Abstracts
(not including posters)

April 18 & 19, 2017
Earlham College
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Department of Athletics

Throughout the EPIC Expo, the Department of Athletics will show through photographic displays its core values: self-sacrifice, teamwork, and discipline in the pursuit of athletics excellence. Additionally, the imagery will showcase student-athletes' commitment to academics, service and their team. The photographs will be placed in buildings across campus.

Group Performances and Exhibitions
Includes all sessions alphabetized by title

A Squirrel Boy, A Robot Cat, But Also Parents (a new play)
Jonathan Graham, Jordan Wolfe, Ellie Gelser, Jennie Kiffmeyer
Max and Jane are both 13. There are things they'd rather not talk about—like weird living situations and unfortunate parents. But they both like to draw. And they kind of like each other, too. So that's a start. This comic drama explores housing instability, absentee parents, substance abuse, friendship, and the power of making art in tough times. "A Squirrel Boy, A Robot Cat, But Also Parents" was chosen from more than 100 entries to be showcased in March at Write Now, a national new play symposium sponsored by Childsplay Theatre Company and Indiana Repertory Theatre. The play was previous performed at Theatre 33 in Salem, Oregon.

Celebration of the Publication of the 2016/17 Edition of The Crucible Literary Magazine
Crucible Literary Magazine: Shena McAuliffe, Yasmin Dasilva, Lucia Burton, Yejin Ki, Nicole Gruszka, Leah Johnson, Somer Eckert, Lillian (Lilly) Hartman, Kelsey Stratman, Eliza Rehard
Join us in celebration of the 2016-2017 edition of the Crucible, a student-run literary magazine that publishes works by Earlham students, including poetry, fiction, creative non-fiction, and visual art. The first issue was published in 1956, making it one of the longest-running publications on the Earlham campus. At this celebration, some of this year's published writers will read from their work.
Collaborative Creation: Devised Theatre
Devised Theatre Class: Lynne Perkins Socey, Sage HaleWolfe, Rosa Maria Cordova Moreno, Fawzia Istrabadi, Theo Caleb Merback, Cameron Wooddy
Devised Theatre describes a collaborative process of playmaking that empowers each member of the ensemble as creator. The lines between author, designer, performer, and director are often blurred as the artists explore issues of mutual interest and tease out the stories they want to share with an audience. The students from this semester's devised theatre class will share how, starting with an empty rehearsal space and a group of committed theatre practitioners, they developed an original work in response to research about the April 6, 1968 Richmond Gas Explosion and the impact that had on the community. Excerpts from this production and pieces currently in development will be performed as a way of inviting dialogue with today's audience.

Earlham College Bike Share Kickoff
Lisa Butch, Jason Elliott, Isaac Hunter, Andy Clifford
Come celebrate the kickoff of Earlham's new Bike Share sponsored by a grant from the Indiana Pathways program and coordinated by the Environmental Leadership Program, Public Safety, and Isaac Hunter from Psychology. We will have obstacle courses, races, and other fun activities happening throughout the morning with a scavenger hunt happening at 10:00 a.m. Come with a team for the scavenger hunt or be placed on one when you arrive. We will also have prizes available for the first students to register for the bike share as well as the winning team of the scavenger hunt so be sure to arrive early!

Earlham Equestrian Exposition
Earlham Equestrian Program
Come to the Earlham Equestrian Exposition to learn all about equines! From the evolution of the equine, to distinctions between breeds, to demonstrations of trick training, learn all about horses. Ever wondered what the difference between English and Western riding is? Why is dressage an Olympic sport, and why does it look so boring? Want to know why a Quarter Horse is called a Quarter Horse, and a Thoroughbred a Thoroughbred? Have you wondered what to call a horse that's white with brown spots (or is it brown with white spots)? Learn all this and more as the members of the Earlham Equestrian Program demonstrate their knowledge and skills. A shuttle will run from the LBC/CST front circle to the Horse Barn every 15 minutes. Come for a bit, or stay for the whole session!
**Empty Bowls**
Judy Wojcik, Sylvia Barnes, Amanda Cail, Izzy Grasso, Padgett Gustavson, Lillian Lowenfield-Jayne, Kelly Mayhew, Hannah Munro

Earlham College and Metz Culinary Management are collaborating to create a Food Bank for summers and breaks for students who reside on campus. The Ceramics students and faculty are contributing to the cause by selling handmade bowls in the alcove outside of the bookstore. Cost is $10 per bowl with a few special bowls that will be available by silent auction. All proceeds made during the fundraiser will be donated to the new Food Bank.

