2017 INDIANA UNIVERSITY SOUTH BEND
UNDERGRADUATE RESEARCH CONFERENCE

FRIDAY, MARCH 31, 2017

Conference Program and Abstracts

SCHEDULE

8:00 – 9:00 a.m.  Registration  Wiekamp Hall (DW)
main hallway

9:00 – 10:00 a.m.  Panel Session I  DW classrooms
1125–1190

10:00 – 11:00 a.m.  Poster Presentations
and Coffee Break  DW main hallway
and south hallway

11:00 – 12:00 p.m.  Panel Session II  DW classrooms
1125–1190

12:15 – 1:15 p.m.  Lunch  SAC 221-225
2nd Floor

1:30 – 2:30 p.m.  Panel Session III  DW classrooms
1125–1190
**WELCOME MESSAGE**

Welcome to the 2017 IU South Bend Undergraduate Research Conference! The URC continues to expand into a springtime institution on our campus, drawing the participation of around one hundred students, faculty, staff, and observers all committed to the research and creative process. The URC is one of many outlets for IU South Bend students to showcase the research they complete in their classes or as part of research teams with faculty, and the conference serves as a moment to publicly recognize the high quality of students’ work.

As always, the conference program this year consists of a wide range of exciting research and creative activities from a range of disciplines. The 2017 URC features a panel in Spanish, research posters on topics in anthropology, chemistry, biochemistry, and physics; presentations covering a broad scope of literature and its cultural impact, data from research carried out in field sites across the IU South Bend region, and more. We hope you will take in presentations from a range of disciplines and also that you will engage with student presenters, asking about their research, methods, and findings.

**ACKNOWLEDGMENTS**

The faculty organizers of this conference (Kristy Ganoe, Igor Juricevic, Jeff Luppes, Mohammad Merhi, Shahir Rizk, Zach Schrank, Jannike Seward, and Alison Stankrauff) would like to congratulate and thank all of the students participating this year. We also commend their faculty mentors (named in parentheses in this program) for their dedication to their students.

We deeply appreciate the enthusiastic support provided by Executive Vice Chancellor for Academic Affairs Jann Joseph and Chancellor Terry Allison, and the efforts of committed IU South Bend instructors and staff, including the members of the Undergraduate Research Advisory Council.

Again this year the conference poster and program cover were designed by an IU South Bend student—Leah Fick, a fine arts graphic design major, developed the concept and design scheme for 2015 and 2016. Other students have helped us plan and carry out the conference: Julie Crew, Riley Bigelow, and Stephen Salisbury.

No conference is possible without the behind-the-scenes work that often goes unacknowledged in the areas of purchasing, facilities scheduling and setup, food preparation and catering, maintenance, information technology, and many more. Thank you to all those who help make this conference possible.

**PROFESSIONAL COURTESY**

Please be considerate by silencing your cell phone and refraining from entering and leaving session rooms during presentations.
CONCURRENT PANELS: SESSION I (9 – 10 A.M.)
Location: Wiekamp classrooms, South Hallway

Physical and Biological Sciences: Atoms, Viruses, and Dark Matter (DW 1125)
Moderator: Shahir Rizk

Using the Square Root Hamiltonian Operator to Approximate Energies of Atomic Systems
PHILLIP MARMORINO (Marmorino)

Testing of Materials and Sensors Used in the PICO Dark Matter Detector
AARON L. ROEDER (Levine)

Reversible Self-Assembly Using Protein Conformational Changes
MICHELE COSTANTINO (Rizk)

Gender, Community, and Sacrifice in the Literatures of Spanish-America and Spain (DW 1135)
Moderator: Bridget Fong-Morgan

Sor Juana Inés de la Cruz: la necedad y la inmadurez masculina en <<Hombres necios>>
CASSANDRA DUARTE, TIFFANY AMEZQUITA, JOHN DEVREESE (Fong-Morgan)

"Es la culpa de ella": la doble moral y el espejo empañado
BAILEY OVERMYER, ELYSSA HURDT, DANIELLE LYONS, JANYELLE WILTFONG (Fong-Morgan)

El diablo, la carne y el mundo: la mujer entre la espada y la pared en <<Hombres necios>>
CONNOR HOFFMAN, ELISE MICK, RAVEN MILLER, HECTOR VALADEZ (Fong-Morgan)

La identidad regional y las Tradiciones de Palma: <<El alacrán de Fray Gómez>>
GLORIA MARZKE, LUIS GONZALEZ, KASHAY MURRAY (Fong-Morgan)

Los milagros de todos los días: el buen peruano, Fray Gómez y el usurero
KACEY JACKSON, YESENIA GARCILAZO, ANABEL SANCHEZ (Fong-Morgan)

La crisis sacrificial en Fuenteovejuna
BRITTANY SHIPE (Fong-Morgan)

Fuenteovejuna: Honra and Honor?
ELYSSA HURDT (Hernando)
Deadly Treasure, Deathly Desire: The Role of Love, Greed, and Fear in Mystery Novels and Film (DW 1150)
Moderator: Kyoko Takanashi

From Low-Brow to High Art: The Role of John Huston's Film Adaptation in Elevating the Novel The Maltese Falcon
MARY ARNETT (Brittenham)

Dubious Beasts: Fear of the Foreign and Imperial Decay
SARAH NICOLAECCU (Brittenham)

Sinister Settings: Landscape as a Representation of Human Perceptions and Motivations
LAURA TAYLOR (Brittenham)

Losing Control: The British Imperial Panic in the Sign of Four
OMINEE HAYNES (Brittenham)

History of Indiana University South Bend, Morning Panel (DW 1170)
Moderator: Lisa Zwicker

Indiana University Comes to South Bend
JENNIFER KUCHARSKI (Zwicker)

Building Indiana University South Bend: Evolution of Campus Identity
DEB PARCELL (Zwicker)

Striving for Equality and Diversity: The Afro-American Society of Indiana
PHILIP MELIN (Zwicker)

Sustainability and Environmentalism of IUSB
MCKENZIE MCKNIGHT (Zwicker)

Economic Factors that Shaped IUSB
ALEX SULLIVAN (Zwicker)

Color Perception and Psychological Diversity (DW 1175)
Moderator: Igor Juricevic

Repetitive Gross Motor Stereotypes and Color within a Classroom
LAUREN LEONARD (Juricevic)

Color Vision Impairment in Elderly Adults
THOMAS WILLIAMS (Juricevic)
Color Perception in Autism
SYDNEY SZYMANOWSKI (Juricevic)

Color Perception in Children with Anxiety Disorder
JESSICA OSOWSKI (Juricevic)

**POSTER PRESENTATIONS AND BREAK (10 – 11 A.M.)**
**Location: Wiekamp South Hallway**

10 a.m.: View the following posters and speak with presenters while enjoying continental breakfast.

Developing a Non-enzymatic Decontamination Method of Arsenic
VICTOR GUTIERREZ-SCHULTZ (Anderson)

A Novel Benchtop Time of Flight GC/MS System For High Throughput Qualitative And Quantitative Analysis of Drugs of Abuse in Human Urine
KHAI PHAM, DAVID E. ALONSO, CHRISTINA KELLY, JOE BINKLEY (Anderson)

Calibration Techniques for Detector Systems in Nuclear Physics
CHARLIE BAIRD (Hinnefeld)

More than Just Another Number: Use of the Smithsonian Trinomial System and the Digital Index of North American Archaeology (DINAA) to Link Open Information about Archaeological Sites Across the Web
VALERIA CHAMORRO (Wells)

Role of AIMP1 in Pulmonary Morphogenesis
ALEXANDRA HOCHSTETLER, SARA SANTIGUEL, DANIEL LEE, WOAN LOWE, MARGARET SCHWARZ MD (Feighery)

Engineering a FABulous Fluorescent Glyphosate Biosensor
PIERRE-EMMANUEL N’GUETTA, RILEY BIGELOW, MICHELE COSTANTINO, ZACHARY DAVIS, VICTOR GUTIERREZ-SCHULTZ, ALEXANDRA HOCHSTETLER, KATY PALMER, KHAI PHAM, MICHAEL RAUSCHENBACH, BUSHRA SALEH, HELGA SANTOS, AIMEE WHETSTONE (Rizk)

Maybe in Distance, Never in Heart
QUADIRA PRICE (Anderson)

Electrochemical Detection of Steroid Hormones
DAVID AUPTERLE (Muna)
CONCURRENT PANELS: SESSION II (11 A.M. – 12 P.M.)
Location: Wiekamp classrooms, South Hallway

Contemporary Social and Political Issues (DW 1125)
Moderator: Zachary Schrank

Overpopulation and the Climate Crisis
BRIANNAH MCCALL (Schrank)

Understanding Attitudes Regarding the Legalization of Medical Cannabis
AMY MAzurek (Blouin)

The Deficient Motivation Concerning Behaviors and Regulations toward Voter Turnout
JOCELYN MALMSTROM (Gerenscer)

Exploitation of Immigrants By Immigrant Owned Restaurants
NARGIZA AMIROVA (Gerken)

An Orderly Mode of Murder: Social Control and Subversion in Agatha Christie (DW 1135)
Moderator: Jake Mattox

“Disavowing the Police”: Detective Fiction and False Solutions in Agatha Christie’s The Murder of Roger Ackroyd
THOMAS JEFFO (Brittenham)

"The Eyeshade's a Fake; I Can See Perfectly": Parody and Subversive Identity in Agatha Christie's Partners in Crime
DANIELLE LYONS (Brittenham)

Murderous Power and Social Manipulation: A Case for the Progressive Function of Agatha Christie’s Fiction
JARED DUNN (Brittenham)

A Society Beyond Redemption: Conceptualizing Religious Repentance in G. K. Chesterton and Agatha Christie
SADIE SUKICH (Brittenham)

Higher-Order Cognition and Psychological Diversity (DW 1150)
Moderator: Igor Juricevic

Facial Emotion Expression Recognition: Interpretation of Authority and Leadership in Women with PTSD
SKYLAR CLAPPER (Juricevic)
Visuo-spatial Attention Span Deficit Precedes Phonological Deficit in Developmental Dyslexia
ASHLII APPLEWHITE (Juricevic)

