2016

Senior Legacy Symposium

April 20, 2016
Aerospace and Mechanical Engineering
Presenter(s):
Christopher Colletti*
Dakota Ward
Theresa McGrath
Jiawei Zhu

SLU Combat Robots - The Cookie Monster
The SLU Combat Robot team, The Cookie Monster, is composed of undergraduate mechanical engineering seniors at Parks College of Engineering. As part of the senior design program, a robot was designed to compete at the 2016 Robogames competition, in the 120-pound weight class. Multiple concepts were developed and then screened out based on their predicted performance in relation to the requirements. The final concept chosen was a full body spinner, which rotates a quarter of its mass at high speeds to damage opponents. Detailed analysis was performed to finalize the chosen design then; production of the robot began spring semester.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Aerospace and Mechanical Engineering
Presenter(s):
Mary Distler*
Chase Lyons
Rich Reiter III
Angel Serrano
Kathy Szmergalski

NASA USLI Mars Ascent Vehicle Centennial Challenge
NASA’s Centennial Challenge tasks students to simulate a Mars sample return mission that operates without human interaction. The competition requires designing and building a rocket and the necessary ground support equipment to place a 4 ounce payload securely inside the rocket, raise the rocket, and insert and light the igniter for a mile high launch. Our rocket design utilizes a 77 inch long, 15 pound rocket and an autonomous ground system to complete the loading and launch at the push of a button. Multiple tests of the launches and ground system have been conducted, validating our design for the competition.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Automated Electrode Loader for GE Aviation
The objective of this project is to build an automated electrode loader for electrode EDM, which is a machining process for drilling very small holes in metal. The project was assigned by GE Aviation in order to make their manufacturing process for jet engine turbine blades more efficient. This mechanism will replace current methods of loading electrodes into collets for electrode EDM. With the final model, labor cost reduction could exceed $5 million per year for GE Aviation.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

* Active member of the University Honors Program
Aerospace and Mechanical Engineering
Presenter(s):
Marie Kendrick
Marissa Fischer
Jose Esteban Arguello
Daniel Castellanos Caceres

Toyota | Bodine: Prevention of Tar Defects in Cylinder Heads
The production of aluminum cylinder heads for Toyota is done at Bodine Aluminum, which is a foundry in Missouri. The process to make cylinder heads is a low pressure casting process. However, this process causes gases from the sand cores resin to become trapped in the vents. The gas condenses and forms into a tar inside the bushing, which can create a defective casting if it falls on the lower die chamber. If a cylinder head has a tar defect, it cannot be used in a saleable car. This defect accounts for 0.5% of the internal defects. The constraints of the project include not changing the process of casting, the resin used in the sand cores, or the design of the die. The ultimate goal is to control the tar from creating a defect and reduce the internal tar defect rate from 0.5% to 0.1%. In order to do so, our team has designed a cup that will be placed in top of the bushing that will act as a scraper to clean the pin and collect the tar as the pin goes into the bushing and down position. Also, the interior of the bushing and, therefore, the shape of the pin have been redesigned to provide a bigger gap between these in the open position, so the gases can be released faster and avoid tar formation in undesired areas on the bushing and pin.

Location: BSC 171-173 (Poster/Artwork)

Aerospace and Mechanical Engineering
Presenter(s):
Peter Rackovan
Colin Klemstein
James Shields
Tom Oven
Chris Russel

Unmanned Aircraft Design and Manufacturing
The AUVSI team from Parks College is planning to participate in the Student Unmanned Air Systems (SUAS) Competition, hosted by the Association for Unmanned Vehicle Systems International (AUVSI) in June 2016. The focus of this competition is to engage students in systems engineering by creating a total solution to complex and potential real world problems. Our senior design objective was to design and build the airframe to facilitate five years of competition by the AUVSI team. Our presentation will include our complete aircraft, discussion of the design and manufacturing process, as well as insight into the AUVSI competition itself.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Aerospace and Mechanical Engineering
Presenter(s):
Nedret Ramic
Brandon Herges
Enis Brdarevic
Weston Mariottini
Design and Construction of AEOLUS: An RC Trainer/Aerobatic Jet Turbine Aircraft
Speedfest 2016 at Oklahoma State University challenges universities to design a remote-controlled aerobatic trainer aircraft around the Kingtech K-45G Jet Turbine. Team Echo from Parks College is developing a tapered wing aircraft in a canard configuration. The Speedfest Statement of Work requires a trainer type aircraft that has a wingspan of less than 53”, capable of operating off of a 400 foot runway and achieve steady level flight speed of at least 100 knots. Team Echo has completed the design of the aircraft, including the detailed level design. In the coming weeks, the aircraft will be constructed and flight-tested.

Location: BSC 171-173 (Poster/Artwork)  
Time: 3:00PM-5:00PM

American Studies
Presenter(s):  
Susan Nichols

Reshaping American Development: The Peace Corps in Latin America  
This project will investigate the meaning of the Peace Corps for American society and its role in the development practices of the country. Particularly focusing on the Latin American Peace Corps projects as its place of interest, I will investigate what made the Peace Corps a timely organization for American foreign policy and how it reflected beliefs about American theories of modernization in the era following the completion of World War II. The leadership of the Peace Corps distinguished between global and domestic, United States-based poverty; in doing so, they minimize the seriousness of poverty within the United States itself.

Location: BSC 253 A (Oral Presentation)  
Time: 3:20PM

American Studies
Presenter(s):  
Connor Richardson

‘Phallacious’ Privilege: How Neonatal Male Circumcision Places Some a Cut Above the Rest
Why, despite having neither medical purpose nor religious reason for the majority of practitioners, does neonatal male circumcision persist in the United States? By examining medical texts, parenting guidebooks, and other primary sources that document the emergence of circumcision in the 1880s and its later popularity, this essay suggests the answer is culture--and moreover, that the practice itself serves as an initiation into heteronormative masculinity, an indicator of class privilege, and a way to distance white subjects from racial others.

Location: BSC 253 A (Oral Presentation)  
Time: 3:00PM

Aviation Science
Presenter(s):  
Nicholas Hart  
John Padua  
Nathan Bryan  
Jacob Zehner

Interpredictability in Teamwork  
Everyone has differences in personality. Some personalities are well fitted to work together as a team, and some may clash. In an industry that relies on seamless teamwork for the sake of
safety, clashing personality types are a problem to be overcome. Aviation is an example of such an industry; one that requires individuals to come together into random small groups to work together with flawless teamwork. Any goal can be hampered by any number of problems. One such problem is a lack of predictability in a team setting. With enough preparation, team interaction can be predicted, prepared for, and optimized with a minimum of disruption to the teambuilding process.

Our group theorizes that often, self-perception of one’s own personality can be quite different than the personality others perceive. Our team intends to do a profile analysis of the United Airlines 1-9 grid score interpretability testing matrix to illustrate the different results when testing self-opinion versus outside opinions. By identifying this difference through personality trait testing methods, we can gain a higher self-awareness which will enhance interpretability between team members.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Aviation Science
Presenter(s):
Christian Iversen
Cole Potkul
Sam Parada
Jack Kane
Khaled Majeedah

Performance vs. Extroversion and Introversion
The idea that extroverts perform better than introverts has been something that everyone has come to learn and/or accept. The issue is that this may be true in some aspects but maybe not in all and that has been debated among experts. This research project uses information gathered from our Team Resource Management class. The information that we used were Myers Briggs results, seminar performance results, and class grades which is another measure of performance. The method used was taking the Myers Briggs data and comparing it to the performance measures and seeing if there was the correlation that we anticipated.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Aviation Science
Presenter(s):
Alexis Lehr-Kwarta
Abigail King
Mohammed Zaki
Rachel Munger

Pilot Personality
Our senior capstone is designed to portray the common personality traits in pilots according to the Myers-Briggs Type Indicator. In our capstone we will collect the data (scores from Myers-Briggs), from several groups consisting entirely of pilots, both male and female and from a variety of experience levels. We will transform our raw data information into a comparison of what the common four traits of pilots are. With that data we will also compare the data between men and women to see if the four common traits still apply or if they vary between the sexes. In conclusion, our study will determine if those with certain personality types are more predisposed to have a successful career in the aviation industry due to commonly seen traits.

Location: BSC 171-173 (Poster/Artwork)
**Vocal Activity of Barred Owls, Strix varia, in Relation to the Lunar Cycle**

Barred owls rely on vocal communication and studies have shown that the vocal activity of a similar species, the spotted owl, is affected by the amount of lunar light present. This research focused on the vocal activity of barred owls in relation to the lunar cycle. Vocal activity was measured on what was determined to be lunar light nights and lunar dark nights over a three month period. A sampling protocol was used that involved using playback calls at four separate sites located at the Saint Louis University Reis Biological Field Station. It was found that there was significantly more vocal activity on lunar dark nights. This could be due to the predator avoidance of the barred owl, as this species is located in the middle of the food chain and has a number of predators. Therefore, calling, especially on a light night, exposes the location of the owl and makes them easier to see. To avoid predators, they may not call as much on lunar light lights and more on lunar dark nights. In the future this study could be used to compare how light pollution has an effect on barred owl vocal activity, as this study site had very little light pollution.