**Fast Fashion, Fair Fashion**
Becky Jestice, Global Seminar class “Fast Fashion, Fair Fashion”

**Introduction to Indoor Rock Climbing**
Malia Staab, Gabe Rehm, Kate Buche-Pattison

We, as staff of the Earlham College Solomon Climbing Wall would like to open up our space to the Earlham Community and show what we have to offer in terms of classes and other related initiatives. We want to share our passion for climbing with people who may not know much about the climbing wall or climbing in general, this would include some basic safety and climbing technique and the opportunity to try climbing themselves! We’d also be interested in sharing our extracurricular activities which include trips to other climbing walls and trips for outdoor climbing all in the name of personal development and community building.

**Make and Take**
Katie Kameen

If you haven’t had a chance to check out the new Center for Visual and Performing Arts facility this is the perfect time! Come by the Metals Studio (CVPA 109) and check out what the 3D Fabrication students have learned about metalworking and 3D printing. See the 3D printer in action and choose a 3D printed object to take with you. Learn how to stamp and emboss metal, and make your own key-chain. Talk with our students about their experiences in the art program and leave with your own handmade souvenir!

**Meet and Greet with Student Artists**
Walt Bistline, Kaitlyn Brunner, Shania Feathers, Mason George, Sae Yeoun, Kay Lynch, Abby McCullough, Margie Oatney, Heather Sloan, Sophia Richard, Pelle Tracey, Michelle Zhang

Spend one-on-one time with this year’s 11 senior Art majors and their art in Leeds Gallery in Runyan Center and in the atrium of the Center for Visual and Performing Art. See paintings, ceramics, photographs, fiber art and yes, even chainsaw sculpture! This year’s seniors include Kaitlyn Brunner (painting), Shania Feathers (photography), Mason George (photography & sculpture), Sae Yeoun (painting), Kay Lynch (ceramics), Abby McCullough (painting), Margie Oatney (photography), Heather Sloan (photography & fiber art), Sophia Richard (painting), Pelle Tracey (photography & installation art), and Michelle Zhang (photography).
**Methane Hub**  
Josephine Burton, Unaizah Abbas  
Methane Hub is a social enterprise that will use biogas as an alternate energy source to charcoal. We are currently in our scouting and pilot stages, and are using our contacts to get on the ground in Haiti this summer.

Here's how our process works: Organic waste is piped from a latrine to a digester, where biogas generates as a result of microbial processes via anaerobic digestion. After collection, the biogas is compressed and then held in a gas tank. Adjacent to that tank will be a kiosk ran by a Haitian from the local community. She/he will acquire (through MH) the skills necessary to regulate input into the digester and record the lease-to-own transactions of meal-sized transport tanks (about the size of a camping size propane tank) and portable biogas stoves out to customers. Methane Hub will sell biogas to Haiti's rural communities through a local "hub", or kiosk. Because of Methane Hub, customers will pay lower prices for biogas than they would charcoal -- equipment included.

**MIKE & RONNY: A LOVE STORY**  
2017 IndyFringe Theatre Festival Company: Lynne Perkins Socey, Cameron Wooddy, Fawzia Istrabadi, Susannah Rossier, Sage HaleWolfe, Theo Caleb Merback, Jordan Wolfe  
The members of the 2017 Fringe Festival company will share a reading of the original play they will be presenting as part of the IndyFringe Festival in Indianapolis this August. Written by first year student Cameron Wooddy, "Mike & Ronny: A Love Story" is a satire based on the relationship between Mikhail Gorbachev and Ronald Reagan with an interesting resonance in today's political climate. The production team will be seeking feedback to inform script development and the overall production concept. They will also share what they are learning about producing original work within the world-wide fringe festival network, facilitate a brainstorming conversation about promotional ideas, and invite participation on the marketing & promotions team.