Negative Facial Expressions and Its Effects on Anxiety in those with Post-Traumatic Stress Disorder
DANIELLE NEWMAN (Juricevic)

The Effects of Prison on Color Perception and Religion
CADERIA STRICKLAND (Juricevic)

Interpreting Film Past and Present (DW 1170)
Moderator: Elaine Roth

Texas to Aotearoa: the Indigenous Turn to Communal Identity and Respect for Tradition in Disney’s Moana
MELANIE GARcia (Magnan-Park)

Science: Our Friend or Our Enemy?
CODY BARTALONE (Roth)

Avant Grade Films: Examining The Feminist Message of Meshes of the Afternoon
ANNA DARR (Roth)

The True "Heart" of Metropolis
MARISSA WILLIAMS (Roth)

Economics and History (DW 1175)
Moderator: Tom Murphy

Invest. You? Yes!
STEPHEN M SALISBURY (Valencia)

The United States Deficit: A Gift or a Curse?
CRAIG JOHNSON (Zhuang)

Lydia Gwilt: Credit, Debt, and Commodification
LUCAS BURKETT (Gindele)

The European Union’s Retroactive Tax on Apple
KEVIN G. SCHASCHECK II (Gao)
Creative Writing: Personal Stories of American Identity (DW 1185)
Moderator: Kelcey Ervick

"Opulent Dreams"
MELANIE GARCIA (Ervick)

"A Family of Religious Rebels"
BRONSON BONTRAGER (Ervick)

"Intrigues and Exposures"
PATTI THURMAN (Ervick)

LUNCH (12:15 – 1:15 p.m.)
Location: Student Activities Center (SAC) Rooms 221-225

Speakers
CHANCELLOR TERRY ALLISON
STEPHANIE BURKUS (IUSB Alumna)

CONCURRENT PANELS: SESSION III (1:30 – 2:30 P.M.)
Location: Wiekamp classrooms, South Hallway

History of Indiana University South Bend, Afternoon Panel (DW 1125)
Moderator: Lisa Zwicker

Indiana University South Bend and the Enrollment Boom
JOSEPH NOLAN (Zwicker)

Creation of the Women and Gender Studies Department at IUSB
ABIGAIL WACHS (Zwicker)

Catching Up on Missed Opportunities: The Non-linear History of IUSB Athletic Expansion
FRANCIS KARCZEWSKI (Zwicker)

The Vietnam War and IUSB
JOSEPH DAVID RZEPBICKI (Zwicker)

John Dillinger: Public Enemy #1
ZACKARY ELDRIDGE (Zwicker)
Ghosts, Gossip, Constraining Corsets, and Super Villains: The Wicked World of Early English Detective Fiction (DW 1135)
Moderator: Kyoko Takanashi

From Corsets to Weight Loss Clinics: Transformations of Female Body Images in the Victorian Era to Interwar
NARGIZA AMIROVA (Brittenham)

“Inspired Guesswork”: The Female Detective, Gossip, and the Subversion of Spinster Ideology in Interwar Britain
KAYLA CANO (Brittenham)

Sherlock Holmes-Paranormal Investigator: Reading The Hound of the Baskervilles as a Work of the Supernatural
SAVANNAH WELNETZ (Brittenham)

Just One Bad Day: The Hero Villain Inter-dependency of Batman/Joker and Sherlock Holmes/Professor Moriarty
MATT LEMASTERS (Brittenham)

Human Shape and Change (DW 1150)
Moderator: Jay VanderVeen

Captive Great Ape Welfare: Enrichment and Assessment of Captive Great Ape Behavior
JOHN DEVREES (VanderVeen)

Pete: The Skeletal Remains in the Bone Room
SARAH FREEL (VanderVeen)

Women's Equality in Norse Society
BLAKE HERWICK (VanderVeen)

The Natural Occurrence of Big Boned Characteristics Among Humans
ALEXA WADE (VanderVeen)

Psychology, Personality, and Preparation (DW 1170)
Moderator: Jannike Seward

Study Habits, Motives, and Strategies of College Students With Symptoms of ADHD
ALAINA MYERS, NICK CWIDAK (Rodriguez)
Self-power and Resisting Destructive Obedience: A Look at Personality Factors Affecting the Milgram Experiment
HANNAH QUINN (McGuire)

The Mental Component of Singing
KATELYN ANDRYSIAK-BEGERT (McCormack)

**History Near and Far** (DW 1175)
Moderator: Jeff Luppes

Deng Xiaoping and the Changing Perspective of Chinese Socialism in the 1980s.
KENDON SERVICE (Cwiek)

Mexican Exoduses: The Mormon Struggle for Freedom, Identity, and Community in the United States and Mexico 1823-1917
JENNIFER KUCHARSKI (Froysland)

E. Hill Turnock: Following an Architect
RANDY ROBERTS (Nilsen)

**French Translation of Children's Books** (DW 1185)
Moderator: Heather Jones and Anne Magnan-Park

French Translation of "Snow Rabbit, Spring Rabbit" by Il Sung Na
BREANNA KELLERMAN (Jones and Magnan-Park)

Translating Curious George into French: The Challenges of Replicating the Narrator's Voice
MWELU MWOSE (Jones and Magnan-Park)

Translating Winnie the Pooh: The Difficulties of Preserving Poetic Sound
MAIA SUTTER (Jones and Magnan-Park)
PRESENTATION ABSTRACTS

From Corsets to Weight Loss Clinics: Transformations of Female Body Images in the Victorian Era to Interwar
Nargiza Amirova

In the Victorian era in Britain, some detective novels targeted the “problem” of female body image. These fictional representations, which evolved from novels to the fashion market, started in the Victorian era advertising sexy drapers, outfitters and steel-sided corsets which only came in a small size. These outfits forced women to be thinner so that they could fit into the category of looking like a “respectable citizen,” which would mean that they were wearing a fancy dress. Agatha Christie’s short story from the early twentieth century, “The Missing Lady,” exposes how society pressured women to use medical injections to make them look thin regardless of how painful it was. She portrays the character Hermione suffering from her willingness to be strapped to a bed and receive injections daily in a weight loss clinic so that she could have a “perfect” body to meet the standards of her fiancé who hates “fat” women. Building from the works of Susan Bordo and other feminist theorist of body image, I will focus on how women were pressured because of the ideals that society set for them. I will also discuss the trajectory from literal confinement by conforming garments to social pressure to medically lose weight that women faced.

Exploitation of Immigrants By Immigrant Owned Restaurants
Nargiza Amirova

Immigrants from industrialized countries in East Asia and Mexico migrate to United States with hope of building a new successful future. Many come with student or tourist visa, but once it expires they would be stuck working in foreign businesses. I will be focusing on exploitation of foreign workers by foreign restaurants. Immigrants often work over 12 hours and for lower salaries. Furthermore, I will share my personal examples of how I was one of the immigrant who worked for 2 foreign restaurants over 6 years. I lived among other immigrants and experienced undesirable lifestyle that they were put in to by the restaurant owners without giving an opportunity to experience the world outside of the restaurant. In order to solve this issue government agency, need to inspect foreign restaurants to make sure they are respecting worker's rights.

The Mental Component of Singing
Katelyn Andrysiak-Begert

Singing is music provided by your body. Singers focus on proper vocal technique and hygiene to ensure tonal quality. However, singers do not always address the catastrophic effects the mind can have on the voice. Anxiety and its' subsequent disorders have the power to impede both the performance and person despite the voice.

Visuo-spatial attention span deficit precedes phonological deficit in developmental dyslexia
Ashlii Applewhite
Developmental Dyslexia (DD) is a learning disability that affects an estimated 10% of school-aged children worldwide. Children with Developmental Dyslexia experience challenges as they are learning to read. In my research I explored the visuo-spatial attention span deficit hypothesis of dyslexia as well as the phonological deficit hypothesis of dyslexia to determine which is more likely to be the initial underlying cause for the reading challenges that children with DD face. In my research I found that the visuo-spatial attention span deficit precedes the phonological deficit. Furthermore, I found that the visuo-attention span deficit is the cause of the phonological deficit. Children with DD who experience visuo-attention span deficits are likely to suffer from visual stress and see written words as distorted. Therefore, I also explored solutions to reduce the level of visual stress in this subset of DD children. I found that the use of colored overlays is an effective solution to reduce the experience of visual stress and phonological issues that this particular subset of children with DD face.

**From Low-Brow to High Art: The Role of John Huston's Film Adaptation in Elevating the Novel The Maltese Falcon**  
Mary Arnett

The Maltese Falcon by Dashiell Hammett is an anomaly in terms of literary classics, as it would likely be an oft-forgotten gem of the detective fiction genre were it not for the film industry. At the time of its release, Hammett was not a player in the era’s major literary movement, Modernism, and was by no means thought of high-brow literature. However, John Huston’s film adaptation of the novel, starring Humphrey Bogart and Mary Astor, was able to lift the story above its humble, mass-consumption beginnings to an enduring work of literature and film. Hailed as one of the standout adaptations of a novel to the big screen, Huston’s Falcon cemented the book as a prime example of detective literature. By discussing the process of adapting book to film, including why Falcon is considered one of the most effective ever made, as well as the tropes of the mystery genre in both literature and cinema, I will analyze the growth of The Maltese Falcon from a low-brow work to one of the most celebrated detective novels and noir films of all time.