*Location: BSC 171-173 (Poster/Artwork)*
*Time: 3:00PM-5:00PM*
conducting a series of characterization tests, and treating with cyclohexamide which was suspected to change the expression of MUB. Without mub-3e and mub-4g, the plants were more sensitive to cyclohexamide and root growth was inhibited. However, a root length assay performed with wild type and double mutants displayed significantly longer roots in the mub mutants. These results suggest that MUB3 and MUB4 are involved in the unfolded protein response and can contribute to healthy growth through a role in protein equilibrium.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Biomedical Engineering
Presenter(s):
Colleen Cole
Carmen Guzman
Victoria Grafe
Amanda Townshend
Amanda Highlander

Parkinson’s Fine Motor Skills Assist Device
The Parkinson’s Fine Motor Skills Assist Device will neutralize the tremors emanating from the hand and allow an object to be held steady for the person to write clearly and feed themselves. Through a countermotion-electro mechanical stabilization approach, the device will sense the acceleration and orientation of motion through the use of a fused accelerometer gyroscope sensor. Then, two servo motors will receive position input translated from the sensor and enact countermotion in roll and yaw. Lastly, a clamp attached to the motor output shaft will grasp an object. If time allows, the device will also have a casing unit.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Injectable Methacrylated Alginate Cryogels for the Minimally Invasive Treatment of Bone Nonunion
Cryogels are a unique scaffold formed at subzero temperatures, creating a spongy, macroporous structure. Recent studies have demonstrated the scaffold’s shape memory properties and resistance to shear forces when pushed through a standard needle-syringe. This project aims to utilize these fabrication methods to create an injectable, osteoconductive scaffold for the treatment of nonunion bone. Ongoing characterization is being conducted to determine the ideal pore size and mechanical properties. Future research will explore the addition of various dopants for increased mineralization of the scaffold. Such properties would identify methacrylated alginate cryogels as an ideal scaffold in bone regeneration.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Biomedical Engineering
Presenter(s):
Jamie Schweikart
Chris Eberlin
Jessica Conner
Zach Blattel

Electrospun Mosquito Trap
Mosquito borne illnesses are deadly and a
worldwide issue. While effective mosquito traps exist, they are far too expensive for developing countries. The goal of this project is to create a low cost mosquito trap using electrospinning technology as the fabrication platform. We chose polystyrene as our electrospinning material due to its low cost and sustainability. Our tubular geometry creates a high surface area that funnels into the base of the trap, where a mosquito attractant sits. The highly porous nature of the electrospun structure is designed to entangle and ultimately kill the insects.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Chemistry
Presenter(s):
Kurtis Breger*

Effects of a Sodium and Magnesium Buffer on RNA Structural Stability
There is an increasing demand for biochemical research to improve the current understanding of the ways in which RNA sequences fold into secondary and tertiary structure. The prediction of RNA secondary structure from sequence can be used as an intermediate in 3D structure prediction. Specifically, this project focuses on magnesium and sodium and how the presence of these counter-ions affects RNA stability and structure through the utilization of thermodynamic data obtained through RNA melts. Future studies will focus on the effects of ion ratios and various properties of RNA sequences e.g. length, nucleotide composition.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Chemistry
Presenter(s):
Lisa Green

Investigating the Effect of Minimization on DNA Aptamers for Alachlor and Atrazine
Atrazine and alachlor are soil-based herbicides often found in run-off water at concentrations harmful to the environment. Current detection methods such as LC and GC-MS are effective yet not easily transportable and can be expensive. DNA aptamers could be useful for developing cost-effective, portable sensors for these pollutants. Aptamers are single-stranded segments of DNA nucleotides that bind to target molecules with high affinity and specificity. Several aptamers for these herbicides have been identified, but reduction in size could improve their usability in sensors. Progress on minimization and the effect on aptamer binding ability will be discussed.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Chemistry
Presenter(s):
John Samuelian

Electrochemical Investigations of FAD-binding RNA Aptamers
Flavin adenine dinucleotide (FAD) is capable of carrying out a wide range of biological redox reactions due to its relatively high oxidation potential and its ability to participate in one-or two-electron transfer reactions. We are interested in understanding how nucleic acids can interact with FAD and what effect binding has on its activity. Using electrochemical approaches,
we are investigating the redox activity of FAD when bound to RNA aptamers and the ability of these complexes to mimic the characteristics of flavoproteins. We are currently using cyclic voltammetry to study the electrochemical behavior of FAD, including any possible shifts in the reduction potential, when bound to the RNA aptamers.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Civil Engineering
Presenter(s):
Joanne Martin
Melissa Marks
Nirav Patel
Lance Feldmann
Jia Hao Xu

West Florissant Avenue Great Streets Project
The Great Streets Project of West Florissant Avenue is a one mile reconstruction project in Ferguson, Missouri located between Northwinds Estates Dr. and Ferguson Avenue. This project aims to implement the great streets initiatives in order to create a positive community identity, encourage all modes of transportation, and to fit the local community’s needs. By improving the corridor, this project becomes more than a resurfacing project, it becomes a symbol of the progressive forward steps for the Ferguson community.

Location: BSC 253 A (Oral Presentation)
Time: 3:40PM

Civil Engineering
Presenter(s):
Jenna Meyer
Kaitlin Ford
Greg Geimer

Chesterfield Riparian Trail Stream Restoration
In 2011, the City of Chesterfield constructed a half-mile trail alongside a stream in a wooded area. Nearby developments have caused runoff that has eroded the stream banks, threatening the trail. Chesterfield hopes to restore the stream while preserving the area’s environment and natural aesthetics. This project utilizes bioengineering, backfilling, riprap, and cross-vane designs to stabilize the stream, protecting the trail. The project team uses the Hydrologic Engineering Center’s River Analysis System (HEC-RAS) to model the current and future water surface profiles and determine hydraulic forces that cause erosion. The structures and other stream restoration measures will correct existing damage and prevent future erosion by lowering shear stresses caused by the stream.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Communication
Presenter(s):
Kirsten Brackett

St. Louis Entrepreneurial Guide for Immigrants
This project is a guide for immigrants to learn about the first steps of starting their own business. Understanding the St. Louis entrepreneur ecosystem can be tough, especially when you are new to the city. I’ve worked with the St. Louis Mosaic Project to find the correct information that specifically highlights what is most important for immigrants to know. This guide is going to be used by the St. Louis Mosaic
Active member of the University Honors Program

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Project to help reach their goal of having St. Louis be the fastest growing U.S. metropolitan area for immigration by 2020.

*Location: BSC 171-173 (Poster/Artwork)*
*Time: 3:00PM-5:00PM*

**Communication**

**Presenter(s):**
Erin Everson

**Breaking Blue**

Breaking Blue tells the story of Saint Louis University Sophomore Ryan McCoy; the first Billiken swimmer to qualify for the Olympic Trials. Inspired by Ryan’s unique journey and to further my passion for filmmaking, I used this opportunity to both strengthen my production experience and share one of the many success stories found within Saint Louis University’s student body. I am humbled and honored to share my passion for storytelling, by proudly presenting this short documentary production. Breaking Blue was made possible through an Independent Study with Saint Louis University’s Communication Department, and in partnership with Saint Louis University Athletics.

*Location: BSC 171-173 (Poster/Artwork)*
*Time: 3:00PM-5:00PM*

**Communication Sciences and Disorders**

**Presenter(s):**
Barbara Rajski*

**Communication Patterns of Mothers with Pre-Term Infants During Shared Reading and Protoconversations**

Social interactions expose infants to language. In terms of pre-term infants, social interactions become especially important because they are at-risk for language delays. This study was conducted to determine whether mothers’ language differed in two contexts: reading books aloud and engaging in protoconversations. Previously collected videos of twelve mothers and their late pre-term infants were transcribed and analyzed for language productivity and diversity. Descriptive and nonparametric statistics were used to compare the mothers’ language in these two contexts. The outcomes were interpreted to provide evidence about the relative benefits of talking and reading with late pre-term infants.

*Location: BSC 171-173 (Poster/Artwork)*
*Time: 3:00PM-5:00PM*

**Communication**

**Presenter(s):**
Katie Kane

**Reducing Dissonance in the Expectations of Learning Communities at Saint Louis University**

Through a series of 4 focus groups, this project is aimed at minimizing the differences between what first-year learning community students expect their experiences to be and what they actually are. This student feedback will in turn be presented to learning community administrators to effect concrete changes in the ways that SLU’s learning community program is marketed to first-year students and reduce dissonance between expected and actual outcomes.

*Location: BSC 171-173 (Poster/Artwork)*
*Time: 3:00PM-5:00PM*
Communication Sciences and Disorders
Presenter(s):
Emily Reynolds

Speech Language Pathologists’ Professional Relationship with General Education Teachers and the Academic Success of the Student
The purpose of this study is to understand how speech language pathologists collaborate with general education classroom teachers and how this collaborative relationship impacts student success. The qualitative data was collected via an online survey of speech language pathologists in St. Louis County Special School District. The evaluation was designed to determine trends that led to the greater understanding of what enables and inhibits successful collaboration within the school setting. The application of the findings of this and other relevant previous research will be described.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Communication Sciences and Disorders
Presenter(s):
Mary Yadgir
Nicole Panozzo*

Comparative patterns of Gesture Use in Adolescents with Autism Spectrum Disorder
The primary aim of this project was to compare gesture in adolescents with Autism Spectrum Disorder (ASD) to typical development (TD), and relate patterns of use to measures of cognition, communication, and social responsiveness. Adolescents between the ages of 12-17 years with ASD (n=15) were matched to adolescents with typical development (TD) on the basis of age and gender (n=15; IQ > 70). Relative to the matched TD comparisons, adolescents with ASD are expected to produce a significantly higher mean gesture rate. Individual differences in gesture use relative to measures of communication and cognitive ability will be described.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Criminology & Criminal Justice
Presenter(s):
Luke Pereles

Police University
This capstone project is focused on the creation of a national police academy system whereby students are given the opportunity to attend an undergraduate college specializing in all training related to law enforcement. This college program will enable attendees to earn a degree in police science and will also entail internship and externalities opportunities similar to those offered in the medical field prior to graduation. The students attending this program will be best prepared to serve in the community and the nation as a whole, as sworn peace officers.