**Revolutionizing Gender Norms: Women’s Role as Peacemakers in Guatemala & El Salvador**  
Sandra Lara, Abigail Curillo, Ziad Massoud Canto, Junior Sanchez Prado, Rhiana Peck, Edward Herrera, Aaron Monroe, Hannah Toresdahl, Edita Danielyan  
Latin American countries during the Cold War era experienced massive human rights violations. Through this panel we focus on women’s participation in Guatemala, 1960-1996, and El Salvador’s civil wars, 1979-1992, by examining two testimonials: I, Rigoberta Menchu: An Indian Woman in Guatemala and Hear My Testimony: Maria Teresa Tula Human Rights Activist of El Salvador. Drawing from a range of interdisciplinary works such as film, feminist theory, and documents located in the national security archive we will explore the intersection of gender, race, and class to understand how civil war transformed gendered relationships and to appreciate women’s emergence as peacemakers in these two countries. Some of the questions we consider are: What role did gender play in the social movements that emerged? What impact did CO-MADRES have locally and globally? How do women’s roles in the establishment of peace differ from that of men?
Science and Photography Collaboration: An Investigation of Timescales
Ellen Keister, Ben Liebersohn

Processes in both the natural and man-made world occur at a vast range of timescales, from the formation of stars and planets to the rearrangement of electrons in molecules as solar panels convert light into electricity. This project brought together scientists and artists to explore the different timescales of processes of scientific interest, using primarily high speed photography techniques. We investigated the motion of various liquids excited by a speaker cone, the bursting of balloons, and several other systems.

Tiny House Tour
Lily Fishleder, Abby McCullough

The tiny house movement is a growing global shift towards simple living, financial independence, sustainable living and ability to travel. Not only this, however, many communities have begun to build tiny houses for those seeking refuge whether they be homeless youth or other homeless members of the population as either permanent or temporary housing. As graduating Seniors, Abby and Lily will live in their house for the foreseeable future and continue to commit their time and energy to ventures that support sustaining lifestyle, food, and community.

The Role of Praise in Fixed and Growth Mindset
Lara Khalifeh, Karli Oxford-Jordan, Idara Udo-Inyang

Those with fixed mindset (belief in unchanging ability) tend to react negatively to failure; those with growth mindset (belief in malleable ability) tend to react to failure as learning opportunities. Praise can influence mindsets, with process praise ("worked hard") promoting a growth mindset more than identity praise ("smart"; Dweck, 2007). However, identity praise ("good helper") is more effective at promoting future prosocial behavior than process praise ("good job helping"; Bryan et al., 2014). Perhaps praising process as identity is the most effective ("hard worker," "good helper"). We conducted three studies with adults (MTurk), college students, and children to test the effect of identity-effort praise ("hard worker") on fixed/growth mindset, attributions of failure, and task enjoyment.
Individual Performances and Exhibitions
Includes all sessions alphabetized by title

A stand up about stand up
Sam Reid-McKee
This semester I was awarded the LIFE grant to travel around Indiana performing and learning about stand up comedy! I have gone to numerous open mics and had some wacky experiences, some of which have been pretty darn funny. This presentation will be a stand up about my attempts at standing up(I fall down a lot). Come laugh with/at me!

Bringing local history to life through writing historical fiction
Randy Wisehart
I am finishing a historical fiction novel for middle grades students based on the early settlement of the Whitewater Valley. The novel spans the years 1776-1832 and includes visits by Tecumseh to this area and other Indiana history events, some including George Rogers Clark and William Henry Harrison. The story revolves around two of the earliest settlers of this area, Richard Rue and George Holman. I have fictionalized their history including their capture by Shawnee, their almost being burned at the stake, their three year captivity, and later their annual fellowship with visiting Shawnee from their adopted family. I finish the book with references to the "Shawnee Trail of Tears" that came through Richmond in 1832. I am collaborating with the Wayne County Historical Museum on this project.

