Influences on Athletic Burnout: An Examination of Moderating Role of Coach-Athlete Relationship | The current study aimed to investigate how stress-related situational factors (e.g., injury, intensity of training) influence burnout in college athletes as a moderating function of coach-athlete relationship. The self-administered surveys were distributed to 40 student-athletes. A moderated multiple regression analysis would reveal that the relationships between coach and athlete moderate the effect of situational factors on burnout. The expected findings would be beneficial to both coach and athlete when trying to reduce symptoms of burnout in collegiate athletes.  | Sport Management | Dr. Minkyo Lee   |
| 135      | 2:45 p.m. | Melissa M Schneider | Exploring the Computer Science Gender Gap   | External factors such as the competitive job market, societal norms, and insufficient representation in certain fields can prevent someone from succeeding. Computer scientists are often thought of as brilliant, introverted men wearing hoodies and working in isolation. This stereotype combined with an enduring history of being a field dominated by men and a lack of basic knowledge about the field can discourage women from pursuing careers in technology regardless of their potential to succeed. Highlighting successful women in computing and increasing support for women interested in computer science are key strategies that can help shrink the gender gap.  | English          | Dr. Erica Dymond |
| 144      | 2:45 p.m. | Eric Bohem          | Specialization Rationalization: A 3 Factor Analysis of College Baseball Players                             | According to the literature, specialization poses health, psychological, and social concerns. However, specialization in sport has become a popular model in order to be a successful athlete. The current study aims to provide justification for this practice for future youth athletes by investigating how those who generalized vs. those who specialized will vary in performance, burnout, and life satisfaction. The expected findings would indicate that generalized players will have higher mean scores of life satisfaction, whereas specialized players will report higher burnout and higher performance. The implications based on the findings of the study promote generalization over specialization in baseball. | Sport Management | Dr. Minkyo Lee   |