**Electrochemical Detection of Steroid Hormones**  
David Aupperle

The overall objective of our research is to develop a sensitive and stable method for the electrochemical detection of steroid hormones (SEs) in water. These natural and synthetic estrogens have been shown to effect the endocrine functions of both aquatic species and humans. Using electrochemical analysis, concentrations as low as a few ng/L can be detected. However, the oxidation of these molecules creates adsorption at the electrode surface, which then inhibits electro-catalytic activity (fouling) and signal recognition. Using nano-particles, namely palladium, the surface is modified using cyclic voltammetry to minimize adsorption and enhance signal response. Surface stability and reproducibility was not achieved by deposition on glassy carbon. Gold provides an adequate surface for both reflected by estriols relative standard deviation of 5.3%. Future research will characterize the surface using scanning electron microscopy. Cyclic voltammetry and high performance liquid chromatography will be coupled to determine the limit of detection.
Calibration Techniques for Detector Systems in Nuclear Physics  
Charlie Baird  
In scientific experimentation, an often unseen element that is nonetheless integral to the production of sound and reliable data is that of calibration techniques. These calibration techniques are designed to standardize the data collected by various instruments from an experimental apparatus as well as to ensure that the influence of defective detector systems is mitigated to the fullest extent possible. I will discuss three such detector systems from the MoNA-LISA SWEEPER experimental setup at the NSCL; the Cathode Readout Drift Chambers (CRDCs), the Ion Chamber, and the Thin Scintillator. Each detector system has unique peculiarities and specializations that determine how they are properly calibrated. After calibrations techniques are applied, only then is data analysis finally possible.

Science: Our Friend or Our Enemy?  
Cody Bartalone  
The rate at which technology has been evolving in the past 20 years is nothing short of astounding. Technology that is standard at this very moment could be obsolete by tomorrow morning! It is not only the speed at which technology is developed and deployed that has changed; the cultural perceptions of technology itself have also changed immensely. Where technology was once something to be feared, it is now heralded. This change in perception is reflected in contemporary media. For example, compare the science fiction films Metropolis (1927) and The Martian (2015). Even though Metropolis and The Martian share similar narrative conventions and genre elements, the ideology of each film reveals a shift in social and cultural views of technology.

A Family of Religious Rebels  
Bronson Bontrager  
My family is loud and messy. What family isn’t? Yet, we are bound together by tragedy and hope. The religious fervor of my grandfather carried him from the safety of complacency and even further away from his family. He wanted to change the world while his daughter, my mother, wanted to be in his world. She struggled against the feeling of abandonment and rejection while attempting to find her own way. Faith did not bring her closer to home, yet it was his faith that changed a gang leader’s life. I am shaped by these two worlds. The feeling of rejection and a longing to be heard, yet understanding the power of belief. I am the legacy of pain and hardship leading to forgiveness and love. But I am not my mother’s son. Nor am I the embodiment of my grandfather. I must find my own way, my own battle that needs to be won. I guess this is the truth of my family. We all rebel in the end on the road to self-discovery.

Lydia Gwilt: Credit, Debt, and Commodification  
Lucas Burkett  
In Wilkie Collin's novel Armandale, Lydia Gwilt starts off as a villainous debt collector and by the end of the novel is transformed into a tragic hero, as she sacrifices her life to save her husband from an endless cycle of debt and credit. The structure of the novel aides in this transformation, revealing Gwilt as a victim of commodification and the debt
cycle later in the book, which are the reasons that propel her to her fateful course of action. Victorian readers would have been aware of the economic forces propelling Lydia to her fateful course of action. During the decade when Armadale was published, the 1860's, Victorian England witnessed the abolishment of usury laws, the rise of European financial capitalism, the continuation of the imprisonment over debt and its abolishment by the end of the decade.

“Inspired Guesswork”: The Female Detective, Gossip, and the Subversion of Spinster Ideology in Interwar Britain

Kayla Cano

Gossip plays a large role in solving a murder in one of Agatha Christie’s most famous detective novels, The Murder of Roger Ackroyd. Many scholars have written on the topic of gossip used in literature, and in our case, specifically on gossip in detective fiction. Kathy Mezei in her essay, “Spinsters, Surveillance, and Speech: The Case of Miss Marple, Miss Mole, and Miss Jekyll,” focuses on three spinsters who, through gossip, “covertly query power and gender relations, while simultaneously upholding the status quo” (Mezei 104). In addition, Louise Maunsell Field wrote an essay in 1931 titled, “The Spinster Looks at Marriage,” and discusses the negative social views of unmarried women and in turn highlights the many positives that go with “spinsterhood.” While Mezei demonstrates how spinsters use gossip to attain temporary power over their gendered limitations, unfortunately in the end for her, they still uphold the status quo. I want to take it one step further and argue that the spinster character of Caroline Sheppard in The Murder of Roger Ackroyd, successfully uses gossip to not only gain power over her gendered limitations but also to actively participate in the detective profession that is socially forbidden to her. In doing this, Christie is subverting the negative ideology of spinsterhood in the interwar period in Britain and is participating in the movement towards social freedom for single women.

More than Just Another Number: Use of the Smithsonian Trinomial System and the Digital Index of North American Archaeology (DINAA) to Link Open Information about Archaeological Sites Across the Web

Valeria Chamorro

Archaeological sites in the United States are often associated with alphanumerical identifiers known as Smithsonian trinomial numbers (STNs). Developed in the mid-Twentieth Century, STNs consist of patterned alphanumeric sequences, potentially recognizable in spreadsheets, archival records, and research literature. The Digital Index of North American Archaeology (DINAA), a linked open data hub for archaeological site information, is attempting “named entity recognition” (a form of text mining) to identify STNs in archaeological literature. The grand challenge undertaken here will ultimately allow a DINAA user to browse, via map-based visualizations, cross-references between DINAA site file information and publications containing related STNs. This initiative includes human-guided cataloging of STNs from recent American Antiquity offerings to support and software-enabled text mining of STNs from the Federal Register. Challenges include: variation in STN formatting, inclusion of STNs in various elements of research articles (abstract, body text, tables, figures, notes, etc.), and publication of competing identification strategies (e.g. state and museum systems).
Facial emotion expression recognition: interpretation of authority and leadership in women with PTSD
Skylar Clapper
This paper aims to discuss the visual perception phenomenon of facial emotion expression recognition and the deficits that women with PTSD have in this area. Also, looking at the implications of these deficits in personal and professional areas of their lives.

Reversible Self-Assembly Using Protein Conformational Changes
Michele Costantino
Nanotechnology research has been on the cutting edge of scientific study in recent years. Nanomaterials made of biological molecules, specifically proteins, have been especially promising in medical research for targeted drug delivery systems. While proteins have previously been used to engineer nanostructures, the only way to disassemble these structures has been by denaturing the proteins through heat or pH changes, effectively destroying the protein in the process. Our goal was to engineer nanostructures that can reversibly self-assemble in response to an external signal without damaging the proteins in the process. We engineered M13 bacteriophage to display maltose binding protein (MBP), a bacterial protein that undergoes a conformational change from an open to a closed structure upon binding to maltose. Displayed on the opposite end of the bacteriophage is an engineered antibody fragment (Fab) that binds preferentially to the closed form of MBP. When maltose is added to the system, MBP adopts the closed form to which the Fab binds, forming long chains of bacteriophage. The structures can then be disassembled by removing the maltose and self-assemble again multiple times. Using scanning electron microscopy, we confirmed that the bacteriophage particles assemble only in the presence of maltose, confirming our hypothesis. However, instead of forming long fibers, the bacteriophage aligned side-to-side instead of end-to-end. Further research will focus on how the proteins are displayed on the phage, as well as the disassembly of the structures.

Avant Grade Films: Examining The Feminist Message of Meshes of the Afternoon
Anna Darr
In the 20th century, the arts experienced a period of monumental evolutions that had a lasting effect on humanity. In 1937, an oil painting by Pablo Picasso called Guernica showed the horrors of war. In literature Martin Luther King Jr.’s I Have a Dream speech championed the civil rights movement. In film, there were also evolutions taking place. Avant-garde films experimented with the medium and conveyed important social messages to the audience. Maya Deren’s avant-garde film Meshes of the Afternoon dealt with a complex social problem at the time, the place of women in society. All of these works, and countless others, not only had a significant social impact at the time they were created, but their meanings and messages are still relevant in today’s world. Because of the nature of avant-garde films, in that they often reveal social issues, it is important to analyze Maya Deren’s work in order to discover the meaning within it. By creating avant-garde cinema, Deren is able to have a deeper lasting impression on her viewer due to the fact that they must find the messages the film is trying to convey for themselves.
believe that through the repetition of the props, Deren’s Meshes of the Afternoon conveys a feminist message about the constraints that our society and culture create for women, and the consequences of those restraints.

Captive Great Ape Welfare: Enrichment and Assessment of Captive Great Ape Behavior
John DeVreese

Murderous Power and Social Manipulation: A Case for the Progressive Function of Agatha Christie’s Fiction
Jared Dunn

Many would refer to the classic Agatha Christie novel, The Murder of Roger Ackroyd, as the source of one of the most influential twists to grace the genre of the detective novel, being that of her revealing the identity of the murderer as the narrator of the text. This twist, as highlighted by the French theorist, Pierre Bayard, can be viewed under the psychoanalytic lens, as a false ending. This false ending, however, leads us as the reader to view the story in a completely different context, placing the blame of the infamous murder under that of the original culprit’s, Sheppard’s, sister, Caroline, and ultimately subverting the text. By subverting Agatha Christie’s text, unraveling the novel to give one a skewed perspective on the evidence provided, ones’ perspective may shift, focusing on the character’s importance as a progressive woman within the times of her patriarchal society. Within this paper, I intend to build upon Bayard, as well as other articles, in order to argue that, within Agatha Christie’s works, we see her portrayal of women in a progressive nature, criticizing and defying the patriarchal society of her time. I plan to focus on the power given to her female characters, exemplified by Caroline through her control of the flow of information within the social sphere within the novel, as well as how they deviate from the societal norms against that of the patriarchal rule.

