

SCHOLAR Day

Student Celebration Honoring
Our Latest Academic Research

Tuesday, April 25, 2017

Schedule At A Glance

<p>9 – 9:45 a.m.</p> <p>10 – 11 a.m.</p> <p>11:30 a.m. – 12:30 p.m.</p> <p>12:30 – 1:30 p.m.</p> <p>1:30 – 2:30 p.m.</p> <p>2:30 – 3:15 p.m.</p> <p>2:30 – 3:15 p.m.</p> <p>3:30 – 4:30 p.m.</p>	<p>Poster Session I and Continental Breakfast Giese Center for the Performing Arts</p> <p>Presentation Session I Engineering and Business Building, Kolenbrander-Harter Information Center and Tolerton and Hood Hall</p> <p>Senior Recognition and Honors Convocation Timken Gymnasium, McPherson Academic and Athletic Complex</p> <p>Participant Lunch Tented area in the Academic Mall (<i>rain or shine</i>)</p> <p>Presentation Session II Engineering and Business Building, Kolenbrander-Harter Information Center and Tolerton and Hood Hall</p> <p>Break and Refreshments Bracy Hall</p> <p>Poster Session II Bracy Hall</p> <p>Presentation Session III Engineering and Business Building, Kolenbrander-Harter Information Center and Tolerton and Hood Hall</p>
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BUILDING KEY

<ol style="list-style-type: none"> 1. Haristown Street Townhouses 1a. Orwick Court 1b. Adams Court 1c. Grove Court 2. Montgomery Field 3. Gulling Training Center 4. Whitehill Tennis Courts 5. Shields Residence Hall 6. Bica-Ross Residence Hall 7. 532 - 564 Vincent St. 8. Weber House 9. 330 - 254 Vincent St. 10. 205 Simpson St. 11. Black Cultural Center 12. Alpha Chi Omega Sorority House 13. 355 Simpson St. 14. Campus Security 15. 431 Simpson St. 16. Hoover-Price Campus Center 17. McMaster Residence Hall 18. Ketcham Residence Hall 19. Elliott Residence Hall 20. Engineering and Business Building 21. Tolerton and Hood Hall 22. Kolenbrander-Harter Information Center (Library) 23. Chapman Hall 24. King Residence Hall 25. Dewald Chapel 26. Mount Union Stadium 27. Miller Residence Hall 28. McPherson Academic and Athletic Complex (The MAAC) 28a. Peterson Field House 28b. Timken Physical Education Building 28c. McPherson Center for Health and Well-Being 	<ol style="list-style-type: none"> 29. McCreedy Residence Hall 30. Cunningham Residence Hall 31. Beechly Hall 32. van den Eynden Hall 33. Structural and Geotechnical Engineering and Projects Lab (SAGEP Lab) 34. Keener House 35. Hoiler-Peterson Residence Hall 36. Callahan Hall 37. Bracy Hall of Science 38. Clarke Astronomical Observatory 39. Gartner-Welchome Center 40. Alpha Xi Delta Sorority House 41. Alpha Delta Pi Sorority House 42. Giese Center for the Performing Arts 42a. Brush Performance Hall 42b. Otto Art Gallery 	<ol style="list-style-type: none"> 42c. Cope Music Hall (Presser Recital Hall) 43. William H. Eells Art Center 44. Brown Village 44a. Jae Manor 44b. Keller Manor 44c. Clutter Manor 45. Perry F. King Guest House 46. Sigma Nu Fraternity House 47. Alpha Tau Omega Fraternity House 48. Delta Sigma Tau Sorority House 49. Fred J. Haupt President's House 50. Sigma Alpha Epsilon Fraternity House 51. Phi Kappa Tau Fraternity House 52. Union Avenue Townhouses
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Formal Presentation Abstracts

Danielle Augustin (Exercise Science)

Faculty Sponsor: Dr. Nathan Saunders, Department of Human Performance and Sport Business

10 a.m., Tolerton and Hood Hall 201

Title: *The Effects of a Downhill Running Bout on Endurance Trained Runners vs Sprint Trained Runners*

Abstract: Several different types of runners utilize downhill running (DHR) for training purposes. Sprinters often utilize DHR which allows them to reach faster speeds in training in the hope that they can then translate those faster speeds into competition over time. Endurance runners often utilize DHR in preparation for ultra-marathons, which consist of extended periods of extreme uphill and downhill slopes. Before using DHR as a training method however, runners and coaches should be aware that DHR can be an extremely muscle damaging type of exercise. This muscle damage can cause severe muscle soreness and inflammation in the days following and can in turn effect performance. This research seeks to investigate if there is a difference in how each of these two running populations respond, recover, and perform in the two days after a 30-minute DHR bout at 55% of their maximal running effort on a -10% grade. These two types of runners have been hypothesized to have different responses to DHR due to their unique training methods and muscle fiber composition. The measures of heart rate, stride length, stride frequency, maximum electrical output of the quadriceps, rate of perceived exertion, and soreness were all measured during performance in the two days post-DHR. Knowledge of the response that certain types of runners have to DHR and other similar muscle damaging exercise will allow for adequate practice and competition planning by athletes and coaches to ensure peak performance and to prevent injury.



Allison Baird (Nursing)

Professor Betty Allen, Department of Nursing

4:10 p.m., Engineering and Business Building 206

Title: *Warning: Norovirus lurking here*

Abstract: Where have your hands been today? Bacteria and viruses lurks in student's door rooms, public restrooms, and even your family's household. They don't show up with big signs but they leave an impact on the body in a big way. According to the CDC, nearly 21 million acute cases of norovirus incidences happen every year in the United States. But is norovirus really a big issue for YOU? Yes! Norovirus is the leading cause of gastroenteritis worldwide! We encountered norovirus firsthand this year. The purpose of this presentation is to expose norovirus and empower you to prevent your chances in encountering it. We know the warning signs and we can help prepare you to fight Noro if you meet it.



Abigail Bartoszewicz (Communication)

Dr. Malynnda Johnson, Department of Communication

3:50 p.m., Engineering and Business Building 206

Title: *Bullying the Gay Community: Giving Society A Taste of the Rainbow*

Abstract: The purpose of this study is to educate and understand the effects that negative language and bullying have on the gay community. The significance of this study is to raise awareness for bullying the gay community along with finding ways to prevent this problem from continuing to occur. In this study I performed a qualitative method by first conducting voice recorded interviews. These participants' ages were taken of those who were 18 and older. This allowed for a wide range of responses as well as a mature selection of people who felt more confident in their sexual orientation. These interviews allowed me to receive a personal outlook on their opinions on the subject of bullying and negative language specifically. I interviewed 16 participants and from this process I was able to narrow my research into specific topics to use for this documentary. Then I selected one narrator that would explain my research as well as four subjects that would present their stories and opinions on the selected topics. As they discuss and present their stories, there are also videos and photos from their past and present lives that are included. The findings of this research unveil the shocking reality of the major effects that negative language and bullying have on gay community. No matter whom people desire to love at the end of the day we should treat one another as we would want to be treated. Not one person on this earth is the same so we should not ridicule each other for our differences. The change begins with education. Open your hearts and minds to this problem that should no longer go unnoticed. Here are their voices and their stories.