Impacts of Larval Nutrition on Colony Growth of Lasius Neoniger
Marwah Saleh
Unlike solitary organisms, ants exist as both individuals and multi-individual societies. Maintaining satisfactory nutritional intake for all individuals, with all their unique needs, can be a daunting task as a result of unequal distribution of labor, as well as variant nutritional requirements for workers and larvae (workers need more carbohydrates content and larvae require more protein). While most prior research has suggested that foragers tend to prefer carbohydrate rich foods, food preferences are not necessarily correlated with a diet that will yield optimal growth. Understanding how specific nutrients, such as carbohydrates and protein, affect colony growth can help us better understand the mechanisms that govern eusociality as well as social life history traits. In this study we manipulated the diets of twelve colonies of the common garden ant, Lasius neoniger, acquired in Richmond, Indiana from October 2016 until the present. Colonies were administered diets with differing ratios of protein to carbohydrates in order to elucidate effects on colony growth and productivity. Our current results indicate that a 1:2 ratio of protein to carbohydrate diet yields the highest growth. At this point, it is not yet clear whether ant preference for a particular protein to carbohydrate ratio correlates with productivity. A strong correlation between diet preference and colony growth would suggest that foragers are highly tuned to the growth needs of the colony.
**Indiana Women in STEM Night**  
Karen Breece

It practically is common knowledge at this point that in STEM fields women remain in the minority. Yet women's major contributions to fields such as ecology, physics, engineering, and computer science date back to decades in the past, in some cases proving exceedingly influential in the creation of the scientific and technological disciplines themselves.

This event will include a presentation and public discussion on the Indiana women who have led great advances in various STEM fields. By highlighting the accomplishments of women in STEM in the past, as well as detailing the obstacles they faced in accomplishing their goals, this event will aim to encourage future members of scientific, technological, engineering, and mathematical fields who self-identify as women. This event also hopes to, through historical research, uncover the lives and accomplishments of several women who have often been left ignored in lists of major Indiana scientists, engineers, and naturalists.

In so doing, this event and research strive for a day where women in STEM are no longer in the minority.

**Joseph Moore Museum Breakout**  
Mayeesha Ahmed

Can you return the Ta'an's missing scarab in time to save yourselves from her curse? Bring your friends and find hidden clues to solve the mystery of the mummy's missing scarab and break out of the Joseph Moore Museum before the clock runs out! Escape room games are team-based, live action games where players are given a limited amount of time to work together to escape from the room, by finding clues and solving puzzles. The goal is to bring a diverse group of people to directly engage with each other, and encourage teamwork and communication, critical thinking, attention to detail and lateral thinking. The most successful teams have players with a wide range of experiences, skills and background knowledge (Nicholson, S. 2015). Our Museum breakout is designed for groups of 6-8 and can take up to 45 minutes to complete. It is suitable for players of all ages, but we recommend that adults accompany children in teams. In order to ensure availability, a sign up is required which will be done on a first come, first served basis. Please let us know at the time of sign up if wheelchair accommodation is required.


**Read, Plan, Teach, Repeat: Life as a Student Instructor at Earlham**  
Arish Mudra Rakshasa

Have you ever thought about teaching at a college such as Earlham? Did you know current students at Earlham can get that experience? This hands-on workshop will introduce you to the process of planning and implementing a lesson through interactive activities. A Presentation of Learning from a student who had the remarkable opportunity to teach a semester-long course at Earlham as an undergraduate will accompany the workshop. The presentation will focus on the challenges and delights of being able to use the small liberal arts environment at Earlham to teach a group of your peers.
Storytelling in Twine: A Digital Humanities Project
Jeremy Bleh

Twine is an open-source software package used in the creation of digital stories and games. Its flexibility allows for the merging of images, audio, and video alongside a written account. This project will incorporate said media elements and feature a plot determined by the reader. Essentially, Twine will become a medium in which users can "choose their own story" with digital passages allowing the reader to dictate the actions of the protagonist, leading to different outcomes in the narrative. Associated video and sound will be used for enhanced immersion, reminiscent of audio books. The plot is a continuation of the author’s previous work, taking place in a fictional medieval era with an original character. It currently blends blunt dialogue and humorous undertones, though suggests an overall serious message. In alignment with digital humanities, this project makes user interactivity a high priority, compatible with most computer interfaces. When finished, this project will allow readers to enjoy multiple read-throughs, witnessing different plots and variation in digital presentation.