Location: BSC 351 (Oral Presentation)
Time: 4:00PM

Criminology & Criminal Justice
Presenter(s):
Anastasia Valencia

Juvenile Rehabilitation in Lieu of Incarceration:
A Call for Mandatory Diversion Policy
In the criminal justice system, juvenile offenders are sentenced to prison and/or jail with alarming frequency. This negatively impacts both the juvenile and the system, leading to higher rates of recidivism and negatively affecting mental and physical health outcomes for the minor. This presentation will evaluate the ineffectiveness of incarceration of juvenile offenders and discuss the possibility of policy formation for mandatory diversion programs for first-time juvenile offenders, reducing rates of recidivism among the young population and saving tax dollars for repeated incarceration efforts.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Economics
Presenter(s):
Joseph DuBois*

Innovation and Industry
Why is the United States home to so many privately-held companies valued over a $1 billion, “unicorns” if you will, in comparison to the rest of the world? Better yet, why does it matter? It matters because entrepreneurship is well-established as a driver of economic growth. The intention of this project is to flesh out political or social differences that have caused the US to become the premier leader of innovation. The results of this project could change the way governments and venture capital firms hunt for future unicorns.

Location: BSC 253C (Oral Presentation)
Time: 3:00PM

Economics
Presenter(s):
Helen Farnan*

Who’s Got the Guts?: Analyzing the Relationship between Allotransplant Donation and Socioeconomic Level
The purpose of this study is to determine if there is a correlation between socioeconomic status and bodily donations, such as human organs, blood, and bone marrow. Both donors and recipients will be analyzed using empirical data taken from various national transplant registries. Furthermore, the legality and ethics behind an organ trade market will be briefly analyzed.

Location: BSC 253C (Oral Presentation)
Time: 3:40PM

Economics
Presenter(s):
Nolan Winkelbauer*

An Evidence-based Approach to Alleviating the Malaria Epidemic in Rural Nigeria
The purpose of this paper is to research a possible effect of the High Frequency Trading (HFT). As HFT has risen in popularity, so too has the technology of exchanges risen to process this faster trading activity. The rise in efficiency of trading has been met with a lowering or erasing of transactions costs, including commissions or fees per trade often taken on by the individual investor. Therefore, this paper hopes to discover some relationship between the onset of High Frequency Trading and increased involvement in the stock market on the part of the average investor.

Location: BSC 253C (Oral Presentation)
Time: 3:20PM
2016 Senior Legacy Symposium

Education
Presenter(s):
Stephanie Kaefer*

School Desegregation and Integration Programs in St. Louis
This semester I completed a literature review on school desegregation and integration programs in St. Louis. The purpose of this project was to learn more about the history and current policies that exist, from the effects of the Brown vs. Board of Education Supreme Court case to the modern Voluntary Interdistrict Choice Corporation. I chose to display the outcomes of this research with an art project because I feel that art is an ideal form of sharing and expression, especially for a topic that is multifaceted as this one is.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Education
Presenter(s):
Jessica Lazzara*

Building Community Within an Urban Classroom
Fostering community within a classroom is a necessary part of establishing a welcoming environment where students can grow academically, socially, and emotionally. The need for teachers to build a sense of community within the classroom is essential in order for supportive learning to take place. Through a series of interviews and classroom observation, I will address the need for building community within a classroom and examine strategies that are culturally appropriate for doing so.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Education
Presenter(s):
Moira McDermott

Keeping it Cultured: An Analysis of Effects of Cultural Awareness on Educational Outlooks in High School Students
In today’s schools, teachers have the resources to create a global classroom learning experience focused on developing students into culturally competent individuals without ever leaving the school building. With so many opportunities for international collaboration, the following question arose and directed this research: How does cultural awareness of education in developing countries impact high school students, particularly their cultural self-awareness and outlook on education? Through a process of surveys, journals, presentations, and class discussions, students at Nerinx Hall High School developed a cultural awareness for the country of Belize and reflected on how cultural awareness affects their roles as students.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Electrical & Computer Engineering
Presenter(s):
Josh Beckwith
Kwadwo Gray
Christian Lees
Gerald Ocampo
Labbeb Quaisi

Indoor/Outdoor Position Estimation
Position Estimation Beacon Locator (PEBL) is an outdoor position estimation system, tracking a target object within an arranged Bluetooth mesh network. The design uses beacons placed at predetermined points to create a mesh network, where a device placed in this area can locate itself in real time. Trilateration is used with a database of known signal strength values to estimate a position. The estimated position is communicated to a client via a web application. This type of system has the potential to be more accurate than traditional GPS and may be used for commercial or recreational use.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Electrical & Computer Engineering
Presenter(s):
David Catherall*
Rowan Youssef
Hugo Gonzalez
Jacqueline Decker

Heads Up
The purpose of our project is to create a device to covert speech to text for the hearing impaired. The device will utilize a microphone and speech processing software to convert speech to text, and then will display the text on a heads up display. The device will provide a viable alternative to hearing aids and cochlear implants without the need for expensive equipment or invasive surgery.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Electrical & Computer Engineering

3D Printed Robotic Manipulator
The project our team is designing is a Robotics Manipulator. The main focus of this project is to create a robotic model to be attached to a larger robot that can perform many of the tasks done by a human arm. This project also utilizes 3D printing in order to see the advantages and limitations of using this type of technology to create a robotic model. The project can be broken down into a few functional requirements that will dictate the majority of the project’s design. The primary tasks we would like the arm to be capable of performing include picking up objects, pressing buttons, and pinching objects.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Electrical & Computer Engineering
Presenter(s):
Pablo Gonzalez-Polanco
Brenda Martinez
Deanna Jacobson

Personal Power Generation
Small amounts of electricity can be generated from a number of modalities; Solar, Kinetic Vibration, Thermoelectric junctions, Press-electric junctions. This project will evaluate and integrate a number of portable electricity generation modalities into a textbook sized unit capable of supply charging electricity to a portable device. The portable device will be
limited to those devices that charge using USB plug.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

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**English**

Presenter(s):
Victor Huskey

**Tracing the Sun**
"Tracing the Sun," A feature length screenplay examines Spain's relationship with the famed Running of the Bulls Festival along with bullfighting in general. Told through the eyes of an aspiring American writer, the changing landscape of Spain and its culture begins to hint at the question if Spain's relationship with bulls will always be at the forefront of their culture, or if one day its relationship could instead simply be a part of history...

This presentation is both an introduction into "Tracing the Sun" as a screenplay, but also a presentation of a very unique creative process at SLU, in which Hollywood was mirrored in an academic setting.

Location: BSC 254 (Oral Presentation)
Time: 4:20PM

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**English**

Presenter(s):
Claire Nist

**Shakespeare's Hysterical Murder**

Shakespeare's dramatic murders are staples of his tragedies, but hardly ever are they cold, calculated, or portrayed as the act of pure evil. A Shakespeare murder has a particular kind of emotionally charged tension to it, one that shows murder as a human experience rather than an act that is synonymous with the unfeeling, the animalistic. I am interested in this common, and very human, hesitation and inner conflict in the act of murder, especially when connected to the themes of overcompensation and toxic masculinity in culture and society. I believe that these themes contribute to a pressure to conform and an anxiety over standards for masculinity that ultimately causes not only violence, but a hysterical violence. I intend to look into conceptions of murder in Elizabethan and Jacobean tragedies and see what common portrayals of murder on stage or in literature looked like compared to his. I want to know the specific archetypes that were popular, and how he complicates or challenges them. I also want to look at the source material for the three plays I will be examining and see how he changed or updated the psychology of the murderer. Shakespeare essentially lives in gray areas, but does his portrayal of hysterical murder reveal anything about human nature that was new at the time? I also intend to research the gender norms of the time, especially male standards for behavior in Shakespearean England. Once a context is established, I will turn to specific murders occurring in Shakespeare’s texts, from Macbeth, Richard III, and Othello.

Macbeth’s dagger scene is probably the most famous, but his hesitation is crucial to the trajectory of the play, and to Macbeth’s own spiral into cruelty and insanity. The majority of Richard III’s significance lies in a single scene, wherein two murderers are hired to kill the young princes, and hedge around the act for a good while when faced with the reality of killing innocent children. Even Richard III, who we are led to believe is actually the cold and remorseless...
murderer, falls apart at the end of the play. Othello’s moment of intense rage leads him to murder his own wife, but before he does, he is clearly conflicted, clearly already grieving her loss. Othello is also an excellent example of the destructive tendencies of gender norms. All three plays further a reading of Shakespeare pointing out a toxic masculinity as the root of much violence. They also support a particular kind of “hysterical” murder; when the hesitation and conflicted feelings of the characters are combined with the anxieties over standards of masculinity the violence of the act is heightened, the murders are more intense, crueler, more painful, than if the murderers had perhaps had a little less sympathy. This seems counterintuitive at first glance, but when the hysteria caused by the hesitation and anxiety is taken into account, we can see Shakespeare highlighting the dangerous masculinity in their environments that makes the capacity for murder and violence greater in his male characters.