Poster Presentations

Poster Session II | 2:30-3:15 p.m. | Bracy Hall

Erica DeAngelo (Physician Assistant Studies)

Professor Vanessa Worley, Department of Physician Assistant Studies

Andrew Decker (Biology)

Dr. Charles McLaugherty, Department of Biology

Title: *Mycoremediation of Crude Oil Contaminated Soil by the White-Rot Fungi *Pleurotus ostreatus**

Ryan DeBene (Physician Assistant Studies)

Professor Vanessa Worley, Department of Physician Assistant Studies

Title: *Are Pests Best? Examining the Use of Maggots in Treating Diabetic Foot Ulcers*

Ian Dilyard (Physics)

Dr. Bob Ekey, Department of Physics and Astronomy

Title: *The Dynamics of Bowling*

Peyton Kranz (Exercise Science)

Dr. Ronald Mendel, Department of Human Performance and Sport Business
Title: *The Effect of Swimmer's Posture on Core Strength in Collegiate Swimmers*

Megan Kurz (Chemistry)

Dr. Carolyn Reid, Department of Chemistry

Title: *Synthesis of Antioxidants to Improve Stroke Treatment*

Jacob Mamula (Exercise Science)

Jake Tremoulis (Exercise Science)

Dr. Ronald Mendel, Department of Human Performance and Sport Business

Title: *The Effects of Supplemental Fucoxanthin on Resting Energy Expenditure in Overweight/Obese, Nondiabetic, Premenopausal Women.*

Emily McConnell (Japanese and Writing)

Dr. Gwen Gray Schwartz, Department of Writing

Title: *Gender, Number & Singular They*

Jon Stingel (Mechanical Engineering)

Dr. Chad Korach, Department of Engineering

Title: *Environmental Degradation of Carbon Fiber Reinforced Composite Strength*

Joshua Thorne

(Sociology)

Dr. Lori Kumler, Department of Political Science and International Studies

Title: *The Emergence of Environmental Justice: Space, Race, and Health in the U.S. and Northeast Ohio*

Poster Presentations

Poster Session I | 9-9:45 a.m. | Giese Center for the Performing Arts

Courtney Berish (Biology)

Dr. Charles McClagherty, Department of Biology
Title: *Cyanobacteria Counts at Walborn Reservoir: Implications for Recreational Use*

Alexandra Colacino (Exercise Science)

Dr. Nathan Saunders, Department of Human Performance and Sport Business
Title: *Cross Sectional Analysis of Senior Fitness Testing*

Brittany Difiore (Exercise Science)**Rebecca Rector (Exercise Science)**

Dr. Ronald Mendel, Department of Human Performance and Sport Business
Title: *The Effects of Caffeine on Recovery in a Total Knee Replacement: A Retrospective Study*

Kaylee Krichbaum (Sociology)

Dr. Kathleen Piker-King, Department of Psychology, Neuroscience, and Human Development
Title: *Interning with a School-based Therapist*

Lauren Liegl (Physician Assistant Studies)

Professor Vanessa Worley, Department of Physician Assistant Studies
Title: *Put a Little Faith in the Human Papillomavirus Vaccination*

Samantha Meluch (Public Health)

Dr. Kathleen Piker-King, Department of Psychology, Neuroscience, and Human Development
Title: *Child Fatality Review in Stark County: Internship Experience at Stark County Health Department*

Uriel Iberra-Moreno (Exercise Science)**Abigail Matsushima (Exercise Science)****Kennady Miller (Exercise Science)**

Dr. Nathan Saunders, Department of Human Performance and Sport Business
Title: *Validity of Wireless Sensors for Assessing Senior Fitness Test Measures*

Andrew Paleno (Physician Assistant Studies)

Professor Vanessa Worley, Department of Physician Assistant Studies
Title: *Major Depressive Disorder: Is There an Association with Vitamin D Deficiency?*

Sabrina Salupo (Athletic Training)

Dr. Morgan Bagley, Department of Human Performance and Sport Business
Title: *Os trigonum Fracture*

Monica Sincel (Psychology)**Jessica Eicher (Psychology)****Janelle McDonald (Psychology)****Xya Taylor (Psychology)****McKenna Pierson (Early Childhood Education and Psychology)**

Dr. Kristine Turko, Department of Psychology, Neuroscience, and Human Development
Title: *Perspective Taking on Ambiguous Language with Computer Mediated Communication*

Steven Tracy (Exercise Science)**Angel Myers (Exercise Science)**

Dr. Katherine Clark, Department of Human Performance and Sport Business
Title: *Music's Influence on Power Output in Maximal Bench Press, Squat, and Wingate*

Brian Walker (Mechanical Engineering)

Dr. Joshua Gargac, Department of Engineering
Title: *Bone Core Generator*

Formal Presentation Abstracts

Chloe Bortmas (French)**Dr. Bertrand Landry, Department of Foreign Languages and Cultures**

1:30 p.m., Kolenbrander-Harter Information Center 013

Title: *A Generation in Need of Feminism: A Comparison of Feminism in France and the United States*

Abstract: Does the world really need feminism? In 2017, American women only make 80 cents per 1 USD, and hold only 19% of positions in political office. The same issues are true for other countries around the world such as France. French women make 26% less than men, and only hold 27% of positions in political office. In a society with such a negative connotation of feminism, is it even worth the fight? The goal of this research is to verify the necessity of feminism in the world today. The research addresses the challenges that women face in most aspects of life that men generally do not. This is done by looking at the history of women before and after they could vote in the United States and France. By comparing the United States and France, this research focuses on women's oppression, which includes stereotypes, the gender gap, and the way females are seen in society. This oppression comes from many different sources such as figures in the media. The research is supported by current data and surveys from American and French citizens. Two surveys were created via SurveyMonkey in English and French. One hundred Americans and 100 French citizens responded to the survey. The data suggested the unjust treatment of women that is still alive today. For individuals who are fighting the gender gap and as a global society, this research and presentation are vital to understanding the need for breaking the stereotypes placed on women and gender inequality.

**Robyn Brown (Communication)****Dr. Malynda Johnson, Department of Communication**

2:10 p.m., Tolerton and Hood Hall 100

Title: *Ask About Her Crossover, Not Her Pullover*

Abstract: Embedded in our culture today is the habitual belief that regardless of talent, a female athlete remains below a male athlete in the hierarchy of sport. Despite decades of social reform and significant strides women have made in achieving parity, this age old challenge of equality continues to remain an issue in present times. The following items examined include television media coverage, print coverage, social media, and verbal dialect analyzed by gender. Women may have attained equal rights in 1920, but the invisible lines drawn to construct gender disparity remain observable 96 years later. In a spin on the famous ESPN segment Outside the Lines, I ventured inside them, to talk with our athletes. Regardless of their gender, how would a male react to questions that were often directed to females? And in return how did females react to the same inquiry? Women may still have a long road ahead in receiving the equal respect they deserve. But it's time now to initiate the conversation and cover the athlete for their skill, worth ethic, and passion, not their gender.