Viewing Historical Geography
Benjamin Liebersohn

This is a demo of a software project which projects historical geographic data onto google maps.

Media Rooms
Includes all sessions alphabetized by title

Media Room 1

Addressing a Caribbean Challenge: Video Essays
Aletha Stahl

Students in my Global Seminar will present short video essays in which they identify something they consider to be a Caribbean challenge, how they arrived at identifying this "challenge," and some ways in which to address the challenge. The videos will run continuously so that people can screen them as they wish.

Daily Life and Urban Spaces of Colombian Emigrants in Two U.S. Cities: A Photographic Documentary
Rodolfo Guzman

In this ten-minute video and exhibit of 30 photographs, this presentation strives to answer the following questions: How do emigrants, particularly Colombian emigrants, interact with, reshape or transform the urban landscape in U.S. cities? In everyday life situations, how do Colombians visually express their cultural ties to both the U.S. and their homeland? How do they perceive themselves as emigrants? This exhibit is the culmination of my 2015 GLCA New Directions Initiative grant which allowed me to explore Colombian communities in New York, Chicago and Miami.
Media Room 2

Breaking Language Borders: Multilingual Poetry
Belen Villarreal, Global Seminar class "Languages and Borders"
This exhibition will consist of multilingual poems accompanied by an introduction or reflections that students have written in their Esem. The requirements for this assignment consisted of writing a poem on a topic meaningful to you that incorporated more than one language. While the students really struggled with writing in more than one language and finding ways to convey their complete message to a monolingual English-speaking audience, the final products are quite extraordinary and present a depth of meaning that illustrates the value of breaking language borders from time to time.

Encounters with Language Borders
Belen Villarreal, Global Seminar class "Languages and Borders"
This exhibition will feature a series of short videos on topics related to languages and borders. They explore the role of languages and dialects in lives all over the world, from immigrants to international students, using personal narratives, fictional accounts, and documentary style films.

How to Communicate With People Different From You: A class video
Laura Leavitt, Global Seminar class "How to Talk to Strangers"
The students of ESEM 150-19 "How to Talk to Strangers" are creating a short video that they'd like to play on a loop during a poster presentation session. The video would require a laptop or screen and (ideally) a set of headphones or two with a splitter to allow visitors to watch the film. Students or the instructor would stand beside the video and answer any questions about the course that students have. The subject of the video is practical tips that we've drawn from our more abstract daily analysis of how people communicate in community, especially with those who are different from themselves. It will feature performances from people in our class as well as filming, set design, and script choices by other members of the class. While this could also be shown in a one-time screening if this is deemed unsuitable for the poster presentation area, it would not be appropriate as a panel presentation.
Panel 1

From pro-Zionism to #FreePalestine: How Colonial Implications of Zionism Led to the Ideological Shift of Black Liberation Movements

Kristina Brunner

This Religion thesis explores the colonial implications of Zionism, as understood by the "Father of Modern Political Zionism," Theodor Herzl, and founder of the Back-to-Africa movement, Marcus Garvey. Over the course of this work, I contextualize the liberation intentions of both Herzlian Zionism and Black Zionism, and the outcomes and factors of success (or lack thereof) in attaining the nationalist goals of both movements, in order to argue the transition of Black Liberation Movements in the United States from pro-Zionism to anti-Zionism. This shift is specifically seen in the Black Panther Party during the Black Power movement, who emphasize international solidarity with the Palestinian cause.