John Dillinger: Public Enemy #1
Zackery Eldridge

John Dillinger and his gang were notorious gangsters and bank robbers. During the early 1930s after the start of the great depression, Dillinger and his gang hit numerous police arsenals and banks. Some of these arsenals and banks took place right here in Indiana including East Chicago, Peru, Warsaw, Auburn, and of course South Bend. Using sources from the FBI, many newspapers including the South Bend Tribune and Chicago Tribune. I have taken sources straight from the South Bend police department as well. He was the first to be labeled Public Enemy # 1. He gained this title for all of his crimes that he committed. Not only did he rob banks but in the process a body count amounting to over 20 people was included with his wanted poster. He was able to avoid law enforcement for years until making a grave mistake. Dillinger stole a car and crossed state lines, making his crime a federal one. This allowed for the FBI to get involved and use their resources. Dillinger one fateful night took his girlfriend at the time to a movie in downtown Chicago. With her was her best friend who saw the reward for Dillinger. She alerted the authorities and said she would wear an orange skirt to let them know who she was. When Dillinger walked out of the theater he realized who was outside waiting for him and a gunfight broke out that eventually ended his life. His name still lives in infamy.
Pete: The Skeletal Remains in the Bone Room
Sarah Freel

While farming peat in a pest bog a farmer stumbled upon the skeletal remains of an individual of indeterminate age, sex, and ancestry. The remains were shipped to Indiana University South Bend and housed in the bone room, Wiekamp Hall, room 2210. There they have remained undisturbed. The remains are incomplete, but I will attempt to give an age range, a sex, and possibly an ancestry as well to this individual.

Texas to Aotearoa: the Indigenous Turn to Communal Identity and Respect for Tradition in Disney’s Moana
Melanie Garcia

Disney’s film Moana, set in Hawaii, is a commercial and critical success. Despite this positive reception, critics acknowledge that the film follows Disney’s basic plot structure. Though the film features an indigenous community, its storyline follows Disney’s conventional plot structure Disney’s structure has been used innumerable times to portray principally stories within a Western context. Is it thus an act of cultural appropriation to apply a predominately western concept to indigenous and Polynesian culture? In my presentation, I will argue that, while Moana is an imperfect representation of the diversity and intricacies of Polynesian culture, the film manages to invert Disney’s plot structure. Using film and gender theory, I will argue that Moana indigenizes Disney’s plot formula by an indigenous heroine who favors her community wellbeing over her individual goals as opposed to Disney’s traditional individualistic protagonists. I will also argue that Moana challenges Disney films’ frequent “anti-tradition” themes, with a celebration of the importance of tradition in an indigenous culture and a postcolonial world.

Opulent Dreams
Melanie Garcia

I explore the financial side of the American dream through personal experiences and rewriting of famous fictional scenes concerning wealth.

Developing a Non-enzymatic Decontamination Method of Arsenic
Victor Gutierrez-Schultz

Currently the less dangerous form of arsenic, arsenate, can be removed from drinking water using various synergistic oxidation and removal techniques. Despite this though there is not a method to remove from drinking water the more toxic, nonpolar form of arsenic known as arsenite. Due to the specific conditions such as PH and temperature necessary for enzymes to function we propose a non-enzymatic decontamination method that employs the arsenite oxidizing mechanism of arsenite oxidase. Once converted into arsenate an established method of arsenate decontamination could be utilized to remove the arsenate from the drinking water.

Previous IUSB researchers have cloned the genes for arsenite oxidase into E.coli. After sequencing the genes coding for arsenite oxidase it was found that there was a point mutation of a thymine to a cysteine introduced in the asob subunit. This point mutation had resulted in the changing of a glutamine to a cytosine, which would have a substantial impact to the confirmation of the enzyme. A quick-change primer was used to correct this point mutation but this correction had resulted in two new point mutations being
introduced. In future experiments a previous sample will be worked on to attempt to fix the original point mutation as opposed to correcting the two new point mutations. After confirming that the point mutation is corrected by sequencing the gene it will be activated allowing for the yielding of arsenite oxidase.

**Losing Control: The British Imperial Panic in the Sign of Four**
Ominee Haynes

The theories of old and new imperialism are important to understanding the time in which detective novels became popular. The old world was the British focused hold on globalism and expanding comfortably, while the new world is more West focused globalism. These themes are further explored in Arthur Conan Doyle’s The Sign of Four where his work expresses the British panic of no longer being at the world’s center in terms of power and empire. Despite this novel being the adventures of a genius and his sidekick, Conan Doyle has contributed to allowing scholars to access some of the British anxieties in his work around the 19th century. He allows us to access the time in which Victorian ideology expresses sentiments of both old and new imperialism. In this text, I will take gender, race, and socioeconomic theory to examine Sherlock Holmes as both a detective and a product of imperialism. The intent is to explore the complexities of the relationships with the Indians, who are under British control, and whether the dehumanization that occurred is what brings about these tensions in his work with Holmes and Watson, who are not devoid of illogical bias. He is not merely sharing a story of a genius solving crimes but creating a London and various other places where Englishness, a source of pride, dignity, and nationalism is changing.

**Women's Equality in Norse Society**
Blake Herwick

For a very long time people believed that most Viking warriors were men. But that changed when recently researchers discovered that around half of the graves for warriors were actually female. So we will get to take a look at how equal Norse Women were in Norse society by looking at Viking graves, historical stories and figures, as well as female figures in Norse Mythology to fully understand how equal Norse women were in Norse society.

**Role of AIMP1 in Pulmonary Morphogenesis**
Alexandra Hochstetler, Sara Santiguuel, Daniel Lee, Woan Lowe, Margaret Schwarz MD)

Protein translation controls the formation of alveoli, which are essential for gas exchange in the lung. One of the three vital proteins for protein translation is Aminoacyl tRNA Synthetase Complex Interacting Multifunctional Protein 1 (AIMP1), which is also known as Scye1. Loss of AIMP1 causes death postnatally in Scye1 knockout mice as well as hypoplastic lungs, decreased body weight, and lack of distal airspaces. A wet/dry ratio was used to rule out the presence of pulmonary edema. Histological staining using Clara cell secretory protein showed that there was altered lung epithelia in the knockout mice. Immunofluorescence of e-cadherin also confirmed altered lung epithelia. To examine differences in expression of proteins specific to the lung, Western blot analysis was used. Western blots of wild type versus knockout mice show a decrease in SHP-1, which interacts with adherents junctions and helps maintain stability. AIMP1 possibly
complexes with SHP-1 to provide stability to the cell. Further analysis of this interaction will determine how exactly AIMP1 complexes with SHP-1 in order to help maintain adherens junctions.

**Fuenteovejuna: Honra and Honor**

Elyssa Hurdt

Fuenteovejuna represents the crisis, collapse, and reconstruction about the ideological structures of honra and honor, without this in depth study Fuenteovejuna is amiss and bound to repeat the cyclical model of unruly commanders. Within five examples or less from the literary text the ideological structures will be analyzed.

**“Disavowing the Police”: Detective Fiction and False Solutions in Agatha Christie’s The Murder of Roger Ackroyd**

Thomas Jeffo

Detective fiction has served to construct the social justifications for the interference of the police force in our lives. As reviewed in Michel Foucault’s “Discipline and Punish”, the promise of extracting the secrets hidden from the public sphere to create a guilty party who can be removed from the general public is an ideal way of creating a sense of security within civilization. The mental subjection of the population to these ideals through the use of detective fiction is highlighted by academics like D. A. Miller’s “The Novel and the Police”. It is argued that the detective novel has served to empower the police’s oversight into the denizens of society by way of the detective, who represents the law without the overbearing presence of the uniformed police who are noted to create unease within the general public. However, Agatha Christie’s novel The Murder of Roger Ackroyd can be seen as a dismantling of the support of the methods used by detectives on the interwar denizens represented in the detective novel. The intrusive nature of the detective into the privacy of the people present is questioned, and rather than extracting the final solution with regard to the case, it highlights the presence of invasive and potentially fabricated false solutions that brings to question the ideals of both the police and the imperial society of the era.

**The United States Deficit: A Gift or a Curse?**

Craig Johnson

Current Account Deficits, often merely referred to as “the Deficit”, hold the common place of complicated subjects in society by being understood in its rudimentary existence, but not in its actual effects. The United States’ deficit is one that is arguably the most debated both within the nation and around the world. Is this justified? Perhaps, given the size and influence of the country as an economy and political body. However, by the virtue of the deficit itself, it appears a less dangerous creature albeit still confused by semantics. As with many economic ideas and problems, one of the quickest methods of mitigations might well be a simple, coherent explanation and exhibition of the topic. The general consensus around the United States’ deficit at the moment insinuates that it is not a problem right now. As it stands currently, the deficit is actually in better shape now than it has been in the past. This does not mean, however, that its potential damage is slowly disappearing into the distance. That being said, the deficit has been seen to provide some much-needed fuel for the economy to shake off the effects of the recession.
Ironically, some have speculated that the deficit also had fueled the irresponsible behaviors of an unprepared financial system before the financial crisis. As a whole, the accord seems to be that the United States’ deficit is not the monster it’s made out to be, but it's also not an unaltering friend.

Catching Up on Missed Opportunities: The Non-linear History of IUSB Athletic Expansion
Francis Karczewski
IU South bend’s Athletics have undergone a tremendous transformation over the years. This paper will explore that transformation, particularly in the recent expansion of sports and proposed sports. This paper will look at the reasons behind the changes in athletics and what it means for IUSB as a campus. Prominent topics include a bit of overview of IUSB athletics, IUSB’s relationship with a sport’s governing body, the faces of IUSB athletes, the challenges faced by IUSB athletes and most importantly, why the University is rapidly expanding sports now. This paper will feature interviews from many prominent members of the athletic community here at IUSB. The paper will examine other aspects of IUSB’s athletic history. These include the struggle to retain top coaches, the grades of athletes at IUSB. This will be framed against similar regional comprehensive universities. A comparison will be made between IUSB and similar campuses. My thesis will be as follows These sports have had some wild successes both athletically and academically, however they have never found consistent support from the University. There has never been a linear path of growth. IUSB has grown and retracted sports throughout the years.”
Using articles from the South Bend tribune I will show a few high profile times that sports support waned and waxed.

French Translation of "Snow Rabbit, Spring Rabbit" by Il Sung Na
Breanna Kellerman
Translating books for children should be an effortless task, right? The vocabulary is basic and the syntax very straightforward. Unless, of course, you translate Dr. Seuss or the countless other authors of children’s books who concentrate on the musical and playful quality of the English language. How do you translate the musicality and playfulness of these simple children’s stories? How do you reconcile puns and their illustrations in the translated language? How do you overcome the challenge of translating into a foreign language (French) as opposed to your own native tongue? These are a few of the questions the panelists will tackle during their presentations.
NB: Some of the panelists will present in French.