**Meghan Byram (Physician Assistant Studies)****Professor Vanessa Worley, Department of Physician Assistant Studies**

2:10 p.m., Engineering and Business Building 203

Title: *Hidden Causes: Exploring Racism as a Factor in Negative Birth Outcomes*

Abstract: Why are African American women at higher risk for negative birth outcomes compared to their white counterparts? Adverse birth outcomes include preterm delivery, low birth weight, infant mortality, and more. Previously, economic status and behavioral factors were identified as reasons for this health disparity. However, clinicians and researchers noted that healthy, college-educated African American women with prenatal care were still having negative birth outcomes at alarming rates. This prompted healthcare providers to consider hidden causes. A systematic review of literature was performed to try to decode this mystery. This review focuses on studies that investigate exposure to racism as a potential link to these negative outcomes. The research also examines how racism, a social problem, can be intimately connected to a biological process. Ultimately the project investigates how to help African American women reduce this unfair and unjust risk. The pursuit of health equality is worth our effort and attention.



Formal Presentation Abstracts

Tatianna Carthorn (Interactive Media and Sport Business)
Dr. Ivory Lyons, Department of Religion and Philosophy
10 a.m., Tolerton and Hood Hall 100

Title: Praise Dancing and the Black Church

Abstract: The art of dance has the capability of bringing people together from diverse cultures, multiple generations and various backgrounds. At a young age the educational system has been teaching children dances such as the "Hokey Pokey" and "Ring Around the Rosy", to help children obtain information more efficiently and better their overall ability to learn. Dance is one of the most powerful forms of non-verbal communication that has been around for hundreds of years used over various disciplines of life. Modern dance forms such as, Hip-Hop, Tap, Praise Dance, contemporary and spiritual, all have their own personality. Among those recent forms Praise Dance is truly a multicultural form of art. From the time of slavery, the Black Church used dance to relay messages of hope, faith and a form of celebration among themselves with dance forms such as "Ring Shout". Within the Black church today dance forms such as creative, liturgical and, rhythmic praise dance still have the same purposes and convey the same message as it did since the very beginning. As the years move on the Black Church is looking to keep the tradition of Praise Dance but also stay connected to millennial generations.



Edward Cudjoe (Mechanical Engineering)
Josh Marchese (Mechanical Engineering)
Kenny Muhart (Mechanical Engineering)
Dr. Joshua Gargac, Department of Engineering
1:50 p.m., Tolerton and Hood Hall 100

Title: An Adaptable Interim Prosthetic Socket as an Alternative for Below-The-Knee Amputation Rehabilitation

Abstract: An interim prosthetic is necessary for proper rehabilitation after a transtibial or below-the-knee (BKA) amputation, but recent changes to Medicare reimbursement policies have created a barrier to their access. The overall goal of this project was to remove these barriers by creating an interim prosthetic that could be owned by rehab centers and then adjusted to fit individual patients. Specifically, this device must adjust to different residual limb sizes and localize pressures to tolerant areas. This project was completed following the engineering design process. At the onset, the current process for fitting an interim prosthetic was researched. Three adjustable socket concepts were generated, evaluated, and the best design was selected. A prototype was created, and its feasibility was tested. Sockets, molded from thermolyn europex, include medical bladders, rigid urethane foam pads to adjust to each residual limb, memory foam for height adjustment, and a polyethylene terephthalate strap for suspension. These sockets will be included in a kit supplied to rehab centers. Included in the kit are sockets, aluminum pylons, wooden prosthetic feet, and connectors attaching the components. More than 100,000 BKAs occur each year in the US. This number is expected to increase to 58,000 by 2030. These amputees will recover at one of the 1,200 inpatient rehabilitation facilities, potential customers for the prosthetic kits, in the US. The adjustable interim prosthetic kits shift the paradigm away from many patient-owned devices to one clinic-owned prosthetic that can be disassembled and reassembled to fit patients with residual limbs of varying sizes.



Formal Presentation Abstracts

Thomas Wines (Biology)
Peter Young (Mathematics)
Ian Paxton (Biochemistry)
Emily McConnell (Japanese and Writing)
Gaston C. Marian (Computer Science)
Dr. Jennifer Martin, Honors

10:40 a.m., Kolenbrander-Harter Information Center 013

Title: Interest, Influence, and Intersectionality: Freedom of Choice or Cultural Expectations?

Abstract: By disseminating a general survey and proctoring personal interviews with students, we seek to attain a clearer understanding of how undergraduate students' racial or gender identity may shape the kinds of pressures they feel by teachers, parents, and peers to pursue a specific field of study.



Formal Presentation Abstracts

Michaelea White (Education)
Luke Engle (Mathematics)
Dr. Ernest Pratt, Department of Education
 10:20 a.m., Tolerton and Hood Hall 201
Title: White Privilege

Abstract: Our presentation starts off with introducing the origin of the term 'White Privilege', and how big of a role Peggy McIntosh had in defining the term 'White Privilege'. To start off the presentation we showed a video of what normal everyday people believe white privilege is, showing comparisons between races, genders and cultures. Then we talk about the National SEED Project and its impact on education. We then define what the National SEED Project is--"The National SEED project is a peer led professional development program that creates conversational communities to drive personal organizational and societal change toward greater equity and diversity". SEED stands for Seeking Educational Equity and Diversity, to create a gender fair, multiculturally equitable, and globally informed education. We talked about how teachers can incorporate SEED into their curriculum by developing a more inclusive discussion based classroom, this gives students the opportunity to discuss their cultural background openly without judgement. As well researching the National SEED Project we also looked at personal accounts of people who have attended the conferences and their experiences there. Then we should statistics and facts related to white privilege, using those facts to lead discussion and giving audience opportunity to tell their experiences. To wrap up our presentation we opened up the room for any questions and discussion.



Brianna Whittaker (National Security and Foreign Intelligence Analysis)
Dr. Lori Kumler, Department of Political Science and International Studies
 2:10 p.m., Kolenbrander-Harter Information Center 013
Title: Incentivizing Presidential Debate Watch Events

Abstract: Given the intense political season of 2016, we wanted to investigate whether incentivizing debate watch events on campus would increase attendance at these events, and, furthermore, we wondered to what extent watching the debates would increase students' political efficacy and engagement. Specifically, we targeted Greek Life on campus and offered incentives for chapters with the highest attendance. The research conducted included a survey sent out to all Greek Life members examining whether students registered to vote, voted, participated in conversations about the election, and whether they felt an increased sense of political efficacy. Statistical analyses indicated that 47% of those who attended the debate watch events would be very unlikely or unlikely to have watched the debates on their own, showing that hosting debate watch events is of benefit to students. Furthermore, watching the debates was the strongest predictor of voting, registering to vote, and the amount of conversations students had regarding the election. Finally, follow up interviews with select students provided additional qualitative data. From these results we recommend that colleges and universities consider hosting debate watch events as one of many tools to promote student participation in the political process.