"Venture Capitalist Realism" explores this analysis of contemporary “capitalist realism” in terms of select works’ utilization of metafiction and self-reflexivity to make a claim about what these works are accomplishing on a different level.

**Location:** BSC 253 D (Oral Presentation)  
**Time:** 3:00PM

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**English**  
**Presenter(s):**  
KJ Schaeffner*

**99% Inaudible**  
Guided by a kinetic musicology, 99% Inaudible constructs a multimedia webspace revolving and expanding around podcasts. The broad thesis motivating the project incorporates the broad thesis motivating the design podcast 99% Invisible: by reconsidering design as an active process rather than a fixed object, we can access much of “the 99% invisible activity that shapes our world.” Putting musicology in motion, I contemplate the agency of a variety of human and inhuman agents to develop a diverse network of creative models: bringing the agencies of architecture, censorship, and -- amongst others -- recording technology into orbit around my evolving theory of musicology.

**Location:** BSC 253 D (Oral Presentation)  
**Time:** 4:00PM

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**English**  
**Presenter(s):**  
Shreya Walia

**A Life Underneath: Finding 'Character' Under**
'Caricature'
E.M. Forster’s famous distinction between flat and round characters describes the “flat” character as a type of caricature, one that is comic, two-dimensional, and uncomplicated. Using traditional Forsterian vocabulary, in his 2001 essay “Human, All Too Inhuman” James Wood criticizes characters in “big, ambitious contemporary novels” for their “vivacious caricatures” and “all shiny externality,” whereby the interiority of characters is sacrificed for overarching ideas, themes, and comedy in a manner that is too flat. At the very core of Wood’s criticism is the question of relevance: to what extent is the usefulness of cartoonish characters who are “not really alive, not fully human,” if the purpose of realist fiction is a serious representation of humanity? I argue that this technique is successful in portraying the depths of the human consciousness as it attempts to navigate the social strata of contemporary life. I ground this effort within an analysis of the characters in Jonathan Franzen’s The Corrections and Zadie Smith’s White Teeth, with theoretical frames from E. M. Forster, Sianne Ngai, and James Wood.

Fine and Performing Arts (Music)
Presenter(s):
Katherine (Katie) Reitano*

Music in Catholic Liturgy
This paper examines the history of and the issues surrounding music in the Roman Catholic liturgy and its impact on Catholics and the Church. When looking at the use of music in Church history, one can see that music has been and will always be a crucial part of liturgy and prayer. Despite its various manifestations throughout church history, music has a specific role and provides an essential element that cannot be provided by any other element in the liturgy. I will argue that pastoral judgment and consideration is the most important factor when making musical decisions for the liturgy.

Fine and Performing Arts (Studio Art)
Presenter(s):
Lacy Shreves

Crucifixion 2
This piece is an attempt to depict the crucifixion of Christ in an unusual perspective, from the view of God. It captures the frame in a somewhat gruesome context. The thick layers of oil paint are layered to create texture are combined with a top-down perspective, creating a sense of depth and dimension.

Fine and Performing Arts
Presenter(s):
Ben Lewis

Directing Theatre
The purpose of this project is to assemble and lead an entirely student team of actors and designers through the process of producing an original, full-length play written by a student. It has been necessary to collaborate with various artistic teams throughout the process.
Additionally, I have been working as director, dramaturg, producer, and designer for sets, props, lights, sounds, and projections to create this production. Facing creative and logistical challenges, I hope to prove the importance of collaboration and communication in bringing a theatrical work to fruition.

**Location:** BSC 253A (Oral Presentation)  
**Time:** 4:20PM

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**Fine and Performing Arts**

**Presenter(s):**  
Alicen Moser  
Anthony Kramer

**The Reincarnation of Holly Golightly: An Avant-garde Performance Experiment**

Inspired by the work of avant-garde theatre artists such as Anna Deavere Smith and the Wooster Group, this project explores a purely physicalized approach to acting. Using Audrey Hepburn's portrayal of the character of Holly Golightly as the form, I explore acting as a technical art as I recreate Hepburn's performance. This physical approach to developing character is very different to psychological realism, the acting style more familiar to me. Through my experimentation with a new method I hope to create a performance that's engaging and awakening for both performer and audience.

**Location:** BSC 253 A (Creative Performance)  
**Time:** 4:40PM

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**Directing Theatre**

The purpose of this project is to assemble and lead an entirely student team of actors and designers through the process of producing an original, full-length play written by a student. It has been necessary to collaborate with various teams. Additionally, I have been working as director, dramaturg, producer, and designer for sets, props, lights, sounds, and projections, to realize this production. Facing creative and logistical challenges, I hope to prove the importance of collaboration and communication in bringing this theatrical work to fruition.

**Location:** BSC 253 A (Oral Presentation)  
**Time:** 4:20PM

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**Health Care Ethics**

**Presenter(s):**  
Megan Danzo*

**Disparities in Health Care: An Analysis of Diabetes Mellitus**

With a 13-year life expectancy gap between upper and lower class citizens, disparities can be identified throughout the healthcare system. Diabetes mellitus serves as a model to demonstrate how poverty, lack of access to care, and fewer resources can lead to worse health outcomes. Inner city populations have a higher prevalence of diabetes, as well as an increased occurrence of uncontrolled diabetes. However, with proper care, the prevalence of diabetes and uncontrolled diabetes can decrease nationwide. Ethically, the health care system should work to increase resources and quality care available to patients in the inner city to better their health outcomes and decrease inequalities in healthcare.
Health Care Ethics
Presenter(s): Catherine Larsen

Opting Out of the Organ Shortage
In the U.S., the current policy concerning cadaver organ donation is express consent, which creates an opt-in system. Conversely, a presumed consent policy creates an opt-out system, in which donation is the default. This presentation provides an ethical analysis of an opt-out system of cadaver organ procurement and concludes that a presumed consent policy can be ethical. To come to this conclusion, topics such as autonomy, the demands of the organ pool, informed consent, and implications in policy change are examined. Education regarding implementation, and groups with limited access to information, are highlighted as areas that are due extensive consideration.

Health Care Ethics
Presenter(s): Stephanie Wormald*

The Transgender Community & Healthcare: Bridging the Gap
Discrimination is ever-present for the transgender community, especially in healthcare. While some states have anti-discrimination laws in place, the levels of protection vary greatly and the level of enforcement isn’t known. In order to combat the inequity and lack of access of healthcare, I believe that the government should designate resources to build health care clinics that service the transgender community. In my presentation, I will argue why all individuals have a right to health care and why the transgender community in particular should be afforded resources to form specialized clinics to care for the diversified and specific needs present.

This paper examines two Supreme Court cases, Minersville School District v. Gobitis and West Virginia State Board of Education v. Barnette, which both dealt with students’ First Amendment rights to abstain from saying the Pledge of Allegiance. The primary sources used are the Court opinions and dissents from the cases. The rulings demonstrate a Supreme Court attempting to balance individual rights against a compelling government interest. The rulings address several essential elements of the Constitution including liberty, the relationship between the individual and the state or community, and the extent to which the state can limit rights of its citizens.

* Active member of the University Honors Program
**History**

Presenter(s):  
Andrew Schleicher

**Unofficial Ambassadors of Goodwill: The Middle East Pocket Guides and American Foreign Policy during World War II**

This paper explores US-Middle East relations during World War II, calling attention to new sources that challenge historians' assumptions. Using documents called "Pocket Guides" about Middle Eastern countries, I argue that America first sought active, long-term involvement there during World War II, not during the Cold War, as some argue. These Guides were part of the military's effort to win hearts and minds and reflects the State Department's desire to increase America’s prestige, even if that meant challenging its own allies. That both the military and the State Department desired this suggests that it might not have been an isolated ambition.

Location: BSC 251 B (Oral Presentation)  
Time: 3:20PM

**History**

Presenter(s):  
Nathan Thibon*

**Serving in the Sands: The Jesuits and their Students at Baghdad College**

Last semester I took a seminar course in which I was instructed to write a 20 to 25 page research paper involving relations between the United States and the Middle East. Knowing that there was a Jesuit archive located a short distance from the campus, I decided to conduct research on Baghdad College. Baghdad College, which still exists today, was an American Jesuit-run secondary school in Iraq that enjoyed great success. For my essay, I used primary documents found at the Jesuit Archives at Saint Louis University and at Holy Cross, as well as secondary sources such as the book Jesuits by the Tigris. The essay's objectives are to discuss the various successes of Baghdad College while simultaneously proposing a number of reasons as to why the Jesuit school was so successful. The three factors of not evangelizing, creating a tolerant and friendly environment, and the Jesuit mindset of equating their students to Americans, contributed to the great achievements that Baghdad College enjoyed under the supervision of the Jesuits.