Mexican Exoduses: The Mormon Struggle for Freedom, Identity, and Community in the United States and Mexico 1823-1917
Jennifer Kucharski
The Mormons moved westward across the American frontier to settle in what was then Mexican territory. They fled religious persecution and violence that had killed their prophet, Joseph Smith. They were often at odds with the American government and their motivations differed greatly from most other settlers. Their new home, Salt Lake City, was on land ceded to the United States at the end of the US/Mexican war. This placed Mormons once again in Mexican territory. Though the desire to proselytize motivated
some Mormons to move to Mexico it was the willingness of the Mexican government to overlook polygamy that made Mexico a desirable safe-haven. Beginning in the 1860s, laws criminalizing polygamy were strengthened and increasingly enforced. This led church leaders like Brigham Young to look for land elsewhere that would allow Mormons to practice their faith unmolested. There was a large exodus and many thousands of Mormons moved south, into Mexico. However, after the Mormon Church officially outlawed polygamy and an entire generation came of age that didn’t practice plural marriage the immigration slowed. The Mormons who did flee to Mexico generally failed to assimilate and nearly all of them returned to the United States in the early part of the twentieth century after the Mexican Revolution drove them from their homes.

Indiana University Comes to South Bend
Jennifer Kucharski

Indiana University’s extension program began in the 1890s and slowly worked its way northward to South Bend. From the very first class offered here in 1915 it grew throughout the 1920s and 1930s until it was a robust and successful extension branch. The class offerings were surprisingly aimed at providing a traditional liberal arts education, much like today, despite the fact that IU South Bend granted no degrees until the 1960s. The faculty, in the earliest years was also diverse- some years saw the staff was one third female. Though Indiana University had a small and humble beginning it grew in those earliest decades and captured the attention of local media. It was featured extensively in the South Bend Tribune - class offerings, schedules, and faculty profiles. Our small extension campus grew and eventually became an indelible part of the landscape of South Bend.

Just One Bad Day: The Hero Villain Inter-dependency of Batman/Joker and Sherlock Holmes/Professor Moriarty
Matt LeMasters

The inter-dependency between the hero and the villain of a story stems from the simple fact that one cannot exist without the other but, if they continue down the current path, one will end up destroying the other. This visceral bond is the crucial element of one of the most notable rivalries in all of crime stories, Arthur Conan Doyle’s Sherlock Holmes and Professor James Moriarty. This same pairing is mirrored in the comic book superhero Batman and his archenemy, The Joker. Sherlock and Holmes are at odds on a mental level while Batman and The Joker have primarily battled at both mental and physical levels. But, as I will argue in this paper, it all comes back to this one line from Alan Moore’s, The Killing Joke, where Joker says, “All it takes is one bad day to reduce the sanest man alive to lunacy.” This kind of thinking is analyzed in Michael Brody’s article titled, “Batman: Psychic Trauma and its Solution” where he covers the trauma that Batman has gone through with losing his parents and why he chose to be the Batman. In my paper, I plan to use trauma theory and apply it to the psyches of Sherlock Holmes, Moriarty and the Joker in two of their most known stories, “The Final Problem” and The Killing Joke. If all it takes is one bad day to make a person snap into madness, then what has kept Batman and Sherlock Holmes on the side of justice?
Repetitive Gross Motor Stereotypes and Color within a Classroom

Lauren Leonard

Autism Spectrum Disorder (ASD) is classified by three defining symptoms: impairments in social interaction, communication difficulties and restrictive, repetitive and stereotyped patterns of behaviors (American Psychiatric Association, 2000). Repetitive gross motor stereotypy is a behavior of autistic children and can hinder learning opportunities. These stereotypies include movements such as rocking back and forth and hand flapping, etc. Certain colors of wall paint can elicit certain brain activity such as, gross motor activity, i.e., repetitive gross motor stereotypy. The color red is proven to elicit gross motor activity in neurotypical children. I theorize that when an autistic child interprets the color red, the gross motor region of the brain will be over-stimulated due to the fact that the red is seen with greater intensity, therefore provoking repetitive gross motor stereotypes. Further evidence to be discussed during conference.

"The Eyeshade's a Fake; I Can See Perfectly": Parody and Subversive Identity in Agatha Christie's Partners in Crime

Danielle Lyons

Often named “The Queen of Crime”, Agatha Christie is a master hand at constructing identity. From such indelible heroes as Miss Marple and Hercule Poirot to the paradigm-shifting villain and narrator Dr. James Sheppard, Christie is adept at offering poignant critiques of English society through fully realized characters. J.C. Bernthal argues that Christie takes this a step further, transforming herself into a character in public opinion to the end of creating an approachable, relatable woman author audiences would feel comfortable reading. In his book, Queering Agatha Christie: Revisiting the Golden Age of Detective Fiction, Bernthal describes her public image as an “unworldly housewife and grandmother”, “quietly conservative”, and quotes Christie as labeling herself “a perfect sausage machine” of reliable, formulaic mysteries and thrillers with no real ambitions. I argue that not only is this persona a subversive critique of Post-World War I English society, but also that Christie uses this persona in Partners in Crime to position herself in league with the eminent writers of the time. Using Linda Hutcheon’s theory of parody, I argue that Christie displays a mastery of detective fiction by deconstructing the prominent authors of the time along with their signature writing styles and recreating them with her own characters, Tuppence and Tommy. By doing so, she pays homage to these writers and positions herself not only as belonging in the canon of largely white, male authors, but surpassing them.

The Deficient Motivation Concerning Behaviors and Regulations toward Voter Turnout

Jocelyn Malmstrom

Voter turnout has remained at a stagnant average of 55% for 100 years. The primary discussion of this paper will evaluate the possible causes of voter motivation to turnout for elections, and if a possible voter is further deterred by voting regulations within the United States. It evaluates three possible theories describing motivation, with seven observed behaviors used to define each theory. The theories are: the belief that a majority of the population is taking advantage of the system; rational that a majority of voter hold the same view as the non-voting individual; the contrasting rational that a majority holds an opposing view and a potential voter will therefore not have coordination in votes. The
seven behaviors are dispersed between two groupings; the Issues and Policies, and Social Constructs. Under Issues and Policies, four behaviors will be interpreted in relation to: economic policy, foreign policy, social policy, and leadership characteristics. Under Social Constructs, three behaviors are categorized as: current events, personal events, and epistemic issues. One theory is selected to be the most popular and, therefore, is evaluated against popular federal and state regulations that could directly impact the popular theory for lack of voter motivation.

Using the Square Root Hamiltonian Operator to Approximate Energies of Atomic Systems
Phillip Marmorino
In the variational method the square of the Hamiltonian operator gives worse approximate energies than the Hamiltonian operator, and thus is not used. In principle, the square root of the Hamiltonian operator gives better approximate energies than the Hamiltonian operator itself, but it also is not used because the square root operator cannot be constructed exactly. This work expresses the square root Hamiltonian operator as the first few terms of a power series of the original Hamiltonian operator. This operator is tested on the harmonic oscillator because the energies of this system are known. The effectiveness of this new approximation is determined by comparing the approximate energies obtained using the square root Hamiltonian operator with those of Hamiltonian operator itself and the known energies of the harmonic oscillator.

Understanding Attitudes Regarding the Legalization of Medical Cannabis
Amy Mazurek
As more and more states attempt to legalize cannabis for medical purposes, it is becoming increasingly important to understand people’s attitudes toward legalization and the factors that shape them. As of the most recent election, twenty-eight states and Washington DC have legalized cannabis for medical purposes. Four states also recently adopted legislation to legalize cannabis for recreational use, bringing the total to eight states nationwide. This survey study examines how age, education, personal political views, and knowledge of the benefits of cannabis affect attitudes toward legalization for medical purposes (N=42). Results indicate that the more knowledge of medical benefits, the more liberal a persons’ views, and the more formal education they have, the more likely respondents are to be in favor of legalization. Age has a curvilinear effect. Younger and older people are likely to be in favor of legalization, and those closer to the median age are more often against it.

Overpopulation and the Climate Crisis
Briannah McCall
Human population growth and consumer culture directly impacts the environment and contributes to climate change. Based on contemporary global consumerism and society’s rates of extraction of non-renewable resources, overpopulation strains the earth’s capacity to provide for all human needs and wants without degrading the environment. Because we live in an expanding consumer culture, global demand for resources is causing tremendous stress on our planet. I provide ideas and plans for action at the micro, meso, and macro levels that could address overpopulation and reduce humanity’s contributions to climate change.
Sustainability and Environmentalism of IUSB
McKenzie McKnight

My paper is set to focus on the historical background of both the environmental movement and the sustainability movement, both of which are still present in today’s society. With this background information for my readers will tie into the sustainable efforts and environment friendly efforts on the campus of Indiana University. I will explain what the Center for Sustainable Future does, how and when it came to be, when the sustainability degree came along, the people that helped create these projects, and other sustainable and environmental factors that go on at the IUSB campus, and also look into actions of activism on and, possibly, off campus, and see if those efforts inspired change within the community. With articles from The Preface and interviews with present and past professors will show me how the campus has evolved with eco-friendly practices. Also, with enough information, I would like to tie in local eco/sustainably friendly business in the greater South Bend/Mishawaka area, hoping to see if they support IUSB’s efforts, or if they were inspired by their efforts. I will use secondary sources along with interviews and Preface and South Bend Tribune articles throughout my paper. Hopefully this paper will project the environmental and sustainable changes throughout a campus and its local community, and continue with safe practices.