Formal Presentation Abstracts

Bridget Dennis (Political Science)
Dr. Lori Kumler, Department of Political Science and International Studies
 3:50 p.m., Kolenbrander-Harter Information Center 013
Title: Exploring Links Between Institutional Racism and Party Voting Patterns in Three Ohio Counties, 2008-2016: Influence of Racial Gaps in Home Ownership, Infant Mortality, and Education

Abstract: Institutional racism describes established, systematic racial inequalities in the races usually including disparities in measures such as levels of education, health, income, and housing. In this study, I have investigated how well institutional racism can predict the percentage of residents in three Ohio counties voting for the Democrat party by asking "to what extent does a county's dominant party in power have an association with the level of institutional racism in that county?". Based on the literature, I hypothesize that counties with higher democrat vote percentages will have a lower level of institutional racism (measured by home ownership, infant mortality rate, and education level). I have analyzed data from the United States Census Bureau for three counties in Ohio including Cuyahoga, Franklin and Hamilton from 2008 through 2016, analyzing the gap between Whites and nonWhites. I have explored this claim by doing a multiple regression analysis to determine the association, and found that for these three counties, my measures of institutional racism predicted 74% of the variance in voting for the Democrat party.



Luis Ventura Duran (Psychology)
Daniela Garcia (Psychology)
Michael Foster (Psychology)
Greg Best (Psychology)
Reilly Augustine (Psychology)
Dr. Tamara Daily, Department of Psychology, Neuroscience, and Human Development
 10:40 a.m., Engineering and Business Building 203
Title: Stress, Loneliness, Anxiety and Depression in College Students.

Abstract: First year domestic and international students face a great change when transitioning from high school to college. All students experience stressful situations that can have severe consequences such as developing anxiety and depression. In addition, both international and domestic students are vulnerable to loneliness. International students, however, face additional stressors such as acculturative stress and discrimination. Approximately 100 participants responded to an online survey containing 117 questions assessing stress, loneliness, anxiety and depression [SLAD]. It was predicted that international first year students would report greater levels of SLAD than domestic first year and non-first year domestic students, as well as non-first year international students.



Caitlin Fessler (Communication and Public Relations)
Dr. Malynda Johnson, Department of Communication
 10:20 a.m., Kolenbrander-Harter Information Center 013
Title: Don't Wanna Catch Them All: Educating Students about STIs on a Small Campus

Abstract: Sexually transmitted infections (STIs) affect one in four college-aged students. In my study I surveyed 96 University of Mount Union students about their sexual health behaviors, their views of STIs, and how they believe the university communications with students about the risks of contracting an STI. The two thirds of students surveyed have never been tested before for STIs and have negative connotations about contracting an infection. The data suggests that though Mount Union students engage in safe sex practices using a barrier method, they are not aware of how or where to get tested or if the university offers any resources. As a public relations major, it is important to create messages that encourage and educate healthy lifestyles to better the lives of the communities we live in.



Formal Presentation Abstracts

Kassandra Gibson (Japanese and Art)
Dr. Margo Miller, Department of Art

3:30 p.m., Engineering and Business Building 203

Title: The Process of Digital Animation: The Making of "Messenger"

Abstract: How is an animation made, and how is it done on a computer? For my Senior Cumulating Experience, I created an original short story and animation influenced by my time spent abroad in Japan. Japan has a beautiful culture that is rich with powerful stories, myths, and legends. Furthermore, the field of animation is constantly evolving with new techniques that help bring artists' visions to life. Throughout this presentation, you will be walked through the process taken to create "Messenger" along with the cultural origins that influenced it. This presentation will explore the process of creating concept art and storyboards, as well as the final process of producing the animation. There is large amount of work done before any frames are even drawn. You will be introduced to the lore and myths that form the background for this animation, and will explore a very real Shinto shrine in Kyoto, Japan, called Fushimi Inari.



Sarah Gonda (History and International Affairs and Diplomacy)
Dr. Theresa Davis, Department of History

1:50 p.m., Engineering and Business Building 203

Title: Two for the Price of One: The Evolving Role of the First Lady of the United States

Abstract: One of the most influential and overlooked positions in America is that of the First Lady of the United States. This office is unique like no other: she campaigns, but does not get elected, she is not appointed, nor does she swear an oath, she is not confirmed by the Senate, her duties are not outlined in any document, she works tirelessly, but does not get paid, and she has never been asked to resign or been fired. Despite these facts, there is undoubtedly much opinion from the press and the public on what they feel the role of this trusted advisor should be and how she should conduct herself. The modern day first lady is just as likely to travel to China as a representative of the United States as she is to pick out the china in the White House. A historiographic approach is taken to examine how the Office of the First Lady has evolved over time from a party planner to a political and humanitarian activist.



Garrett Graber (English)
Dr. Michelle Collins-Sibley, Department of English

10:40 a.m., Tolerton and Hood Hall 201

Title: Speaking From the Margins: History in the Fiction of Toni Morrison

Abstract: "Narrative is radical, creating us at the very moment it is being created." The beginning lines of American author Toni Morrison's Nobel lecture make a bold statement on the status of narrative: it shapes and is shaped by the individual. Narrative, and Morrison's understanding of it, is crucial when looking at her large body of work. It's even more important when looking at her preoccupations with history. Through an analysis of *Sula*, *Beloved*, and *A Mercy* using both narratology and post-structural theory, I argue that Morrison uses the medium of fiction to reveal the voices of Americans that have been systematically silenced in many Western historical narratives. Through revealing these voices, I explain how Morrison shows that the lives of the marginalized are crucial in understanding American identity and history. Ultimately, Morrison shows that narrative, and our understanding of it is history. Every voice, even those not in plain view, shape it. And it shapes us.



Formal Presentation Abstracts

Jared Umstot (Mechanical Engineering)
Joseph Powell (Mechanical Engineering)
Phillip Heskett (Mechanical Engineering)
Dr. Joshua Gargac, Department of Engineering
1:30 p.m., Engineering and Business Building 203

Title: SAE Baja Suspension System

Abstract: Baja SAE is an intercollegiate design competition for which engineering students design and build off-road vehicles. Each vehicle must pass a rigorous inspection process before competing in dynamic events meant to test the durability of the design. These dynamic events consist of maneuverability, suspension, acceleration, braking, and either hill climb or sled pull. The competition then culminates in a four-hour endurance race. The overall goal of this project was to improve the vehicle's performance in these events by redesigning its suspension, the components used to connect the frame to the wheels and provide an interface for proper handling and maneuverability. The project was completed using the engineering design process. First, suspension designs from other Baja teams as well as commercially available vehicles were researched. Design concepts were then generated from this research. Engineering simulations were conducted using SolidWorks in order to evaluate the concepts and make iterations. As the primary constraint, the new suspension had to both fit the current vehicle frame and reduce the vehicle's overall weight, while still retaining handling characteristics. As designed, this new suspension system is 20% lighter and increases the vehicle's suspension travel. The Raider Racing Baja Club will compete at two competitions: Baja Kansas on May 25-28, and Baja SAE Illinois on June 7-10. The completion of this project will increase the Raider Racing Team's chances of improving upon the 34th overall finish in the race at Tennessee Tech in 2016.



Michel Vasiladiotis (Physician Assistant Studies)
Professor Vanessa Worley, Department of Physician Assistant Studies

3:30 p.m., Tolerton and Hood Hall 100

Title: When Time Is a Matter of Life or Death: Is Telemedicine the Answer in Acute Stroke Care?