The Reverberation of Prophetic Black Voices: Hip Hop’s Guide to Prophethood

Cherrah Barclay

Our particular moment in history has called for a very specific type of musical spiritual, one that is uplifting, and one that incorporates, encompasses and acknowledges the complexities of connected struggles. It calls for joy and anger to exist in the same spaces and for people of all walks of life to be able to enjoy such spirituals and feel they are being highlighted within the narrative. This is a moment that revives moments from the past and adds on as the times change. This new spirituality is fueling what I am calling the Neo Black Arts movement, led by creative and innovative voices. In the face of police brutality, modern day lynchings, terrorizing of black female body and black LGBTQ+ people’s bodies there has come about a national cry for expression of love, protest, and hope. I will be displaying the power and reverberation of the word of God through artists representing the Neo Black Arts Movement. Specifically speaking of musicians and the spirituality expressed through them, I am arguing that the voices of Chance the Rapper and Noname are leading us towards freedom, making them prophets of our generation, and mobilizing this Neo Black Arts Movement in hopes for Black liberation.
**Panel 2**

*Black & Brown: The Double Oppression of Black & Caribbean Identity According to Place*

Brytnie Jones

This piece has been transformed and developed over the last 2 years. It is a paper focused on the challenges of black identity. This paper challenges the ideas of race and how race changes and fluxes dependent on location. This paper will focus on the double oppression of being Puerto Rican and Black in the U.S. and Puerto Rico (a U.S. territory, which has adopted a lot of U.S. ideas) in contrast with the double oppression of being Caribbean and Black in the U.K. I will discuss how race, specifically Blackness changes dependent on location. Authors and poets like Piri Thomas, Carmen Colon Pellot, and Samuel Selvon use literature as a way to discuss the stereotypical images associated with being African American and of Caribbean descent. They discuss and openly critique the attitudes, ideas, and beliefs about blackness dependent on location and highlight several positions of oppression, invisibility, and inability to embody both Black and Caribbean identities. However, along with discussing their rejection of the double oppression they face, I will discuss how through memoir and poetry they reconstructed their individual identities and embraced blackness.

*Grounded: Theater Capstone exploring Acting, Dramaturgy, and Theater as a Utility of Empowering the Informed*

Cianna Rothwell

My presentation will be on my senior capstone work surrounding the play Grounded by George Brandt. I am currently rehearsing for a performance of the full length play next fall. For this presentation, I hope to perform snippets from the play, as well as present a discussion of my dramaturgical research. The play is a one-woman show about an air force pilot who is transferred to piloting drones. The monologue as an exploration of the psychological fallout that the pilot experiences from driving to war in the morning and coming home to her family at night. The play also interrogates the ethics of drone warfare and military surveillance. In my presentation, I will explore these topics in greater detail, as well as discuss the possibilities of theater as a means to communicate and inform the general public about current social and political topics.
Forbidden ButterFlies: The Deconstruction and Reconstruction of Masculinity Through Time and Space
Brandon Ahmauri McClendon

"Forbidden ButterFlies" is a pas de deux that I created the Fall semester of my senior year. I choreographed this dance to be a part of my evolving portfolio of personal choreography and this was also choreographed to be included in the annual Dance Alloy showcase that happens each semester. This pas de deux was created as a way to conceptualize and delicately mold all of these experiences I have had regarding my sexuality and the multiple ways I have had to deconstruct my masculinity within the transformation of my experiences. Realizing the immense impact of this dance and grasping the full depth of what this dance was communicating, I came to the conclusion that this work was just the beginning and the notion of deconstructing masculinity through dance needed to be explored in other ways. This presentation will examine Forbidden ButterFlies and my senior capstone dance ethnography, which examines the different ways that masculinity is constructed and re-constructed through the use of dance. Through ethnographic observation, interviews and personal experiences, I will communicate the various ways that dance as an art form operates as a multi-sensory experience for young men as they experience and construct their identities in relation to masculinity. I interviewed male dancers at Riviera Ballet Studios in Springboro, Ohio to understand the perspectives and experiences regarding dance, their notions of masculinity and how they each define it within the context of dance. This presentation probes into the question of how dance informs and exposes various male dancers to masculinity and how it shapes their views on masculinity, both within themselves and society. The information and insights gleaned through these ethnographic observations and interviews with participants informed my analysis and ways in which dance shapes the masculinity in young men and the need in society for men to deconstruct gender.