Location: BSC 251 B (Oral Presentation)  
Time: 3:40PM

**Honors**

Presenter(s):  
Brinda Gupta*

**Effects of Chemically Doped Bioactive Glass on Neuron Regrowth and Regeneration**

Peripheral nerve injuries present challenges to reconstruction. Bioactive borate glass (BBG) provides structural support, degrades in a non-cytotoxic manner, and can be chemically doped. The purpose of this project is to determine optimal BBG chemical dopants that improve neuronal survival and outgrowth. Embryonic chick dorsal root ganglia (DRG) were imaged after timed exposure to doped BBG to determine neurite outgrowth from whole DRG and survival rates of dissociated DRG. Results indicate that chemically doped BBGs have variable effects on neuronal survival and outgrowth. Chemically doped BBGs exhibit promise as a new biomaterial for peripheral nerve regeneration.
**Honors (Biology)**

**Presenter(s):**
Matthew Hirabayashi*

**Comparative Peroxidase Activities of Cytoglobin and Neuroglobin**
The recently discovered proteins within the globin family, neuroglobin and cytoglobin, have poorly understood functions. Two common globins, hemoglobin (in red blood cells) and myoglobin (in vertebrate muscle cells), bind and deliver oxygen to tissues in the body and muscles during intense respiration, respectively. Last summer I helped to describe the peroxidase activity of myoglobin. This project involves expressing and purifying cytoglobin and neuroglobin in bacteria to assess their redox activities compared to myoglobin. In addition, I would also evaluate the role of a tyrosine site mutation on the redox activity of myoglobin to reveal the specific peroxidase mechanism. The importance of this experiment is describing what may be a major antioxidant mechanism (globin peroxidase activity).

**Location:** BSC 171-173 (Poster/Artwork)
**Time:** 3:00PM-5:00PM

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**Honors (Theology)**

**Presenter(s):**
Theresa Martin*

**Storytelling and the Sacred**
The following presentation will address the role of storytelling as a means of combatting the current environmental crisis. Through poetry and photography, I will share my experience of conducting research on Celtic Christianity in Ireland this past summer, and I will explain why this research has led me to conclude that storytelling recalls the sacred. Ultimately, I will show that through the power of story, human beings can reclaim an understanding of the sacredness of the earth and work to more fully honor the natural environment.

**Location:** BSC 351 (Oral Presentation)
**Time:** 4:40PM

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**Honors (Center for Anatomical Science and Education/Biomedical Laboratory Science)**

**Presenter(s):**
Adam Benckendorf*

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A major contributor to low back pain is the development and progression of osteoarthritis (OA) in the spinal facet joints (FJ). The mechanisms of this OA induced pain are not well understood. Recent studies revealed a novel animal model using external spinal linkage to examine progressive OA changes of FJ tissues that may mimic the progression of human FJ OA. We determined whether alterations to the FJs following linkage are associated with changes in the FJ capsule. Funded by the ILEX grant, I presented our findings at Experimental Biology 2016, an annual research meeting of over 14,000 scientists and exhibitors.

**Location:** BSC 351 (Oral Presentation)
**Time:** 4:20PM
Association of Systemic Inflammation with Indicators of Healthy Lifestyle
C-reactive protein (CRP) is a biomarker of systemic inflammation: high levels are associated with cardiovascular disease. This study focused on determining links between systemic inflammation (using serum CRP as indicator) and gauges of healthy lifestyle, such as body mass index (BMI), physical activity and stress management. Serum CRP was determined by a high-sensitivity method and lifestyle was defined by self-reported answers on a questionnaire. Human subjects (n=104) were recruited and the study proceeded as per an approved IRB protocol. Results indicated that increased exercise, decreased stress and low BMI were associated with low CRP indicating low or no systemic inflammation.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Investigative and Medical Science
Presenter(s):
Chiemeziem DePaul Ohiri
Kemdi Egekeze
Kayla Schmidt

Development of a Microscopic Method for the Detection of Hemoglobin C
Hemoglobin C is the second most prevalent hemoglobinopathy worldwide behind sickle cell anemia. HbC disease produces mild symptoms but is life-threatening if inherited with HbS. HbS and HbC are prevalent in countries underequipped to diagnose them. This study aims to create a simple, inexpensive method to identify Hemoglobin C. The hypothesis is Hemoglobin C will crystallize intracellularly when incubated at 37°C in a hypertonic salt solution and become microscopically visible when stained with New Methylene Blue. HbSC blood incubated in sodium chloride concentrations between 3%-6% for 24 hours induced crystals. Further studies seek to optimize the method to determine zygosity.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Investigative and Medical Science
Presenter(s):
Natasha Khatwani
KayKay San

Antiproliferative Effect of Phytochemicals on a Colorectal Cancer Cell Line
Colorectal cancer (CRC) is the second leading cause of cancer-related deaths in America. Clinical observations suggest that epithelial-mesenchymal transition (EMT) plays a central role in tumor progression and metastasis in CRC. EMT is induced in CRC cells by radiation and chemotherapy. Curcumin is a phytochemical that shows anti-cancer activity in a wide range of cancers. We compared the antiproliferative effect of curcumin on the DLD-1 CRC cell line and a chemoresistant cell line derived from DLD-1. Additionally, we compared the antiproliferative effects of curcumin derivatives (dimethoxycurcumin, bisdemethoxycurcumin and tetrahydrocurcumin) on the DLD-1 cell line.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM
**Languages, Literatures, and Cultures**

Presenter(s):
Ajay Chatrath

**Political and Economic Constraints in Modern Russian Healthcare Reform**

Recent polls suggest that Russians are dissatisfied with their healthcare system, despite recent reforms. The purpose of this presentation is to compare the political and economic trends just before the fall of the Soviet Union to the healthcare reforms made in the past two decades. I will argue that despite the power of the Russian government, the its ability to enact effective healthcare reform is constrained by the inefficiencies revealed by the Soviet healthcare system and the lack of classic market mechanisms revealed after the fall of the Soviet Union.

*Location: BSC 351 (Oral Presentation)*  
*Time: 3:40PM*

**Latin American Studies**

Presenter(s):
Emily Haas

**Assessing Mental Health Resources and their Availability and Accessibility to the Latino Population in St Louis**

This project overall seeks to strengthen the sense of community among the Latino population of St. Louis through the various organizations that provide mental health services to this population. First, I seek to collect information from the various organizations in order to compile and share a sort of database of mental health resources for this community. Secondly I seek to understand how much information is available to the Latino about how acculturative stress is a common effect of immigration trauma. Third I seek to further analyze where there are gaps in resources available and resources utilized as well as potential areas of growth in this area of community support. Finally, with all of this information I would ultimately like this project to foster further connection between organizations that offer these services.

*Location: BSC 251 B (Oral Presentation)*  
*Time: 4:20PM*

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**Latin American Studies**

Presenter(s):
Melissa Zaitz

**Violence in the Northern Triangle: What’s the Problem and How do We Solve it?**

The northern part of Central America is riddled with gang violence so prevalent it resembles a war zone. The major gang involved, Mara Salvatrucha, originated in Los Angeles in the eighties as a combined result of the civil wars in El Salvador and the gangland environment of LA during the same time. Thought US born, it has most affected the northern countries in Central America. Efforts to combat it have come from within as well as from external aid, yet they have been largely unsuccessful. A new approach is necessary – one that may combine some of the current efforts with strategies that have been successful in other parts of the world.

*Location: BSC 251 B (Oral Presentation)*  
*Time: 4:40PM*

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**Magnetic Resonance Imaging**

* Active member of the University Honors Program
Pregnancy in Magnetic Resonance Imaging
The purpose of this study is to see if different medical facilities use magnetic resonance imaging (MRI) to image pregnant patients. This type of imaging has been used to evaluate conditions and diseases in pregnant women and in the fetus. There is a need for further studies to determine if there are any side effects to pregnant women and their fetus. The study is conducted by sending out surveys to various medical facilities. Results showed that out of the twenty-three responses, nineteen facilities image pregnant patients.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Management
Presenter(s):
Evan Klene
Jennifer Pantano
Katie Polus
David Fischer

SPEED
Consulting for a hospitality and tourism client to help with his business process, enhancing his company’s deliverables, and data mining analysis.

Location: BSC 251 A (Oral Presentation)
Time: 4:00PM

Mathematics and Computer Science
Presenter(s):
Sarah Blackwell*

A Generalization of a Method of Mordell to Ternary Quadratic Forms
Mordell in 1958 gave a new proof of which integers are representable as the sum of three squares. We generalized those techniques to characterize the integers represented by the remaining six “Ramanujan-Dickson ternaries” as well as three other ternary quadratic forms.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Mathematics and Computer Science
Presenter(s):
Luke Reichold*
Matthew Meyer

Cardiovascular Recovery Tracking System
While consumer fitness trackers are becoming increasingly common, they are not yet incorporated into post-operative health care in any standardized way. Therefore, this project uses a web application and commercially available fitness trackers to allow physicians to monitor the progress of a recovering patient in the weeks and months following a cardiovascular operation. Analyzing the patient’s heart rate, activity, and sleep trends in real time, the system notifies the physician if potentially concerning conditions arise (such as an elevated heart rate with little associated activity). Such a non-invasive tool provides physicians with richer data to make more informed decisions.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Mathematics and Computer Science
Presenter(s):
Antanas Siliunas
Saddha Santanapor

Crash Protocol
Bloody, senseless violence and gore saturate many popular videogames today. Once being avid consumers of these videogames, we yearned to find a game that abstains from needless, bloody brutality, while still maintaining the immersive, action-packed gameplay that makes us videogame fanatics. Since we couldn't find such a game, we've decided to build our own. Using openly available game design technologies, we pushed our computer science education to the max to create Crash Protocol. Set in an imaginative cyber world, our game plunges players into a cyber battlefield, where they must battle hordes of hostile drones.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Medical Humanities
Presenter(s):
Vishal Thakkar

Understanding “Freak” in Bioethics: A Case Study of Marilyn Manson
This paper investigates the character of Brian Warner, popularly known as Marilyn Manson, and the idea of him being a made freak in society, someone who may have lived a seemingly normal life but digressed from the norm through career, action, etc. The pop culture and entertainment industries sometimes bring to light other characters like Lady Gaga and Michael Jackson as other freaks based on actions or lifestyles. Understanding the idea of freaks contributes to health care ethics since science and medicine are sometimes the reason that people are labeled as such.