Abstract: Tick tock. Every 40 seconds, someone in the U.S. has a stroke; and, every four minutes, someone will die of stroke. Time is often an essential factor in what determines full recovery, debilitating deficits, or death in patient outcomes. Unfortunately, the availability of skilled neurologists and vascular surgeons is not within reach for many, especially in rural settings. Telemedicine has become an integral part in increasing accessibility and reducing mortality with acute stroke. However, many questions remain regarding telemedicine best practices, its efficacy in long-term patient outcomes, and the role of prehospital care. A systematic review of literature published within the last six years was conducted to address such questions and propose an evidence based best practice guideline for the use of telemedicine in acute stroke care. Is telemedicine the answer in acute stroke when help seems out of reach and seconds count? Time will tell.

NO PHOTO

Formal Presentation Abstracts

Jon Stingel (Mechanical Engineering)
Jacob Lawhorn (Mechanical Engineering)
Matthew Furda (Mechanical Engineering)
Dr. Joshua Gargac, Department of Engineering
10 a.m., Engineering and Business Building 206
Title: The Brew Crew Hop Harvesting Machine

Abstract: The hop brewing industry continues to prosper in the United States, increasing the demand for hops. Large-scale farms are highly efficient, using expensive machines to harvest the hops, but smaller operations cannot afford to invest in these machines and are limited to hand picking. The owner of a small hop farm in Tennessee has sponsored the development of a low-cost hop harvester meant to increase the harvesting speed of smaller hops farms. At the onset of the project, contemporary harvesting processes were researched and identified as involving two main tasks: stripping the bines and sorting the hops. The first, stripping, can greatly be improved and was selected as the focus for the first phase of the project. Designs were created and evaluated based on their power requirements, estimated efficiency, and size. As designed, the stripping mechanism consists of two metal rollers with metal-wire fingers that pluck the cones from the plant bine. The mechanism is supported by a box metal frame, ensuring it is easily configurable with the future sorting section that will be designed. To test the machine, the team will measure the rate cones are removed from a bine while evaluating the damage done to cones; maximum strength of the shear pin in the stripping mechanism will also be evaluated. This hops harvester is multi-year project meant to satisfy industry requirements and meet the needs of a client. In doing so, the harvester has high marketability to hops farmers supplying the craft beer industry.



Abigail Trivisonno (Exercise Science)
Dr. Ronald Mendel, Department of Human Performance and Sport Business
1:30 p.m., Tolerton and Hood Hall 100
Title: The Effects of Gender and Rest Interval on Post-Activation Potentiation in Vertical Jump Performance

Abstract: Post-activation potentiation (PAP) is a known phenomenon that causes an increase in muscular contractile force after a preceding contraction. This allows for an increase in muscular force which temporarily improves explosive movements executed within the muscle groups that were potentiated. However, there is conflicting research concerning the impacts of gender on PAP as well as the duration of PAP effects. The purpose of this study is to examine the impacts of gender and rest interval on PAP during the vertical jump following a maximal voluntary contraction (MVC). It was hypothesized that no differences would exist between genders in response to PAP. Subjects are still being recruited but will likely include twenty college students (10 male and 10 female), ages 18-23 yrs. Male subjects were recruited on a basis of a 1RM \geq 1.75x body weight and female subjects were recruited on a basis of a 1RM \geq 1.5x body weight. Only strong subjects were recruited due to previous research that suggests they have an improved reaction to PAP (Suchomel et al. 2015). Subjects attended two sessions; a familiarization session and a testing session. During the testing session subjects completed three baseline verticals followed by an 8s MVC and verticals at 10s, 4 min, and 8 min post-MVC. Jump height, flight time, and peak power were recorded from a jump mat via KMS. Data collection is currently taking place and will be analyzed using a three-way ANOVA with an SNK post hoc as needed (IBM SPSS Statistics Version 24).



Formal Presentation Abstracts

Stephanie Gross (Physician Assistant Studies)
Professor Vanessa Worley, Department of Physician Assistant Studies
10 a.m., Kolenbrander-Harter Information Center 013

Title: Hashtags and Tweets: Social Media and Mental Health in Today's Teenagers

Abstract: Do you use social networking sites like Facebook, Twitter, and Instagram and think to yourself, "why does everyone have it so much better than me?" Social media plays an integral role in today's society as a means of staying in constant contact with friends, family, and the world, but how does all this screen time affect mental health? This study aims to discuss both positive and negative effects of using social networking sites and how these effects influence the mental health of teenagers and young adults. Through a systematic literature review, the research specifically examines aspects of mental health like depression, anxiety, and self-esteem. An evidence-based practice guideline is presented that can be incorporated into the medical care of this population. Current trends suggest there is a link between mental health and social networking site use, although much more investigation needs to be done before a direct relationship can be established.



Meghan Hess (Exercise Science)
Morgan Kiser (Exercise Science)
Dr. Nathan Saunders, Department of Human Performance and Sport Business

3:50 p.m., Tolerton and Hood Hall 100

Title: The Minimum Detectable Change in Senior Fitness Testing Using Opal APDM Sensors

Abstract: 30 participants ages 65 years and older participated in three standard senior fitness tests while wearing opal APDM sensors. The sensors measure data from the three tests such as time to complete the test, gait speed, stride rate, and cadence. Senior fitness testing is often used to be able to assess the ability of a senior to live their daily life without assistance. Senior fitness testing is also used to assess fall risks and other injury risks that may pose a health issue for the client. The purpose of the research was not only to test the fitness levels in seniors, but to validate the sensors and ensure that they were reliable in every trial. In order to test validity of the sensors the minimum detectable change was calculated with the data from the trials. Minimum detectable change refers to the smallest change between the two trials the participant partakes in that can be detected beyond error and corresponds to noticeable change in ability.



Formal Presentation Abstracts

Julie Hessedence (Civil Engineering)
Jacob Ross (Civil Engineering)
Gretchen Dietz (Civil Engineering)
Clay Holsclaw (Civil Engineering)
Alana Dawson (Civil Engineering)
Dr. Yan Liu, Department of Engineering
 10 a.m., Engineering and Business Building 203
Title: ASCE Mid-Atlantic Regional GeoWall Design Competition 2017



Abstract: Have you ever thought about using paper to hold back over 500 pounds of sand? Our project involved designing and building a model mechanically stabilized earth (MSE) retaining wall using paper. This project is a part of the Mid-Atlantic Regional Competition presented by the Geo-Institute of the American Society of Civil Engineers (ASCE). The goal of the competition was to design the lightest possible retaining wall to hold back 500 pounds of sand, a 50-pound bucket of sand that will be placed near the wall facing, and a 25-pound bucket held outside the box using piles. In order to come up with a design, the group performed experiments to determine the properties of the sand as well as the paper. Based on these results, the group designed the wall using standard MSE wall procedures to determine the width of reinforcement strips, spacing between reinforcement, and length of reinforcement. The group has tested various designs to determine the most lightweight and effective design to construct at the competition.