Richmond Speaks Spanish!?: A Cultural and Linguistic Profile of Hispanics in Richmond
Belen Villarreal

Many people are unaware of the considerable Spanish-speaking community here in Richmond. This presentation will provide a demographic profile of this group of Earlham's Hispanic neighbors, focusing on the largest population: Mexicans from the southeastern state of Oaxaca. Topics covered will include issues of ethnic and cultural diversity and the challenges of living in the midwest. Special attention will be given to questions of language and sociolinguistic issues related to assimilation and identity.
Panel 4

*Cerebellar Hemorrhaging in Preterm Infants*
Kayla Trevino

Premature infants (those who are born between 22 and 38 weeks after conception) are at higher risk for experiencing a cerebellar injury than infants born full-term (38 weeks or older). The most common types of injuries that preterm infants experience include cerebellar hemorrhage, intraventricular hemorrhage, and periventricular leukomalacia. The main risk factors for suffering a cerebellar injury in infancy are premature birth, low birth weight, oscillation ventilation, the presence of patent ductus arteriosus, and assisted conception. Possible consequences that effect neurological, cognitive, motor and behavioral development are known but understudied. This literature review serves to compile and demonstrate known data about risk factors and possible outcomes in infants that survived prematurity with a cerebellar injury.

*Compressing Deep Neural Networks*
Tuguldur Baigalmaa

Deep neural networks have become an important area of research due to the recent success on a number of recognition tasks, such as speech recognition, computer vision and natural language processing. However, the increasing depth, that comes with increasing accuracy of such models, makes it both computationally and memory intensive to deploy to mobile platforms and embedded systems. In this paper, we will examine a range of compression methodologies that can be used to decrease model size and increase runtime efficiency.

*Influence of Infant Exposure to Interparental Conflict on Social-Moral Choice*
Karli Oxford-Jordan

This study examined the independent and interactive impacts of reported temperament and parent reported exposure to interparental conflict on infant’s preference in a social-moral choice task. Infant temperament was evaluated via IBQ-R parent report, interparental conflict was addressed via parent reported "fights" in the home and child presence during those interactions. Infant preference was assessed via reaching towards a puppet stimulus that expressed hindering or helping behavior during a puppet show task. Hypotheses were that infants with difficult temperaments would show more preference for aggressive situations and that aggression in the home would correlate with infant preference for aggressive situations. Data analysis is ongoing.
Panel 5

Analysis of Ancient Chinese Pottery using Portable XRF and Portable Diffuse FTIR Spectroscopy
Veronica Bradley

Field studies were performed at the Yangguanzhai Neolithic site near Xi‘An, China, using an Olympus Delta Premium portable XRF spectrometer and an Agilent ExoScan FTIR spectrometer. 521 fine-clay ceramic pieces collected from nine locations across the site were selected and classified based on color (red, tan and brown), decorations (painted, rope impression - cord or thread, and plain), and time period (Miaodigou and Banpo IV). Each sherd was broken, so that the analysis could be performed on a clean edge to minimize surface contamination. The data was combined with the 411 sherd objects from 3 different locations that were run in 2015 to perform further statistical analyses. Although ceramics have a much more complex matrices than most lithic samples, distinct patterns could be observed in several preliminary PCA (Principal Components Analysis) tests. In the main moat (G8-1), an apparent change in clay composition was observed from earlier layers to later layers. Three main clay composition groupings were found in many locations. Differences in clay compositions were also observed in sherds fired at different temperatures (FTIR-assigned firing temperature). Additionally, this data seems consistent with a more homogenous clay composition in the Banpo IV period than in the earlier Miaodigou period.