## 3–4 P.M., ORAL PRESENTATIONS

| Location | Time      | Presenter(s)  | Title  | Abstract   | Department                         | Adviser                   |
|----------|-----------|---|--|--|------------------------------------|---------------------------|
| 135      | 3 p.m.    | Kelly Lydon,<br>Jarred Rose,<br>Ryan Samuels  | The Knowledge of Heart Disease Amongst College-aged Males and Females  | In 2012, it was estimated that 17.5 million people died from Heart Disease (HD), caused congenitally, genetically, or by lifestyle habits. It is not likely for Americans to learn of the risk factors of HD until they are already present. By conducting a survey on a college campus, the researchers aimed to explore what percentage of college students have relatives that have suffered from HD, as well as their knowledge of HD. We hypothesized that at least 25% of students will have relatives with HD, and less than 20% will be knowledgeable on HD.   | Exercise Science                   | Professor Connor Saker    |
| 136      | 3 p.m.    | Emma Skilton  | The Evolution of Deaf Theatre  | My work could be considered the first amalgamation of information about deaf theater. There is a current deficit of information readily available on the topic of deaf artistry, especially in regards to theatre, deaf culture, deaf society, and language used in staged productions. After intensive research, I have synthesized and organized information from a variety of sources which provide a distinct timeline of the deaf theatre movement. With my research, I hope to educate others on the importance of deaf culture and prove that deafness is not a disability unless we treat it as such.  | Communication Sciences & Disorders | Dr. Susan Dillmuth-Miller |
| 144      | 3 p.m.    | Elijah Brown,<br>Shelby Jimcosky,<br>Sabrina Regan,<br>Michael Chung,<br>Sarah Pomaes | Islamophobia and Racism in America.  | This panel presentation will explore Erik Love's book titled Islamophobia and Racism in America. The discussion will include the book's primary message and how the author makes his case that Islamophobia and Racism exists in America. The panelist will discuss Islam, racism, religious freedom and the First Amendment in the United States and critically evaluate the work with regard to its strengths and weaknesses.  | Political Science                  | Dr. Kimberly S. Adams     |
| 135      | 3:15 p.m. | Kennedy Sheeley   | A State-Sponsored Crime: Assessing the Criminality of the American Healthcare System                                       | In the realm of criminology, the United States health care system is not generally regarded as criminal. However, different factors contribute to the possibility that the U.S. government is complicit in supporting an inadequate health care system that fundamentally harms its constituents. This paper explores the possibility that the United States is committing a crime by having an inadequate system that causes demonstrable harm to its citizens by using methods inspired by critical criminology. The social control theory and the humanistic perspective of crime are also considered.  | Sociology                          | Dr. Ray Muller            |
| 136      | 3:15 p.m. | Jessica Miller,<br>Dana Yanvary,<br>Aden Tully  | Alcohol Consumption vs. Exercise Frequency   | In recent years, a handful of studies have provided new evidence suggesting potential benefits from moderate alcohol consumption, inviting the need for yet more comprehensive research. The majority of existing publications pertaining to this topic focus only on elderly folk, disease patients, or the general public and exclude individuals belonging to the 18-25 age-range, which again coincides with the highest levels of alcohol consumption. Therefore, the purpose of the current investigation is to determine if the positive correlation commonly seen between moderate alcohol consumption and physical activity extends to a sample size consisting of college-aged subjects. | Exercise Science                   | Dr. Emily Sauers          |
| 135      | 3:30 p.m. | Chris Esposito,<br>PJ Zwack,<br>Jon Hummel,<br>Christian Silva                        | The Perceived Effect and Usage of Creatine among Division 2 College Athletes Compared to Recreationally Active Individuals | Creatine is a natural substance that the body makes. Within recent years, Creatine has been made synthetically and has been offered up as a potential supplement to be used as an ergogenic aid. It has been proven to help muscle cells produce more energy, improve high intensity exercise performance and speed up muscle growth. We want to gauge individuals on the matter of creatine supplementation to see if they are taking it already, or know of any of the potential benefits of creatine. We are comparing NCAA Division two athletes and recreationally active individuals about Creatine supplementation in general.  | Exercise Science                   | Professor Connor Saker    |
| 144      | 3:30 p.m. | Edward Ingenito, Steven Montgomery,<br>George Searfoss,<br>Justin Watts               | The Revolving Door of Political Lobbying   | This panel presentation will explore Timothy P. LaPira and Herschel F. Thomas's book titled Revolving Door Lobbying: Public Service, Private Influence, and the Unequal Representation of Interests. The discussion will include the book's primary message and how the author makes his case for how lobbying has become a revolving door in Washington that has led to unequal representation of interests. The panelists will also discuss the influence that powerful special interests groups/lobbyist have on the legislative process and critically evaluate the work with regard to its strengths and weaknesses.  | Political Science                  | Dr. Kimberly S. Adams     |

## **THANK YOU FOR YOUR SUPPORT**

---

ESU's Sigma Xi

Luis A. Vidal, Instructional Resources

Office of the Provost

Office of Conference Services

Office of Graduate and Extended Studies

Office of University Relations

## **COMMITTEE MEMBERS**

---

Marianne Cutler, co-chair

Kevin Quintero, co-chair

Margaret Ball

Caryn Fogel

Sarah Goodrich

Mary Tod Gray

Carrie Maloney

Robert Marmelstein

Maryellen Mross

Douglas Nay

Cem Zeytinoglu



**Notice of Non-Discrimination:** East Stroudsburg University of Pennsylvania is committed to equal opportunity for its students, employees and applicants. The university is committed to providing equal educational and employment rights to all persons without regard to race, color, sex, religion, national origin, age, disability, sexual orientation, gender identity or veteran's status. Each member of the university community has a right to study and work in an environment free from any form of racial, ethnic, and sexual discrimination including sexual harassment, sexual violence and sexual assault. (Further information, including contact information, can be found on the university's website at [esu.edu/titleix/](http://esu.edu/titleix/).) In accordance with federal and state laws, the university will not tolerate discrimination.

This policy is placed in this document in accordance with state and federal laws including Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and the Civil Rights Act of 1991 as well as all applicable federal and state executive orders.