Gayle Kimbrough (MAEL)
Dr. Jennifer Martin, Master of Arts in Educational Leadership
 3:50 p.m., Tolerton and Hood Hall 201

Title: Access to honors, upper level, and Advanced Placement course for ALL students
 Abstract: Students who are poor, African American, or multiracial at XXX High School are not proportionally enrolled in upper-level courses and/or recognized at Academic Awards ceremonies. Teachers are the primary gatekeepers for access to upper-level classes, and there is great concern that implicit bias is hindering poor, black, and multiracial students from access to these classes. Additionally, Upper-level classes earn weighted grades which in turn impacts rank and overall grade point averages. If not all students have the same access to these course opportunities, I am concerned that those who are recognized with Academic Honors are not a fair representation of those students who have the ability, but not necessarily the access. In this study, I analyze demographic data from last year's upper-level courses as well as the demographic data of students who earned awards. I have a series of parent, teacher, and student action meetings where we will address how students access courses as well as course weighting and awarding students for academic honors. The goal of this study is to create an Action Plan that results in processes that create equitable access and awarding. My SPN has been focused on the importance of giving everyone a voice and creating equitable opportunities for marginalized people. I think this project aligns to my core belief about having access to educational opportunities and the importance that education can be in being the great equalizer of society.



Formal Presentation Abstracts

Caitlin Shimp (Psychology)
Tae'Lor Windham (Psychology)
Taylor Lundy (Psychology)
Alyssa Chuckalovchak (Psychology)
Taylor Bates (Human Development and Family Science)
Dr. Tamara Daily, Department of Psychology, Neuroscience, and Human Development
 1:50 p.m., Engineering and Business Building 206
Title: Effect of Minority Status on Stress, Attitudes toward 1st Year Programming, and Retention



Abstract: In this experiment, we investigated how first year racial/ethnic minority and non-racial/ethnic minority students in their second semester differ in terms of persistence/retention, perceptions of Exceptional Beginnings programming, minority stress and general student stress in academic, social, and financial domains. The questionnaire consisted questions from the College Stress Inventory, the Black Student Stress Inventory, and the Student Adaptation to College Questionnaire. In addition, participants responded to questions assessing their perceptions of the Exceptional Beginnings Program. We predicted that first year racial minority students would be less likely to express an intention to return to the university in the fall and more negative perceptions of Exceptional Beginnings programming, but higher levels of minority and general stress in comparison to non-racial minority students. Out of the 131 completed responses, our results confirmed our hypotheses, and indicated multiple intercorrelations among our variables as well. Indicating an importance for student affairs professionals to expand such research at other predominantly white institutions. Other implications of the results and future research will be discussed.



Clinton Simmons (Political Science)
Dr. Lori Kumler, Department of Political Science and International Studies
 10:20 a.m., Engineering and Business Building 203
Title: Student Opinion and Rape Policy: Do the policies reflect the attitudes of the students they are meant to protect?

Abstract: From presidential debate stages to college campuses, topics of sexual assault and rape are increasingly making headlines. Regarding college campuses, I investigated the extent to which students felt protected by current rape policy and their recognition of rape culture's prevalence on their campus. Democratic theory would suggest that we choose representatives who will keep us safe. Mood theory, the Spiral of Silence, and my "Subcultural" Spiral Model, however, suggest that we may not always express our opinion to affect policy. My case study approach to exploring this question on the University of Mount Union's campus included 135 surveys distributed to students in randomly selected general education courses. Various regression analyses and an association test yielded both surprising and expected results: Greek organization members were more aware of the prevalence of rape culture compared to non-members, while non-athletes seemed to feel less protected by policies and more aware of rape culture than athletes. As expected, women felt less protected by policies and more aware of the prevalence of rape culture. These results have relevance for educational policies on college campuses regarding rape and provide insight to the extent to which various subcultures feel their needs are met by current policies.



Formal Presentation Abstracts

Katherine Schulman (MAEL)

Dr. Jennifer Martin, Master of Arts in Educational Leadership

4:10 p.m., Engineering and Business Building 203

Title: Using Mindset to Improve Student Academic Performance, Attendance, and Attitude

Abstract: Research on fixed versus growth mindset is currently very influential in the field of education. In a fixed mindset students believe their basic abilities, their intelligence, their talents, are fixed and unable to improve. These individuals spend their time documenting their intelligence or talent instead of developing them. Those with growth mindset believe that their most basic abilities can be developed through dedication and hard work, and they view a challenge as an opportunity to learn. Many students in the Emotional/Behavioral Resource Room grades five to eight tend to exhibit a fixed mindset, believing their success is based on innate ability. People whom exhibit a growth mindset believe their success is based on hard work, learning, and training. In this study, I monitored and analyzed students' attitudes through their use of negative comments they verbalized about their ability, conducted a pre-survey, examined student attendance, and grades. Students were then exposed to research, activities, and information about the growth mindset versus fixed mindset as an educational intervention. Finally, students' grades, attendance, and attitude were monitored post-intervention to determine if changes in mindset and performance occurred.



Megan Semans (Physician Assistant)

Professor Vanessa Worley, Department of Physician Assistant Studies

1:30 p.m., Engineering and Business Building 206

Title: Equine-Assisted Therapy and Children with Cerebral Palsy: Effective or Just Horseplay?

Abstract: Each year, approximately 10,000 babies in the United States are born with cerebral palsy (CP). CP, the most common childhood physical disability, is a congenital disorder characterized by permanent, life-long physical disabilities of varying severity, including impaired movement, muscle tone, and posture. Much research has been conducted to identify the most effective treatment methods for CP. This study addresses if equine-assisted therapy (hippotherapy) should be recommended for children with CP and which patients are likely to derive the most benefit. A systematic review was conducted to investigate studies addressing the effects hippotherapy had on gross motor function, balance, different severities of CP, and more. Findings suggest hippotherapy should be recommended as a treatment option for children with CP. Providers, physical therapists, and families of children with CP considering treatment options can all benefit from this research. Which specific impairments, type and levels of CP respond best? Come find out!



Formal Presentation Abstracts

Diana Kloboves (Human Resource Management)

Dr. Theresa Davis, Department of History

3:50 p.m., Engineering and Business Building 203

Title: Women and Whaling: How New England's Biggest Industry Affected Women

Abstract: From the mid-1800s to the early 1900s, the profession of whaling was alive and well, and was the backbone of New England society. Art forms captured the intensity of a whale hunt. Sailors were akin to celebrities. Economically, the industry of whaling was the foundation of the New England economy. The oil harvested from the whales powered New England homes, shops, and factories, making industry boom, and people wealthy. Factory owners, bankers, shopkeepers, and the captains of whaling ships were at the top of the New England social class. But where did women fit into this culture built on whales? Women were affected in unique ways by the whaling society. They were the wives of sailors, who waited by the docks to determine the fates of their husbands, the anonymous women whose faces decorated the bows of whaling ships, and even the unmarried girls who labored in the factories that processed the whales caught. There was also a lot of contradiction when it came to women and whaling. While women were considered bad luck and were often treated poorly by the sailors, at the same time, women were glorified for being mysterious. While women were not permitted to be sailors or in some cases, even be on board a whaling ship, the wealthy wives of ship captains were allowed to accompany them on whale voyages. Using information from New England's best historical societies, I learned that the industry of whaling impacted the lives of New England women because it somewhat objectified women, provided economic opportunities for women, and allowed women to challenge the gender roles of the time.