Striving for Equality and Diversity: The Afro-American Society of Indiana
Philip Melin

The main purpose of my research paper is to look at the early years in the existence of the Afro-American Society at Indiana University South Bend. This time period covers the years of late 1968 to early 1972. More specifically I will be focusing on two of the main goals of the Afro-American Society, that of growing the Black Studies curriculum on campus and that of increasing the diversification of the faculty by hiring more black professors at IU South Bend. By focusing on this topic I will also be evaluating the Society’s relationship with Chancellor Wolfson and the administration during this time period. I will be seeking answers to the questions of the level of success the Afro-American Society had in pursuing these goals, and what kind of similarities or dissimilarities can be found by comparing and contrasting this student group with others around the country. I will be using several secondary sources that look at the rise of the Black Campus Movement to create a proper backdrop for the Afro-American Society here at IU South Bend. In order to evaluate the Society’s goals and judge their success I will be studying primary sources that consist of newspaper articles, interdepartmental communications, copies of faculty meeting minutes, and personal letters. I have discovered through these documents that the process of creating new courses and hiring new faculty members was a long, drawn out procedure during which both the administration and Afro-American Society had many disagreements. From what I have seen, the creation of new courses was met with more success than the hiring of new black faculty members. The AFAS soon changed its name to the Black Student Union, but none of its zeal was lost, nor its goals changed.
Translating Curious George into French: The Challenges of Replicating the Narrator's Voice
Mwelu Mwose

Translating books for children should be an effortless task, right? The vocabulary is basic and the syntax very straightforward. Unless, of course, you translate Dr. Seuss or the countless other authors of children’s books who concentrate on the musical and playful quality of the English language. How do you translate the musicality and playfulness of these simple children’s stories? How do you reconcile puns and their illustrations in the translated language? How do you overcome the challenge of translating into a foreign language (French) as opposed to your own native tongue? These are a few of the questions the panelists will tackle during their presentations.

NB: Some of the panelists will present in French.

Study Habits, Motives, and Strategies of College Students With Symptoms of ADHD
Alaina Myers and Nick Cwidak

College students with and without attention-deficit/hyperactivity disorder (ADHD) completed the Biggs Two-Factor Study Questionnaire, which asks about study habits and motivation for learning. Results revealed that students with ADHD ascribed to study habits and motives that differed from students without ADHD. Specifically, the ADHD group used a surface approach to learning whereas the control group used a deep approach to learning. Current research is now being conducted to determine the between-group differences of study habits among former college students with ADHD who have either graduated or withdrawn from the university. Previous studies have only examined ADHD study habits compared to students without ADHD. The findings of the current research study could aid in determining the learning habits and motivation essential for students with ADHD to complete their college degree.

Engineering a FABulous Fluorescent Glyphosate Biosensor
Pierre-Emmanuel N’Guetta, Riley Bigelow, Michele Costantino, Zachary Davis, Victor Gutierrez-Schultz, Alexandra Hochstetler, Katy Palmer, Khai Pham, Michael Rauschenbach, Bushra Saleh, Helga Santos, and Aimee Whetstone

Glyphosate (GP) is the active ingredient in the herbicide Roundup. Due to its large-scale use, GP is considered a potential environmental hazard. Therefore, there is a need for the development of reliable detection methods for GP in the soil, rivers and drinking water. The E. coli phosphonate binding protein (PND) naturally binds to GP, making it a good candidate for the development of a GP fluorescent biosensor. A fluorescent reporter attached to PND can be used to detect the presence of GP by monitoring changes in fluorescence associated upon GP binding to PND. However, the affinity of PND for GP is very low, limiting its ability to detect low concentrations of GP in the environment.

Our previous work introduced a mutation in the binding pocket of PND (E177N) that improved affinity by 100 fold. Here, we utilized engineered antibody fragments (Fabs) to further improve the affinity for GP. We engineered Fabs designed to stabilize the bound form of PND, thereby applying Le Châtelier’s principle. Five Fabs (Fab N1 – N5) were tested and one was found to increase affinity of GP to PND by an additional 10-fold. The combined effect of the point mutation and the Fab result in a 1000 fold affinity.
enhancement, allowing the development of sensitive biosensors for environmental GP pollution.

**Negative Facial Expressions and Its Effects on Anxiety in those with Post-Traumatic Stress Disorder**

Danielle Newman

Facial expressions allow one to interpret the various social scenarios that occur throughout the course of life. To do this, various parts of the brain must work together to help one both interpret and respond to facial expressions properly. Oftentimes, people who possess post-traumatic stress disorder have variances in these areas of the brain. It was hypothesized that these variances could potentially cause higher levels of anxiety when one is attempting to interpret or respond to negative facial expressions. By examining the ways in which facial expressions are processed and the variances in those with post-traumatic stress disorder, it was discovered that there are ways in which differences in areas of the brain could contribute to higher levels of anxiety when viewing negative facial expressions.

**Dubious Beasts: Fear of the Foreign and Imperial Decay**

Sarah Nicolaescu

Through late Victorian Gothic fiction, which can be identified as a genre of literary work. Two novels, Dracula by Bram Stoker, (1897) and The Hound of the Baskervilles by Arthur Conan Doyle, (1902) stand out, as casting to the societal anxieties of Great Britain by the early 20th century, and British imperial decline. In Stoker’s novel, Dracula, corresponds as an entity that is foreign and feared on account of his mythical tendencies to seduce the women in the novel. And in Doyle’s novel the legend of Sir Hugo Baskerville, and the “hound” play a pivotal role, in association and unease of the Empire by the depiction of Hugo as a representation of the Empire, and the “hound” as the foreign other, intervening and forcing itself into recognition. J. G Darwin in his essay, “The Fear of Falling: British Policies and Imperial decline since 1900, argues that by the time of the 1900’s Britain was in different time regarding their international presence as an imperial power, and this was something that was difficult to display, considering that England's history until then revolved around false superiority, and offshore colonies. The boundaries of the supernatural realm are released when Dracula and the hound are compared as unlikely beasts that are destined to plunder, unremorseful, into the English society. Through a lens of juxtaposition I will focus on the hound and Dracula as the “dubious beasts” which, through the basis of their unfamiliarity threatened English society by creating anxieties derived from the unexplored.

**Indiana University South Bend and the Enrollment Boom**

Joseph Nolan

During the 1960s the nation saw an unprecedented amount of growth in College attendance. The Indiana University system was bursting at the seams with applications and young people, as well as middle aged people, who were interested in furthering their education after High School. A doctoral research project conducted by Thomas M. Elliot in 1970 revealed that in Saint Joseph County alone that the number of freshman enrolled in colleges grew 68.7 percent from 1960 to 1968. This paper will explore the enrollment
boom and the flowering success of IUSB in the 1960s. It will look at the effects both
nationally and locally to why institutions grew so rapidly during the time in question. The
enrollment boom and expansion of the university system in Indiana and all across the
country is tied into very interesting economic and political issues that faced the nation.
This paper will ask why did enrollment go through the roof and cause the IU center at
South Bend to become a full-fledged degree granting institution with a multiple building
campus. With the recent death of former Chancellor Wolfson this paper will also explore
his legacy.

**Color Perception in Children with Anxiety Disorder**
Jessica Osowski

Different colors have many different meanings. For example, red is often forceful, while
blue is often calm (Annamary et. al., 2016). They can also affect children’s emotions and
cognitive performance. This is especially important for children who have been
diagnosed with anxiety disorder, as they have excessive and uncontrollable worry about
various events (DSM-5, 2013, p. 225). This research looks into different colors and the
emotions they will potentially elicit in children with anxiety disorder. My analysis
suggests that blue, pink, green, and yellow indicate a pleasant response in children with
anxiety. On the other hand, brown, black, red, and white indicate an aversive response in
children with anxiety. Implications and applications for the use of color in the everyday
life of children with anxiety disorder will be discussed.

**Building Indiana University South Bend: Evolution of Campus Identity**
Deb Parcell

Central to the mental picture produced at the mention of a university are its buildings.
Notre Dame’s golden dome and “Touchdown Jesus,” the limestone buildings of Indiana
University, Bloomington, or the gray stone buildings of Princeton are just a few of the
campuses known for their iconic architecture. From the smallest private college to
massive state universities, the built environment is inexorably linked to the name of the
institution. Indiana University South Bend’s campus started with a single building on
Northside Boulevard. As the campus has grown and changed over the last half century,
its identity has been evolving simultaneously, producing the image we know recognize as
IUSB. What vision guided this growth? Much of the slow transformation from a one-
structure commuter campus to a multiple building university, complete with housing,
library, and recreational center was not the result of deliberate planning. Primary sources
such as newspaper articles, blueprints, and photographs document the growth and
expansion of the campus. This paper will utilize those sources to look at moments in
time of the IUSB campus, including location, green spaces, and buildings, focusing
primarily on Northside, Schurz Library, and the Student Activity Center. This paper will
compare the development of the IUSB campus to books and journal articles about
campus design, and development of community and a sense of place to demonstrate that
IUSB’s buildings are not static; they impart life and create identity for the institution.

**A Novel Benchtop Time of Flight GC/MS System For High Throughput Qualitative And
Quantitative Analysis of Drugs of Abuse in Human Urine**
Khai Pham, David E. Alonso, Christina Kelly and Joe Binkley
Drug abuse is one of the most common public health problems in the United States. In 2013, 59% of forensic laboratories reported that their current drug chemistry caseload increased compared with their caseload one year ago. However, limited resource is one of major challenges for many forensic scientists. Although recent literature indicates that significant refinements and modifications to drug testing technology have been made, the complexity of drugs still causes faulty results or the methodologies are inefficient. The objective of this study was to develop a methodology that increases productivity by reducing sample preparation, data acquisition, and processing times using “gold standard”. The novel, benchtop GC-TOFMS is paired with next generation software tools to give drug identification through the acquisition of full range, non-skewed mass spectral data, fast runtime, extended dynamic ranges, and lower detection limits. Data processing methods were programmed to carry out comprehensive detection of the chemical constituents of multi-components drug mixes (barbiturates, amphetamines, and opiates) in urine. The Peak Finding method can efficiently process large volumes of mass data collected via spectral and chromatographic search algorithms that detect ion fragments at low concentrations. Thus, it resulted in identification of heterocyclic compounds such as alkaloids including cotinine and nicotine, as well as, narcotics steroids and pharmaceuticals in urine samples. Moreover, the data is reliable base on good calibration curve, high R-value.