Location: BSC 254 (Oral Presentation)
Time: 3:00PM

Medical Laboratory Science
Presenter(s):
Christine Bennett

Formation of Neutrophil Extracellular Traps by Escherichia coli Addition to Human Blood
Neutrophils are the most numerous leukocytes in human blood: their primary function is to serve as first responders to infection. A recently identified host defense mechanism is netosis, a process by which neutrophils extend extracellular traps (NETs) that ensnare and kill bacteria. The current research involved addition of bacteria to blood and preparation of stained smears for assessment of NET formation. Results indicated that NETs were produced and readily evident by microscopy. These results show that NET analysis is possible using methodologies currently available in clinical laboratories. Diagnostic significance is identification of innate immune status of patients with bacterial sepsis.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Medical Laboratory Science
Presenter(s):
Anthony Catalano

The Effect of Escherichia coli Endotoxin on the Formation of Neutrophil Extracellular Traps in Human Blood
Neutrophil extracellular trap formation is a recently discovered mechanism of bacterial
killing by neutrophils. The current research involved addition of endotoxin, a membrane component of many bacteria, to blood and preparation of stained smears for assessment of NET formation. Visualization of NETs was possible and they were easily distinguishable from other cellular components. Results indicate that NETs can be used to identify host response to septicemia by routine clinical testing. Diagnostic significance of this study is identification of innate immune status of patients with bacterial sepsis.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Medical Laboratory Science
Presenter(s): Jordyn Huston*

Copper Sulfate Quantitative Falling Drop Hemoglobin Method Correlation Studies
Severe anemia causes a reduction in the quality of life, yet many laboratories in underdeveloped countries are unable to measure hemoglobin. This research compares the quantitative copper sulfate method of hemoglobin measurement to four other methods. Fresh blood was analyzed using each method, and the results were compared to the gold standard using the Pearson’s rho. The HemoCue has the highest strength of correlation, followed by the Mission Plus, then the quantitative copper sulfate hemoglobin method, and finally the WHO Colour Scale, implying that the copper sulfate hemoglobin method may be a less expensive option for laboratories in underdeveloped countries.

Location: BSC 171-173 (Poster/Artwork)

Nuclear Medicine Technology
Presenter(s): Erin Mustain

Sentinel Lymph Node Detection in Melanoma Patients; Impact of Lesion Location, Patient’s Age, Gender and Weight
Lymphoscintigraphy with a radioactive tracer is used in the localization of sentinel lymph nodes (SLN). This study attempts to identify reasons for delay in injection to visualization (ITV) or lack of visualization (LOV) of SLN. Medical records of melanoma patients were reviewed. Of 178 patients, 68 F and 110 M; average age 57 years; average weight 88.6 kg; 49 patients had melanoma in H&N region. Four patients had CHF. SLN was detected in 91.5% patients with average ITV of 47.3 minutes. LOV and longer ITV of SLN is more common in patients with H&N melanoma, older and or female patients.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Nuclear Medicine Technology
Presenter(s): Britton Spiegel

Identifying the Role Technologists May Play in Meeting Compliance with the SNMMI Elements of PET/CT Reporting Guidelines
Guidelines have been established by the SNMMI in PET/CT imaging which outline information a technologist should provide a physician in order to assist in exceptional patient outcomes. A PET/CT patient history form and one PET/CT de-identified patient report were collected from
each site in the study. A single, consistent PET/CT Report portraying the SNMMI’s standards should be utilized at St. Louis area sites in order to assist as much as possible in patient treatment. Overall, compliance existed among the seven sites as compared to SNMMI standard PET/CT Report. Portraying a clear, comprehensive, and inclusive PET/CT Report could possibly improve outcomes for countless patients.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Nursing
Presenter(s):
Mohammad Alhalabi
Hayley Bokern
Anna Cirone
Rachel Kia
Kendall Konicke
Stephanie Mazanek
Claire Tracy

The Effects of MyChart Activation
The purpose was to determine the effect of MyChart activation on readmission rates in the patient population at Saint Louis University Hospital. Current MyChart activation rate is 15% and the aim was to activate at least 50%. A literature review showed patient access to their electronic health record decreased readmission rates and improved patient adherence to discharge plans. Barriers prevented us from reaching our goal including lack of internet access at the bedside computers and computer access at home. Recommendations of the project include activating patients MyChart during their hospital stay and give Care Partners the ability to activate MyChart.
**2016 Senior Legacy Symposium**

Different fruit and vegetable popsicles and comparative nutrient analysis.

Conclusion: Although, “hidden veggies” may not present a long-term solution for improving isolated vegetable consumption, it is a starting point for increasing vegetable intake. “Hidden veggie” popsicles present an alternative or supplement to conventional fruit and vegetable consumption, and may help increase fruit and vegetable consumption in children and neophobic eaters.

*Location: BSC 171-173 (Poster/Artwork)*
*Time: 3:00PM-5:00PM*

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**Nutrition and Dietetics**

**Presenter(s):**
Claire Conroy
Carla Velarde
Kelsey Kniepmann

**Reducing the Consumption of Sugary Beverages in Pre-Teen Adolescents**

The consumption of sugary beverages in adolescents, pre-teens, and even young children has sky rocketed worldwide. In the United States alone, roughly 1/2 of the population consumes at least one sugary beverage each day, contributing about 140 calories with each serving. The consumption of energy dense beverages rather than nutrient dense foods may contribute to future health disparities such as obesity, Type II diabetes, hypertension, and cardiovascular disease. Through media presentations such as print ads, TV, and radio commercials, we aim to reduce the consumption of sugary beverages in this population to reduce future health risks.

*Location: BSC 171-173 (Poster/Artwork)*
*Time: 3:00PM-5:00PM*

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**Health Disparities Among Native Americans**

The Navajo Nation, which is about the size of West Virginia, spreads through the South-Western United States. The purpose of this project is to explore the countless health disparities that exist among the Navajo compared to the total U.S. population. Access to healthy foods, high unemployment, and water rights discrepancies are all barriers to health that exist among natives. Information for this project was collected through research initially, and then through a week long immersion trip to Klagetoh, Arizona. The intended outcome of the project is to increase awareness of the current conditions Native Americans are subject to.

*Location: BSC 171-173 (Poster/Artwork)*
*Time: 3:00PM-5:00PM*

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**Nutrition and Dietetics**

**Presenter(s):**
Rachel Mullins

**Savory Granola for Weight-Loss**

Obesity is increasingly becoming more prevalent across America. The National Institute of Health claims that about 68 percent of adults are overweight or obese. Like many Americans, I have had my own weight fluctuations over the years. While there are many ways to lose weight, my philosophy is to focus on what I put into my body rather than what I take out of my diet. This food demonstration of a savory granola displays my food philosophy and illustrates a simple,
2016 *Senior Legacy Symposium*

nutritious snack to support weight loss.

*Location: BSC 253B (Creative Performance)*  
*Time: 4:40PM*

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**Nutrition and Dietetics**

**Presenter(s):**  
Carla Velarde  
Colleen Daly

**Protzels**

Protzels are one of the most popular grab and go snacks in the US. We wanted to create a versatile product that would reach a multitude of diverse populations. We attempted to increase the protein content of this popular snack food while maintaining an excellent taste, quality, and appearance by using DuPond's soy pellets. These pellets increase vegetable protein in diets instead of animal protein. We used the same methods of cooking and preparation between a control and our variation in order to compare customers satisfaction. Our product received a lot of positive feedback when compared to control.

*Location: BSC 171-173 (Poster/Artwork)*  
*Time: 3:00PM-5:00PM*

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**Nutrition and Dietetics**

**Presenter(s):**  
Annalise Winter

**Vegan and Sustainable Cheddar Sausage Scones**

Many people are aware of the environmental benefits of eating less meat in their diet but don’t always know where to start. By eating less meat, we save water, minimize carbon dioxide emissions, and increase our overall health without sacrificing flavor. This cooking demonstration will show how easy it is to make a delicious, savory scone for an anytime snack that is environmentally friendly and cholesterol free. My recipe is inspired from my favorite vegan bakery and coffeehouse, MudPie, located in Kansas City, Missouri.

*Location: BSC 253B (Creative Performance)*  
*Time: 4:20PM*

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**Occupational Science and Occupational Therapy**

**Presenter(s):**  
Kathryn Been  
Camille Haas

**Occupational Outcomes of Empowerment Based Programming on Women over age 18**

SLU encourages scholarship and intellectual inquiry to promote societal change. A barrier those identifying as female face is the range of abuse 1 in 4 will experience. Research shows that a decreased sense of self-worth makes women more vulnerable to abuse. Women’s empowerment can stem from their participation in occupations such as work or attending school. By engaging women in the occupations they value according to the Occupational Therapy Practice Framework (2015), OTs can use our suggested model as a preventative agent of occupational deprivation for women, thus improving community engagement and being an agent of social justice for them.