Kaylee Krichbaum (Human Development and Family Science)

Bailey Grimm (Human Development and Family Science)

Jenna Leighty (Human Development and Family Science)

Kori Trachsel (Human Development and Family Science)

Emma Creech (Neuroscience)

Dr. Kristine Turko, Department of Psychology, Neuroscience, and Human Development

1:30 p.m., Tolerton and Hood Hall 201

Title: The Impact of Knowledge on Attitudes and Behavioral Intentions Towards Children with ASD

Abstract: This study investigated if and how knowledge about autism spectrum disorder (ASD) and exposure to information about ASD affect college students' attitudes towards and willingness to interact with children with ASD. Approximately 30 college students completed surveys assessing their prior knowledge of ASD. Attitudes and willingness to interact were assessed after the participants received different types of information about autism. We found no significant results; however, our findings still provide practical information on ways to reduce stigma towards children with ASD.



Formal Presentation Abstracts

Terry Long (Japanese, Mathematics, and Mechanical Engineering)
Dr. Hamako Furuhata-Turner, Department of Foreign Languages and Cultures
 3:30 p.m., Tolerton and Hood Hall 201

Title: Cultural Integration Japan: How to Survive and Thrive as an Engineer Abroad

Abstract: As the world progresses deeper into the 21st century, so too does the need for globalized engineers across the globe. By synthesizing and embracing cultural diversity in the workplace, it is possible to conceive and share new ideas from a distinct standpoint. However, globalization is not easily accomplished through basic interaction in a company; it is much more demanding and requires a thorough understanding of a country's norms and expectations to effectively work with one another. The United States and Japan are no exception to this rule, as both countries have their own unique culture and practices. In order to bridge the gap between cultural diversity, a careful analysis of American assimilation into Japanese culture was considered. This was accomplished by researching articles published in Japanese regarding contact theory using Japanese Manga for regional improvement, as well as understanding Japan's perspective of industrial globalization for engineering education. Other articles were published in English that provided insight on how foreigners may assimilate themselves in Japanese culture in addition to highlighting similarities and differences of engineering careers between the two countries. Will it be possible for a foreigner to assimilate themselves in a foreign land? Or is globalization not so important in modern times? This research aims to analyze both ends of this spectrum.



Formal Presentation Abstracts

Kristin Reihl (Mathematics)
Dr. Sherri Brugh, Department of Mathematics
 10:40 a.m., Engineering and Business Building 206

Title: Squaring Off: The Quadratic Formula in an Arbitrary Field

Abstract: The formula for writing an equation of the form $ax^2+bx+c=0$ where a , b , and c are real numbers with $a \neq 0$ is widely known as the quadratic formula. Several methods exist for deriving the quadratic formula, $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$, in the traditional secondary mathematics classroom. What many are less-familiar with is the formula for solving such an equation where a , b , and c are elements of a more abstract algebraic system. This talk will explore quadratic equations in an algebraic system called a field and how the quadratic formula is derived in such a field.



Kayla Ruffner (Exercise Science)
Brittany DiFiore (Exercise Science)
Abigail Trivisonno (Exercise Science)
Bridget Smith (Exercise Science)
Cyrena Cooper (Exercise Science)
Grant Slack (Biochemistry)

Dr. Lonnie Lowery, Department of Human Performance and Sport Business
 1:50 p.m., Kolenbrander-Harter Information Center 013

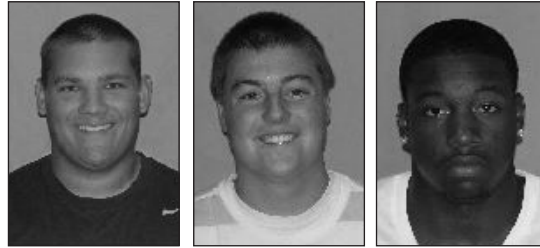
Title: The Effects of Instant Coffee on the Myotatic Reflex During Bench Pressing: A Gender Comparison

Abstract: Coffee is widely consumed by exercising men and women throughout the world. Previous work from our laboratory suggests coffee enhances the stretch reflex during bench pressing. Whether coffee differently affects reflexes in each gender during explosive exercise remains unclear, however. The purpose of this study was to compare the reflexes of the upper body between sexes after consuming different coffees. In a blinded, crossover experimental design, 34 resistance trained individuals were tested at 50% of their one repetition maximum (1RM) on the Smith Bench Press one hour after ingesting VIA or DCF. Force (FOR) and time to peak power (TtPP) were measured using the Smith machine and Ballistic Measurement System. Absolute bench press FOR was enhanced by prior stretch in the DCF condition in both sexes with larger enhancement after consuming VIA in men and in women. Statistical correction for body mass, however, abolished sex differences ($p > 0.05$). TtPP enhancement from prior stretch tended to differ in the DCF condition in men and in women. This trend reached statistical significance only after consuming VIA in men and in women. We conclude that the stretch reflex enhances explosive bench press performance in both sexes with men gaining greater absolute gains than women, particularly after coffee consumption. Future studies that compare sexes in the bench press are cautioned to adjust force measures for body mass differences.



Formal Presentation Abstracts

Matthew Mulvihill (Mechanical Engineering)
Robert DeMarco (Mechanical Engineering)
Durum Alarms (Mechanical Engineering)
Dr. Joshua Gargac, Department of Engineering
 2:10 p.m., Engineering and Business Building 206
Title: SkySweeping Vacuum Design Team



Abstract: At steel foundries like Timken Steel, the casting process generates large volumes of harmful dust. Exposure to this dust can pose a health concern to employees. Sky Sweeping, Inc. has been contracted to remove the dust and create a safe working environment. Currently, the dust is removed using a street-sweeping truck driven over walk ways and in between casting machinery. These sweeping vehicles use a system of brooms and filters that are not suitable for casting dust and deteriorate at a faster pace than normal. Replacing these components results in an annual maintenance cost of \$10,000. The goal of this project is to minimize the maintenance costs for our client and create an alternative solution. Through consultation with our client and conducting research a novel solution incorporating a series of two cyclonic separators was developed to remove dust and debris without filters. Technical analysis was performed to determine how efficient cyclonic separators would be, as well as how well the redesigned pickup head would perform. This was done in order to prove that the system that was designed would be functional if built. This technical analysis was then approved by a panel of industry engineers as well as professors from the University. During operation, an industrial fan creates a vacuum which pulls dust into a pickup head, through a flexible PVC pipe to the cyclonic separators. As the air flows through the separators, stone and dust particles develop angular momentum, and a dumped into a collection hopper. This new system will eliminate brooms and filters and is expected to reduce the SkySweeping expenses by thousands of dollars. In addition, this project also directs us into a niche market where the options for factory used sweepers are undersized and underdeveloped. Steel factories as well as other large industrial factories would be a great potential market for this type of system.