**Maybe in Distance, Never in Heart**  
Quadira Price  
The topic that I decided to research was distant marriages. I choose to do so because, I am currently in a distant marriage and thought it would be great to hear other people’s stories. I also thought it would be great to systematically investigate the topic. Statistically looking at numbers covering how many couple are in distance marriage in is really outstanding because many people believe that they will never work out. I will cover the platform of what a ‘good marriage’ actually consists of, with some of the qualities including intimacy, communication, trust, persistence and forgiveness. I came up with my own survey to reflect on a more personal level between how people who were or are currently in a distant marriage handled the separation. One of the questions that really added more emphasis to my research was “What is the best advice could you offer someone who is already in or about to begin a distant marriage.” This happened to be one of my favorites because along with the research, it proves that being separate over a short or long period of time while being married is still possible, but like any relationship it has its ups and downs.

**Self-power and Resisting Destructive Obedience: A Look at Personality Factors Affecting the Milgram Experiment**  
Hannah Quinn  
The famous Milgram Experiment has shown that average individuals can be influenced to obey a destructive authority figure. Average people committing terrible acts is uncomfortable to fathom, however, research on destructive obedience lacks the recognition of personality traits that also influence obedience. In this paper, the traits of self-power, belief in a just world, self-efficacy, and self-esteem are discussed in-depth and are applied as a partial explanation of the results in the famous Milgram studies. It is
discussed that subjects who were high in self-power were less likely to obey the destructive authority, and the reverse was true for those who were low in self-power. It was also discussed that subjects who were high in belief in a just world were more likely to obey the authority, and the reverse was true, as well. Being aware of these personality traits, with regards to destructive obedience, can have major implications in future obedience research, especially in predicting which people are more likely to obey a destructive authority figure.

The Vietnam War and IUSB
Joseph David Rzepbicki
Imagine yourself a young man between the ages of 14 and 24, the year is 1969 and December is just around the corner. Without a doubt you would be feeling anxious and frustrated over the upcoming events. President Nixon recently signed his executive order enacting the draft lottery and come December 1st the first batch of lots will be drawn. Whether one believes in the sanctity of the war or not, all young men fit for service are registered and are able to be drafted. There are in truth only two legal ways to avoid deploying. To file as a conscientious objector much in the same way Muhammad Ali did, or enroll in university. That’s not to say that everyone who enrolling in college during this time did so to avoid the draft, but certainly many in college resisted the draft and the policies of the presidency. The newly formed Indiana University South Bend was no different, and came to be a hotspot within the greater South Bend area, of anti-war resistance and demonstration. From staging mock funerals, to hosting “alternative classes” and every other anti-war stereotype imaginable, all of it could be found on IUSB’s campus during the height of the Vietnam War.

E. Hill Turnock: Following an Architect
Randy Roberts
Obscurity is always the hallmark of the forgotten past. The record of regional architect E. Hill Turnock (1857-1926) is overlooked compared to the significance of his contemporaries. The work of this architect is vitally important. Beginning his professional career in Chicago under the direction of the “Father of the Modern Skyscraper”, William Le Baron Jenney, Turnock contributed to the growth of Chicago before returning to Elkhart, Indiana in 1907. His return to his hometown just beginning to shed its pioneer identity gave birth to its transformation into a world-class setting of boulevards, mansions, and overall sophistication. As a result, these spaces translate the ideals of Turnock's aesthetic, which asserted good design should not follow fashion but possess a unique style. These spaces are an exceptionally strong testament to the architect's progressive vision and remain as symbols of an awakened value in early Twentieth Century American architecture. Although Turnock consistently produced results and successfully spent his entire career enhancing the urban landscape of our surrounding area much is left unsaid about his legacy and achievements. Instead, a shadow has been cast over this regional figure in the architectural history of the Midwestern United States of America.
Testing of Materials and Sensors Used in the PICO Dark Matter Detector
Aaron L. Roeder
There is extensive evidence for the existence of dark matter in the universe. Dark matter provides a viable solution to a multitude of otherwise unexplainable cosmic phenomena, such as the development of large scale structure in the universe. Numerous experiments are attempting to detect this exotic matter. IU South Bend is participating in the PICO experiment at the Sudbury Neutrino Observatory Laboratory (SNOLAB). The pressure vessel simulator (PVS) is an environmental chamber designed to replicate the conditions of high pressure and temperature in the PICO bubble chambers. The PVS is used to rigorously test the performance and durability of piezoelectric acoustic transducers and other materials used in PICO. The new version of the PVS is more efficient, allowing for an entirely automated process and an accelerated test rate. A years-worth of pressure cycles can be simulated in a few days. The system has been used as well to enable the study of long term strength of epoxies and gold-coating used. A technique for measuring the strengths of such epoxies and metal bonds is described.

Invest. You? Yes!
Stephen M Salisbury
Millennials have come of age in a challenging economy. Today, they enter the workforce facing a multitude of obstacles to their long-term career outcomes and financial stability. The company-led employment landscape of previous generations is breaking down and a new, individual oriented paradigm is emerging. Wages face constant downward pressure from the slashed labor costs of developing economies. Global competition for jobs is fierce as technology allows for a more diversified and diffused workforce. In addition to challenging career starts, the retirement savings landscape in the United States is shifting and it leaves Millennials exposed to an uncertain future that hefts a burdensome share of retirement planning and saving onto their shoulders. Many Millennials are unaware of the long-term implications of the current financial straits that they face, several of which are out of control. Their combination of low growth incomes with massive debt obligations is placing downward pressure on their ability to adequately save for retirement. Traditional employer-sponsored plans are not highly portable and require time consuming bureaucratic processes when moving from one employer to the next. In addition, freelance and contract laborers are left out of these plans entirely. Therefore, a shift to a more portable and more widely available retirement plan system is desirable to improve long-term investment outcomes for Millennials. The goal of this project is to overcome the many obstacles in the way of a financially secure retirement for Millennials by reshaping the traditional employer-based investment paradigm into an individual based, easily managed, portable, and convenient system.

The European Union's Retroactive Tax on Apple
Kevin G. Schascheck II
The United States and many European countries lack competitive tax rates and conditions for large corporations. Ireland is one major exception to that rule. This has drawn sharp criticism from its continental and overseas trade partners, which may have provided the European Union with an incentive to hit Apple with a 14.6 billion dollar retroactive tax
bill. The consequences of this historically political and economic event cannot be underestimated.

Deng Xiaoping and the Changing Perspective of Chinese Socialism in the 1980s.
Kendon Service
This research will focus on the economic reforms which Deng Xiaoping instituted during the early 1980s. It will additionally examine how those reforms were implemented as a tool to separate China from Mao Zedong Thought and the Mao Era as a whole, both of which had plagued the country for decades prior. The primary sources of this research come from back issues of the Beijing (Peking) Review, a weekly Chinese political newsletter published in Beijing and the only one that was, and still is published in English. This database of sources provides a perspective into the official, outward-facing Chinese Communist Party perspective was during the Deng Xiaoping era since the CCP would not allow anything to be published but the Party line. By reading and analyzing the articles, one can understand what the thoughts were in Beijing at the time Deng’s famous economic reforms were implemented. In addition, the sources also provide a week-by-week look into how the Chinese Communist Party was mulling over Deng’s reforms, and how successful they were interpreted to be then versus how overwhelmingly successful they are viewed now. Furthermore, this paper will illustrate how various agents of the Chinese Communist Party changed their attitudes of various issues that were previously publicly unquestioned.

The Effects of Prison on Color Perception and Religion
Caderia Strickland
Deep inside the retina, rods and cones work together in order to adapt to the changes within different environments. Color and the way that one perceives it in different environments may have an influence on one's action. My research focuses on the way that individuals' visual perception works within different environments. Specifically, looking at the use of different colors within prisons and the effect that would have on the actions of an inmate. With the lack of exposure to color within prisons it is likely that when an inmate comes in contact with an uncommon color, it would be more likely to attract their attention. Religion in general uses color and images as a way to convey different messages, and actions. The use of color within religion materials may prompt someone to join, and be more interested to learn more about the religion based on the exposure the person has to the color used in the images.

A Society Beyond Redemption: Conceptualizing Religious Repentance in G. K. Chesterton and Agatha Christie
Sadie Sukich
G. K. Chesterton’s famous detective, Father Brown, is portrayed as dull throughout his respective series, existing as a placeholder for the importance of religious ideology in the constant social struggle surrounding faith, repentance and understanding innocence. Robert Gillespie's piece "Detections: Borges and Father Brown" focuses on the construction of religious detectives against the forces of moral evils alongside their quest to allow for societal repentance into a prior state of innocence. "The Secret Garden" by G. K. Chesterton emphasizes religious guilt in connection with greed and society's hidden
desire for repentance and I will be using historical sources on Victorian England's ideas surrounding religion, Chesterton's own personal conversion and how this is reflected within the Father Brown detective series as a way to contrast with Agatha Christie's parody "The Man in the Mist" of his works. My project will show the ways in which caricatures of good versus evil manifest themselves in detective fiction and how the idea of redemption through religious conversion places Chesterton, through his interest in portraying the importance of faith alongside reason in his detective works, as pushing religious ideology at the expense of reason. I intend to show the historical conflict Chesterton portrays in his works surrounding religion versus state ideology, highlight his own personal connection with conversion and the idea of true innocence in the confines of the detective fiction genre's structure against Christie's parody of Father Brown, in how the parody subverts the importance of religious dogma regarding redemption and achieved innocence.

**Economic Factors that Shaped IUSB**

Alex Sullivan

This paper intends to analyze the economic factors in South Bend Indiana during the 1950s and how they helped shape what we have come to know as Indiana University South Bend. Among these various factors are the implantation of the G.I. Bill in the late 1940s which seems to have been an overwhelming force in the growth of higher education facilities nation-wide. South Bend like most urbanized areas of the United States in the 1950s was riding the high of the post-war economic boom that would lay the frame work for the economic juggernaut which the United States was to become. South Bend from the 1940s through the 1960s was often referred to as “Test Town USA” a reference to the microcosm of diversity that was South Bend, thus because of such diversity several big time studies were conducted in South Bend as a reflection of the nation as a whole. Because of the industry in South Bend the manufacturing economics was divided into two main fields which essentially were designed to be consumed either outside of the South Bend market or within it. These two styles of economics lay the basis for the South Bend market and consequently dictate what the economy does. While examining the G.I. Bill we can see the impact that it had on the higher education facilities as well as the economy in the United States as well as South Bend.