*Location: BSC 171-173 (Poster/Artwork)*  
*Time: 3:00PM-5:00PM*
Occupational Therapy
Presenter(s): Tessa Boston*

Translating Occupational Science Knowledge About Immigration Using a Framework of Occupational Justice
This literature review explored the occupational perspective of immigration and identified gaps existing in current knowledge. Findings suggest that many immigrants face injustice due to skill transference (Hocking, 2012) and a lack of opportunity for meaningful occupation (Sterling & Nayar, 2013). The Participatory Occupational Justice Framework (Whiteford & Townsend, 2011) can guide collaborations with immigrant communities and service-providers to ease the transition of international relocation by aiding in the translation of immigrants’ knowledge and skills to increase opportunity. This project exemplifies the values of a SLU education through its intellectual inquiry and aim to help support immigrant communities.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Philosophy
Presenter(s): Maria Bednar*

Childcare & Epistemological Injustices of Feminist Concern
Epistemological injustice as related to issues of feminist concern entails instances and patterns in which women’s knowledge is either dismissed, devalued, or appropriated, resulting in harm and injustice done to the women involved as they are conceived of as knowers. This project centers on Joanna Kadi’s understanding of the devaluation of knowledge in university settings based on class, and Vandana Shiva’s discussion of the appropriation of traditional fields of women’s knowledge by capitalist-patriarchal systems. My experience volunteering at Cornerstone Center for Early Learning and the work of Kadi and Shiva serve here to reconstruct philosophy into a call for justice.

Location: BSC 254 (Oral Presentation)
Time: 3:20PM

Occupational Science and Occupational Therapy
Presenter(s): Kelly Nesbitt
Kelsey King
Kendra Adams
Nora Plank

Savvy Shopping for Mom
Savvy Shopping for Mom is a community-based educational module developed for Almost Home, a pregnant and parenting teen-mother shelter in Saint Louis. The module educates mothers about how to buy food on the limited budgets provided by federal benefit programs; it also educates mothers about food deserts and food insecurity (Ver Poleg, 2010). Creating this educational module through collaboration with a community partner facilitated the application of knowledge about occupational injustice (Durocher et al., 2014) and understanding about how Occupational Therapy students can serve different populations through scholarly pursuits.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM
Physical Therapy and Athletic Training
Presenter(s):
Elanna Arhos

The Effect of Movement Training on Hip and Knee Angles and Hip Muscle Strength in Females with Patellofemoral Pain
Chronic knee pain (patellofemoral pain (PFP)) can result from repeated learned faulty movements during everyday tasks. Hip muscle weakness may be contributory. Female subjects presenting with PFP completed a 6-week movement training physical therapy intervention. Hip and knee angles during a single-limb balance task and hip muscle strength were compared before and after the intervention. Correlations between changes in hip and knee angles and strength were determined. Following intervention, hip and knee angles and hip muscle strength improved. However, no correlation between strength and movement was observed, suggesting improved movement was due to enhanced motor control, rather than increased strength.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Physical Therapy and Athletic Training
Presenter(s):
Amelia Meigs

The Development of Cultural Competence and Professionalism in Athletic Training Students through Advocacy and Service Learning
Atheletic Training is dedicated to prevention, emergency care, and rehabilitation of medical conditions. The SLU Athletic Training program teaches behaviors such as cultural competence and professionalism. Outreach to students is a prime opportunity for current and aspiring healthcare professionals to gain experience with foundational behaviors and advocate for the profession. This project will demonstrate service learning sites such as: a conference on STEM fields for middle school female students, an Athletic Training Club for students at a diverse urban public high school, and an international Interprofessional Healthcare Debate. The effectiveness of these activities is assessed through stakeholder feedback and student reflections.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Physical Therapy and Athletic Training
Presenter(s):
Tessa Fate*

Massage and ROM Intervention Program to Combat the Effects of Malnutrition in Infants
Malnutrition can have detrimental effects on sensorimotor development as well as parent/infant bonding. An intervention program consisting of massage and range of motion (ROM) exercises was developed for parents of malnourished infants and children served by a clinic in Guatemala. The intervention features bilingual instructional cards (Spanish/English) of massage and ROM techniques that can be implemented by parents and/or volunteers at the clinic. Ways to interact with malnourished infants to enhance sensory input, promote mother/child bonding, and maintain ROM are provided. Images are included so that the techniques can be performed easily and safely by individuals who may be illiterate.

Location: BSC 171-173 (Poster/Artwork)
2016 Senior Legacy Symposium

Time: 3:00PM-5:00PM

Physical Therapy and Athletic Training

Presenter(s):
Sarah Lehman

Are Children with Cerebral Palsy Who Attend an Adapted Sports Camp Achieving Healthy Activity Levels?
Health guidelines suggest children with cerebral palsy (CP) spend 20-60 minutes/day above 60% maximum heart rate (HR). For some children with CP, it is challenging to engage in the recommended levels of activity. I examined the percentage of time children with CP who attended an adapted sports camp spent above 60% maximum HR. Data were collected using HR monitors. Despite attending an activity camp, the majority of children still spent most of their camp time below 60% maximum HR. This prompts the need to investigate individualizing activities that increase HR to allow every child to achieve healthy activity levels.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Physics

Presenter(s):
Gyujoon Hwang

Lumped Element Kinetic Inductance Detector (LEKID) as a Medical Imaging Device
A lumped element kinetic inductance detector (LEKID) measures the change in the quasiparticle density inside a superconducting resonance circuit to detect incident photons. This technology has been proven to be sensitive enough to detect single X-ray photons for deep space astronomy. In this research, we attempt to implement this technology in developing an effective medical imaging device, by studying the amount of radiation needed to reconstruct a high-resolution image and by proposing a number of potential designs for the device. The high sensitivity of LEKID is expected to help reduce the radiation dose significantly in X-ray or CT imaging.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Physics

Using Quantum Walks to Implement Quantum Computing Gates
Quantum computers use quantum gates to manipulate information. These manipulations can be performed via a quantum walk, which mathematically describes the evolution of a system perturbed by a laser pulse. Quantum walks can make use of extra non-binary states to perform faster computations. Using analytical methods, we have obtained solutions for walks that implement useful gates, like the Hadamard gate and CZ. These solutions define laser pulse amplitudes needed to perform operations. We have also developed methods for simplifying complicated quantum walk systems, which may be useful for multi-qubit gates.

Location: BSC 253 D (Oral Presentation)
Time: 4:20PM
**Creation of Nanoscale Heterostructures Using Scanning Probe Nanolithography**

In this study, we employ simple and flexible "direct write" patterning technique to fabricate and study MoS2 / WS2 heterostructures. The proposed direct write method is based on parallel dip pen nanolithography (DPN), which is a lithographic technique that uses scanning probe tips in an array of 2D cantilevers. This method has number of advantages for the large area fabrication of a variety of nanostructures. This mask free lithographic technique significantly reduces contamination of the surface during patterning and demonstrates a promising unconventional technology for fabricating high quality hetero-structures of two-dimensional atomic crystals with nanoscale precision.

*Location: BSC 253 D (Oral Presentation)*
*Time: 4:40PM*

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**Political Science**

**Volunteering and Voting: The Impacts of Service on Political Behavior**

Today’s youth participate in unprecedented levels of community service, yet youth voter participation rates remain low. My research examines the effects of service on youth's political behavior. Given that service can be an impactful experience, I expect to find that service leads to a positive increase in youth political participation and will have the greatest impact on those coming from advantaged social groups. To test these hypotheses, I analyze and compare data collected from two surveys on young adults in the United States. In doing so, this research will allow further examination of the factors that influence youth political behavior.

*Location: BSC 351 (Oral Presentation)*
*Time: 3:00PM*

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**Judicial Reform in Morocco**

During the Spring of 2015, I studied judicial reform in Morocco. While in the kingdom’s capital, I conducted interviews with activists, journalists, and officials. My presentation demonstrates how after pressure from the populace for judicial reform during the Arab Uprisings in 2011, King Mohammed VI has maintained power with his soft-authoritarian government without enacting any major reforms. There is a growing population of young, unemployed Moroccans who are upset with their government and hold current political actors accountable for the human rights violations that occur daily.