Alexis Parsons (Mathematics)
Kayla Ashdown (Early Childhood Education)
Kate Baker (Middle Childhood Education)
Annissa Coley (Middle Childhood Education)
Katie Goedecke (Mathematics)
Kristen Reihl (Mathematics)
Professor Stacey Cederbloom, Department of Mathematics
Dr. Melissa Askren-Edgehouse, Department of Education



1:50 p.m., Tolerton and Hood Hall 230
Title: IT'S Math! Paving the Way for a Commitment to Professional Development among Mathematics Educators



Abstract: When was the last time you put math and fun in the same sentence? Are you looking to expand your knowledge about education within your field? As future teachers ourselves, we know how crucial professional development will be to our success throughout our careers. It was this mindset which led to the creation of our own Professional Learning Community (PLC) here at Mount Union. The PLC we created is called "IT'S Math!" which stands for "I Teach Students Math!" Its purpose is to provide an opportunity for UMU students to collaborate in an atmosphere that helps elementary, middle, and high school educators align mathematics content. Our goal in this presentation is to enlighten people about the benefits of starting a PLC for all professions. With a hands-on approach, we will explain the process of what it is like to plan and execute a PLC with the hope that it will inspire others to start their own. Together, let's make a difference in our educational community.

Formal Presentation Abstracts

Alexander McGinnis (Mechanical Engineering)
Thomas Mohney (Mechanical Engineering)
Terry Long (Japanese, Mathematics, and Mechanical Engineering)
Dr. Joshua Gargac, Department of Engineering
 10:20 a.m., Tolerton and Hood Hall 100
Title: Robotic Football Team



Abstract: Robotic football is an intercollegiate competition consisting of two main parts: an 8-on-8 competition and a skills combine consisting of six NFL style events. The goal of this project is to design a quarterback, wide receiver, and center to compete in this skills combine on March 25th at the University of Notre Dame. At the onset of the project, the designs of successful football robots were researched from previous competitions. Design alternatives were generated, and technical analysis was performed on each to optimize torque, speed, strength, and throwing accuracy. The robots were constructed using primary components such as HDPE sheet plastic, a Sabertooth motor driver, an Arduino Uno microcontroller, a Shorai lithium battery, and a P60 gearbox. Each robot is designed to serve a specific function, much like players on an actual football field. At the start of a play, the center "snaps" the ball to the quarterback using a single, actuating arm that pushes the ball into the throwing wheels of the quarterback. The quarterback then launches the ball to the wide receiver using a concept similar to that of a football passing machine. The wide receiver will catch the ball in a rectangular basket with a fabric exterior. The construction of these robots is the first step toward future participation in the 8-on-8 competition. Success in the robotic football competition will appeal to potential students and brand Mount Union's engineering program as one of the most innovative in the country.



Cory Muller (MAEL)
Dr. Jennifer Martin, Master of Arts in Educational Leadership
 3:30 p.m., Engineering and Business Building 206
Title: Project Based Learning vs. Small Group Instruction

Abstract: Project Based Learning is a widely used, criticized, and publicly discussed issue in education. Project Based Learning or PBL, is an effective and creative way to let students guide their own learning through projects. PBL in many early education settings is seen only as fit for the cognitively advanced. Small group instruction is a mainstay for how to get low functioning and average students to accelerate scores, and to make progress on standardized tests. This practice, while used by many elementary teachers, is not best practice for getting students to think creatively and create works of their own. PBL is a more exemplary instructional practice than small group alone for preparing students for an ever-changing society where creative thinking is necessary for success. To prove this, twenty-six students in a language arts class will be split into two groups: Small group instruction and PBL. Pretest and posttest will be taken by both groups and data will be collected. Students will also reflect on their experiences and a survey will be taken by all students to find common themes.



SCHOLAR Day Activities

April 25, 2017

9-9:45 a.m.	Poster Session I , Giese Center for the Performing Arts (Participants listed in program. Breakfast foods will be served.)					
10-11 a.m. Presentation Session I	Start	T&H 201	T&H 100	KHIC 013	EBB 203	EBB 206
	10 a.m.	Exercise Science Danielle Augustin	Religion Tatianna Carthorn	Physician Assistant Studies Stephanie Gross	Civil Engineering Julie Hessedence, Jacob Ross, Gretchen Dietz, Clay Holsclaw, Alana Dawson	Mechanical Engineering Jon Stingel, Jacob Lawhorn, Matthew Furda
	10:20 a.m.	Education Michaelea White, Luke Engle	Mechanical Engineering Alexander McGinnis, Thomas Mohney, Terry Long	Public Relations Caitlin Fessler	Political Science Clinton Simmons	
	10:40 a.m.	English Garrett Graber		Education (Honors) Thomas Wines, Peter Young, Ian Paxton, Emily McConnell, Gaston C. Marian	Psychology Luis Ventura Duran, Daniela Garcia, Michael Foster, Greg Best, Reilly Augustine	Mathematics Kristin Reihl
11:30 a.m.-12:30 p.m.	Senior Recognition and Honors Convocation,					
12:30-1:30 p.m.	Picnic Lunch for Participants and Guests, Tented Area in the Quad					
1:30-2:30 p.m. Presentation Session II	Start	T&H 201	T&H 100	KHIC 013	EBB 203	EBB 206
	1:30 p.m.	Psychology Kaylee Krichbaum, Bailey Grimm, Jenna Leighty, Kori Trachsel, Emma Creech	Exercise Science Abigail Trivisonno	French Chloe Bortmas	Mechanical Engineering Jared Umstot, Joseph Powell, Phillip Heskett	Physician Assistant Studies Megan Semans
	1:50 p.m.	T&H 230	Mechanical Engineering Edward Cudjoe, Josh Marchese, Kenny Muhart	Exercise Science Kayla Ruffner, Brittany DiFiore, Abbie Trivisonno, Bridget Smith, Cyrena Cooper, Grant Slack	History Sarah Gonda	Psychology Caitlin Shimp, Tae'Lor Windham, Taylor Lundy, Alyssa Chuckalovchak, Taylor Bates
		Mathematics and Education Alexis Parsons, Kayla Ashdown, Kate Baker, Annissa Coley, Katie Goedecke, Kristen Reihl				
2:10 p.m.		Communication Robyn Brown	Brianna Whittaker Political Science	Physician Assistant Meghan Byram	Mechanical Engineering Matthew Mulvihill, Robert DeMarco, Durum Alarms	
2:30-3:15 p.m.	Poster Session II , Bracy Hall First Lobby and Second Floor Lobby – Musical performance will take place near the end of the session					
3:30-4:30 p.m. Presentation Session III	Start	T&H 201	T&H 100	KHIC 013	EBB 203	EBB 206
	3:30 p.m.	Japanese Terry Long	Physician Assistant Studies Michel Vasiladiotis		Art Kassandra Gibson	MAEL Cory Muller
	3:50 p.m.	MAEL Gayle Kimbrough	Exercise Science Meghan Hess, Morgan Kiser	Political Science Bridget Dennis	History Diana Kloboves	Communication Abigail Bartoszewicz
	4:10 p.m.				MAEL Katherine Schulman	Nursing Allison Baird