**Translating Winnie the Pooh: The Difficulties of Preserving Poetic Sound**

Maia Sutter

Translating books for children should be an effortless task, right? The vocabulary is basic and the syntax very straightforward. Unless, of course, you translate Dr. Seuss or the countless other authors of children’s books who concentrate on the musical and playful quality of the English language. How do you translate the musicality and playfulness of these simple children’s stories? How do you reconcile puns and their illustrations in the translated language? How do you overcome the challenge of translating into a foreign language (French) as opposed to your own native tongue? These are a few of the questions the panelists will tackle during their presentations.

NB: Some of the panelists will present in French.
Color Perception in Autism
Sydney Szymanowski

People diagnosed with Autism Spectrum Disorder (ASD) often experience color perception differently from the normal population. Research has shown that many of the difficulties with sensory perception in people diagnosed with ASD is a result of visual stress. A hyper excitable visual cortex often causes this visual stress. Research has shown that color overlays can be beneficial to individuals with ASD dealing with visual stress. For example, studies have shown individuals with ASD read faster, and see improvements in perception of facial expression of emotion when using a color overlay (Ludlow, Taylor-Whiffen, & Wilkins, 2012). I will present an argument that color overlays can also be beneficial to other people suffering from a hyper excitable cortex. This includes but is not limited to, people suffering from: dyslexia, migraines, epilepsy, drug addictions, and stress. I will then provide an analysis that the choice of color overlays may be influenced by differences in color preference both across cultures and from individual to individual. However, due to positive natural associations, blue and green should be the most chosen overlays across cultures.

Sinister Settings: Landscape as a Representation of Human Perceptions and Motivations
Laura Taylor

Landscapes in detective novels such as Conan Doyle's Sherlock Holmes and the Hound of the Baskervilles and Agatha Christie's Murder of Roger Ackroyd give meaning to clues and an audience’s psychological reaction. While scholars have acknowledged the use of setting like frightening imagery in Doyle’s Grimpen Moore or brutal bloodhounds, few scholars have examined the similar context these elements share with the reader or their juxtaposition to a seemingly domestic village environment. The perceptions and fears reflected by characters in these novels emphasize the mood through abstract, monstrous, or supernatural narrative techniques and affect readers. Settings like the eerie moor or deceptively domestic country village provide this perception. In Christopher Clausen’s “From the Mountain to the Monsters” the criticisms of monsters in cultural texts and the ways they reflect the nineteenth century’s rapidly changing climate in science and romanticism make this apparent. Clausen argues in the rush to contemporary writing nature’s role has been forgotten but still remains because “the worlds horrors—slumber uneasily within us” and even in pieces like Dracula divided by nature and science the influence remains. I intend to argue the connection to nature and the additions landscapes show in a story’s function or culture for characters through religion, science, and human nature. The monstrous traits in a character’s personality add to the complexity and how these elements manipulate their surroundings, such as Christie’s shedding light to darker mysteries in Dr. Shepard being an unreliable narrator or Doyle’s eeriness in the bloodhounds’ presence around the Moore.

Intrigues and Exposures
Patti Thurman

I submitted this essay for my Non-Fiction Creative Writing class. It tells the intrigues of some of my ancestor's experiences in their homelands who eventually ended up in America. Mainly it chronicles my grandparents, who chose to escape oppression in their
native countries by taking refuge in America as immigrants. This is also a story of the effect these exposures had on me learning of them as a young child.

Creation of the Women and Gender Studies Department at Indiana University South Bend
Abigail Wachs
The development of Women and Gender Studies departments within universities was a pivotal moment for high education across the United States. Indiana University South Bend was no exception towards the influences that a Women and Gender Studies department had on campus. The creation of the department invited men, women, and the public of South Bend to learn about women’s involvement in History, English, and their communities. The development of the department occurred during the 1970’s, a time in the United States that was witnessing cultural changes. Dr. Gloria Kaufman was the founder of the Women and Gender Studies Department at Indiana University South Bend, her desire to create the department occurred from a desire to educate students, and the public about women’s contribution to society. Her contributions in the classroom, on campus, and within the community of South Bend reflected her ambition to create an education that could be obtained by anyone. Her creation of one of the first public lecture courses, B250 created an open environment for the public to be a part of lectures and discussion topics. Dr. Kaufman’s belief that education was an important asset in understanding the modern world enriched the campus at South Bend. The paper will explore the creation of the Women and Gender Studies Department at South Bend’s campus, while examining the creation of similar departments across the country. In addition, Dr. Kaufman’s contribution towards the department’s creation in the 1970’s and her influences on campus will be explained.

The Natural Occurrence of Big Boned Characteristics Among Humans
Alexa Wade
It is apparent that bone steadily grows and changes all throughout one’s lifetime from the stage of adolescence into adulthood. Every individual’s bone mineral density will be different from others to a greater or lesser extent. However, when considering certain individuals who appear to be of a very large size, is it true that they are actually big boned? Some argue in favor of this issue and find that being big boned is often naturally occurring in larger individuals, especially within certain ethnic groups such as Pacific Islanders. Others may argue against this claim and find that people often mistake or use the exception of being big boned to compensate for what may actually be general obesity, considering that bone mineral density only attributes to a certain amount of a person’s overall weight. In this research, both of these perspectives on the concept of being big boned will be evaluated. Studies will be conducted over the variability of bone density among different groups of people, such as Pacific Islanders, and compared to other groups. Data will also be gathered on the prevalence of obesity among certain individuals and the condition of their bones in relation to their physical state. The concept of robustness will also be examined among certain bones with recorded data and compared with average sized bones. The overall goal of this research is to answer the question of whether individuals who may be naturally considered obese actually have larger bones that account for their larger frame.
Sherlock Holmes-Paranormal Investigator: Reading The Hound of the Baskervilles as a Work of the Supernatural
Savannah Welnetz

It is commonly acknowledged among scholars that the trend of Victorian supernatural literature gave way to the detective novel in popular culture. However, this transitional trend tends to be characterized as a one-way street. Supernatural fiction has been found to possess elements of the early detective, but the detective has no patience for the supernatural. Srdjan Smajic in “The Trouble with Ghost-Seeing: Vision, Ideology, and Genre in the Victorian Ghost Story” provides a history of the supernatural that suggests that as the early detective genre grew and developed into its current form, it drove out our ability to take the supernatural seriously. This project will reexamine the assumed one-way nature of that trajectory from supernatural to detective fiction using Conan Doyle’s The Hound of the Baskervilles as a primary text. Based on an analysis of this novel, I make the case that no firm boundary exists between detective fiction and ghost stories. In fact, these two genres work in complementary ways to make The Hound of the Baskervilles both a detective fiction and a compelling work of supernatural fiction.

The True "Heart" of Metropolis
Marissa Williams

It is a common movie trope that "things are not always as they seem". By the end of a conventional narrative, the audience has been let in on what is and is not true, and they walk away from a film feeling as though they know everything about the story. But even these films with a sense of closure can have an entirely different ending after they fade to credits. A character's sudden and radical change in behavior may or may not be permanent or even as strong as it seems. Passion burns bright and hot and then fades just as quickly. It is the characters whose morals and motives have been steadfast throughout the story that we can truly rely on. For this reason, contrary to film studies experts, it is only logical that in the movie Metropolis, the character of Grot will be the true heart of the city - not Freder.

Color Vision Impairment in Elderly Adults
Thomas Williams

Color perception is an important aspect in normal life. With color light causing short-wave, medium-wave, and long-wave cones to send signals to the ganglion cells which in turn send signals to the brain, color perception in normal individuals is an aspect of visual perception that has been thoroughly covered. In the elderly population, visual decline is a common occurrence. One aspect of visual decline, color perception, has not been well researched in healthy elderly adults. What we do know is that as the people age, the lens in the eye yellows and reduces the amount of short-wave length light from passing through the lens and reaching the retina. The ganglion cells found in the eye also have been found to deteriorate with age, which would impair signals from the cones reaching the eye. Furthermore, brain shrinkage occurs which could hinder the brain making corrective changes to the signals that it would be receiving from the eyes. From the finding research, it is proposed that these mentioned changes found in the normal aging process would hinder the elderly from accurately perceiving short-wave length light. Discussions will be held at the end of the presentation.
Gender, Community, and Sacrifice in the Literatures of Spanish-America and Spain

Sor Juana Inés de la Cruz: la necedad y la inmadurez masculina en <<Hombres necios>>
Cassandra Duarte, Tiffany Amezquita, John DeVreese

"Es la culpa de ella": la doble moral y el espejo empañado
Bailey Overmyer, Elyssa Hurdt, Danielle Lyons, Janyelle Wiltfong

El diablo, la carne y el mundo: la mujer entre la espada y la pared en <<Hombres necios>>
Connor Hoffman, Elise Mick, Raven Miller, Hector Valadez

La identidad regional y las Tradiciones de Palma: <<El alacrán de Fray Gómez>>
Gloria Marzke, Luis Gonzalez, Kashay Murray

Los milagros de todos los días: el buen peruano, Fray Gómez y el usurero
Kacey Jackson, Yesenia Garcilazo, Anabel Sanchez

La crisis sacrificial en Fuenteovejuna
Brittany Shipe

The six presentations interrogate representations of gender, community, and sacrifice for the greater good in the works of Sor Juana Inés de la Cruz, Ricardo Palma, and Lope de Vega. Sor Juana's "Hombres necios" (Foolish Men) is a carefully constructed argument that defies dominant patriarchal discourse. "El alacrán de Fray Gómez" (Father Gomez's Scorpion) is a social commentary about the importance of regional identity, honesty, and religious piety. Lope de Vega's Fuenteovejuna underscores the foundation of the rule of law and group sacrifice for peaceful coexistence. Presentations are in Spanish.