*Location: BSC 351 (Oral Presentation)*
*Time: 3:20PM*

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**Political Science**

**Public Opinion of Labor Unions in the United States**

The purpose of the research is to better understand why Americans form opinions on the
subject of labor unions. There are two main schools of thought on the topic: rational choice and sociological factors. I add sociological factors to rational choice, which creates a more nuanced understanding of opinion formation specifically on my subject of labor unions. I conducted regression analysis using timeseries data and conducted interviews of people about their opinions of unions. I found that income, membership density, education, political party, occupation, change in gross domestic product, and union membership were significant in union opinion formation.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Psychology
Presenter(s):
Kaleigh Barrett*

The Impact of Undocumented Immigration Status on Academic Performance in Undocumented Immigrant Youth
While volunteering at the Migrant and Immigrant Community Action Project, I have helped to prepare applications for undocumented immigrant youth seeking Deferred Action for Childhood Arrivals. A popular form of evidence for childhood arrivals is a report card from each academic year, which not only demonstrates continuous residence, but also indicates academic performance. Observations suggest MICA clients demonstrate satisfactory academic achievement in elementary school and below average achievement in high school. These observations agree with past research, which hypothesizes that immigrant youth display a greater form of resilience as a result of their undocumented status. However, this resilience typically tapers off near high school graduation as a result of the realization that the lack of documentation impedes their ability to finance a college education. By working directly with clients, I have furthered my knowledge about the need to mobilize additional resources, such as education programs, for the immigrant community.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Is Silence Really Golden? An Informal Guideline
Moderating the Usage of Smart Devices among Children and their Caregivers
Smart-devices have increasingly become a central part of people’s lives. The devices play key roles in social communication, information access, and entertainment. Children are frequently allowed by their caregivers to personally interact on these smart-devices for both educational and entertainment purposes. Some researchers have expressed concern that over-exposure to a smart-device at an early age can cause negative developmental effects, since they can interfere with the daily interactions that are necessary for a child's development. Presently there is little empirical research on how the use of smart-devices might impact communication between caregivers and children. In an effort to help reduce potential negative effects of smart-devices on child-parent communication, and borrowing from social-learning theories, we developed an action plan to help families re-
The Effects of Mindfulness Meditation and Neuroticism on Anxiety
Research suggests that people who suffer from anxiety are often high in neuroticism. Neuroticism is negatively related to state mindfulness, and individuals who are low in mindfulness and high in neuroticism often experience increased negative emotional reactions. Mindfulness meditation has been shown to moderate some negative emotional reactions associated with neuroticism, such as depression and anger. The current study examined the effects of mindfulness meditation on anxiety and how neuroticism affected this relationship. Participants’ neuroticism was measured and each watched either a guided mindfulness meditation or a control video and then completed the STAI Y-1 to examine any effects the video had on anxiety. The researchers predicted that mindfulness meditation would lower anxiety levels in both high and low neurotics. It was also hypothesized that individuals high in neuroticism would experience higher levels of anxiety and would benefit the most from completing guided mindfulness meditation.

Radiation Therapy
Presenter(s):
Todd Adrian

Fasting and Chemotherapy: Protecting Normal Cells while Sensitizing Cancer Cells through Differential Stress Resistance
There have been many advances in knowledge and technology in the treatment of cancer over the years, but the disease still remains costly and relatively incurable with a high incidence rate. The purpose of this project is to bring to light the discovery that short-term starvation, in the form of fasting, may potentially provide an inexpensive, effective, and novel approach to the treatment of cancer, particularly when used in concert with chemotherapy. Chemotherapy is one of the major modalities in cancer treatment, and while effective, it destroys normal cells in the process. The research approach for this topic examines case studies, journal articles, and the hypothesized mechanisms behind why short-term starvation may be beneficial in protecting normal cells while sensitizing cancerous cells to chemotherapeutic agents. As this is a new concept to the treatment of cancer, studies are limited, and larger and more randomized clinical trials will be necessary to provide additional evidence that fasting can be an effective approach to increasing the efficacy of chemotherapy while minimizing harm to normal cells.
Radiation Therapy
Presenter(s):
Danielle Homan*

Treatment of Recurrent Glioblastoma Multiforme: Stereotactic Radiosurgery and Avastin (Bevacizumab)
Glioblastoma Multiforme (GBM) tumors are highly malignant and spread rapidly making treatment difficult and the incidence of recurrence high. This retrospective study investigated the effectiveness of Cyberknife with adjuvant Avastin chemotherapy in prolonging survival of patients with recurrent GBM. Of the charts reviewed, 16 patients received Avastin alone or as part of a chemotherapy regimen. The results indicated Avastin with Cyberknife yielded an average survival time of 10.125 months. This strategy also prolonged tumor control and improved quality of life. These secondary outcomes proved the relevance of this treatment strategy although the survival time failed to show significant improvement.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM

Sociology and Anthropology
Presenter(s):
Cassandra Houghton

Settling in St. Louis: Conceptions of Resettlement Amongst the St. Louis Immigrant and Refugee Service Organizations and Network
This research uses ethnographic practices to examine how different organizations that cater to refugees in the St. Louis area conceptualize resettlement. From analyzing the bureaucratic process of how resettlement agencies bring refugees to St. Louis, to interviewing various organizations about their refugee services, this research explores the diverse roles of such organizations and their larger network in the resettlement process. Furthermore, this research hopes to gain insight into the greater network in which different refugee organizations exist in St. Louis and explore the culture of this network and its effect on individual organizations and the refugees they serve.

Location: BSC 253 B (Oral Presentation)
Time: 3:40PM

Radiation Therapy
Presenter(s):
David Prosser

Hypofractionated vs. Conventional Radiation Breast Cancer Treatment
The purpose of this research is to compare the short- and long-term effects of hypofractionated and conventional radiation breast cancer treatments. Data was collected with the use of PubMed and Google Scholar search engines, with the entry of the words, “hypofractionated breast cancer treatment.” Experimental trials have been ongoing for two decades to note the effects of both treatment courses. Hypofractionation is not inferior to conventional radiation breast cancer treatment, but there are some limitations. Further investigation warrants the inclusion of more invasive breast cancers, as well as patient recruitment should comprise a broader age range.

Location: BSC 171-173 (Poster/Artwork)
Time: 3:00PM-5:00PM
The Drugs Are Attacking! The Social Construction of Fear
Why do drugs seem so scary in U.S. society? I will use this recurring issue of drugs to show how fear is not an automatic or straightforward response to objective dangers, but emerges out of two social factors—claysmaking and contexts. First, I will define and discuss various rhetorical strategies that claimsmakers use to generate and amplify fear. Second, I will examine the contexts in which claimsmaking occurs. What motivates fearmongers, and why are audiences receptive to their claims? Finally, I will explain the paper’s implications of fear mongering and provide suggestions for the future.

Location: BSC 253 B (Oral Presentation)
Time: 4:00PM

Reconstructing Prehistoric Mortuary Practices in the Illinois River Valley
Excavated between the years of 1956 and 1958, Kamp Mound 9 has been the focus of little investigation when considering Middle Woodland funerary behaviors of the Lower Illinois River Valley. A synthesis of prior works was developed which attempted to answer the question, “Why and how are the funerary rites found at Kamp Mound 9 being performed and sustained through time?” To answer this confounding question, explanation of these funerary rites were attempted through observation and explanation of mound architecture, funerary ceremony, along with skeletal and ceramic assemblages.

Location: BSC 253 B (Oral Presentation)
Time: 3:20PM

How locally based conservation can change the world for the better
A frequent problem with large conservation projects is that funds are spread across an entire umbrella of species they aim to conserve. Analysis of multiple programs in various countries suggests, however, that small scale conservations projects are more successful because funds are used more effectively, often for one targeted species. Input from local indigenous peoples also increases effectiveness. From this analysis we can determine which countries’ models for conservation should be implemented for more successful practice worldwide. Working with local peoples while still implementing managed conservation projects provides a better chance of successful conservation of these often sacred spaces.

Location: BSC 253 B (Oral Presentation)
Time: 3:00PM

* Active member of the University Honors Program
The team has been working on promoting and gauging customer interest for Trapeze STL.

Location: BSC 251A (Oral Presentation)
Time: 4:20PM

Theological Studies
Presenter(s):
Caroline Belden*

Denying Denial: Towards a Theology of White Liberation
This project is a constructive theology of white liberation in light of the problem of white denial of racism. I propose that this liberation is possible primarily through listening to the lament of people of color, particularly in the slave spirituals. By listening to the subversive lament of African Americans and understanding the function of that lament through the lens of liberation, white people in the United States can enter into their own subversive and liberating project of anti-racism work. This project analyzes scholarship on whiteness, racism, and African American spirituals in order to provide a theological framework for white liberation.

Location: BSC 253 C (Oral Presentation)
Time: 4:20PM

Theological Studies
Presenter(s):
Lindsey Cross
Margaret Fleming

The Theology of Speech Pathology
We are dealing with the question of "disorder" and its definitive qualities. What are true handicaps? How are we providing help to these individuals outside of therapy walls?

The primary purpose of our research is to convince our audience, and our future patients, that their disabilities are not inhibitory towards a fulfilled lifestyle within their communities, and specifically within the Church. In tapping into their presumed inhibitory silences in disabled communication, i.e. congenital or acquired speech disorders, the Catholic Church can further encourage nourishment and fulfillment through Ignatius’ Spiritual Exercises, the lifestyle choices of the Trappist Monks, and other means wherein silence is used as a primary communicative tool in the spiritual life. Another major purpose of our research is directed to the Catholic Church to encourage the creation of sanctions for individuals with communication and/or swallowing disorders to participate more fully in the Sacraments of Reconciliation and Eucharist, thus bringing these individuals into community with the Church.

Location: BSC 253 C (Oral Presentation)
Time: 4:20PM

Theological Studies
Presenter(s):
Molly Keeven

A Need for Generational Ministry
Studies have shown that there is a consistent decrease of practicing Catholics in America and suggests that Generation Z, those born after 1995, will continue this trend. I hypothesize that faith participation will increase if improved evangelization tools are created that address the needs of Generation Z. This new evangelization requires a profound understanding of Generation Z, a deep knowledge of Catholicism and the
ability to adjust devotional practices without jeopardizing doctrine.

Location: BSC 253 C (Oral Presentation)
Time: 4:40PM