Effects of Human-Canine Interaction on Human Pain Perception
Jennifer Barrett

The present study examines the effects of the type of human-canine interaction: attentional focus, social support, or tactile stimulation on human pain perception, an area of human-canine study that is lacking in the current human-animal interaction literature. I hypothesized that 1) tactile stimulation via petting the canine would produce the most effects on pain perception, 2) attentional focus would affect pain perception more than social support, and 3) the Pet Attitude Scale-Modified (PAS-M) would moderate the effect of human-canine interaction on pain perception. Participants were randomly assigned to one type of human-canine interaction and completed the cold pressor task with four pain measurements: pain threshold, pain tolerance, emotional pain, and physical pain. Analyses showed no effect of the type of human-canine interaction on pain threshold, pain tolerance, and emotional pain, whereas participants rated less physical pain in the tactile stimulation condition compared to the attentional focus condition. The PAS-M did not have a moderating effect. Further statistical analyses revealed that participant demographics like sex and pet ownership affected participant pet attitudes and canine interactions. This study adds to the limited literature examining the mechanisms of human-canine interactions benefits and provides valuable avenues for future research.
**Laser Microscopy**

Ellen Keister

The interaction of electromagnetic light waves with the human eye is one of the primary ways we make sense of the world. Since its invention in the 1960s, the laser has enabled an entirely new set of tools and mechanisms to better understand nature, and in the process has contributed many practical applications to society. Lasers have merged with microscopy in a number of ways, using light to both manipulate objects and illuminate them. An emerging field of microscopy uses computer algorithms to replace conventional optics, enabling imaging at wavelengths for which optics cannot be produced. Using this technique also has applications at visible wavelengths, for which conventional microscopes are also available.

**Panel 6**

**Making Black Lives Matter: A White Woman’s Encounter with the Realities of Racism**

Lyn Miller

In this informal presentation I will discuss my research into the lives of an African American family in Louisville and Minneapolis, and what it is teaching me firsthand about white supremacy, slavery, Jim Crow, miscegenation, the prison-industrial complex, and burial abuse—the mistreatment of Black bodies from birth to death—as well as individual and collective resilience. One branch of this family was held slave by nuns and priests of Bardstown and environs—the broad Kentucky community to which the renowned Thomas Merton later belonged. I will talk about the distinctive nature of slavery within the Church as I’ve discovered it, as well as my work with trowel and shears—in dialogue with the resident spirits—to uncover, photograph, and record the markers of thousands of citizens buried in a neglected African American cemetery in Louisville where some members of the family I’m studying are buried.

**Programmed Beauty: The Relationship Between Skin Color and Attractiveness**

Idara Udo-Inyang

The present study examined the relationship between skin color and attractiveness. Participants were presented with eight experimental three-dimensional faces; 4 male and 4 female. Each face had the same features but different skin color. Participants were then asked to rate the level of attractiveness of each face. 58 college students participated in this study; 16 men and 42 women. The results showed an observable association between skin color and attractiveness. Light skinned women were rated more attractive than darker skinned women. Darker skinned men were rated as less attractive than light skinned men. Male participants rated lighter skin colors in both male and female faces as more attractive, while female participants alone found darker male faces more attractive. There was no significant pattern in ratings of female faces by female participants. It took more than twice the amount of time to rate the attractiveness level of the darkest female face than it took other experimental faces. These results show a significant skin color bias against darker colored women and lighter colored men.
The Wilderness of Black Womanhood: The Neglect of Black Women in the Black Church and Community
Louisa Perry-Farr

My paper examines African American women's experiences with sexism and misogyny within Black churches. This paper is currently a work in progress, but I expect to find that sexism has hindered Black women's ability to benefit as fully from their Church community as they could have, and that their contributions often go unappreciated or forgotten. I expect that Black women's experiences with sexism will transcend various church denominations, historical placement, and geographical location.

Panel 7

Describing African American and Caucasian criminals on Fox news: a comparison of word and verb voice
Safia Diarra

Although racism is not as apparent as it was before, it is argued that a more subtle form of racism still exists. The news is an example of this subtle type of racism; even though it is prohibited to broadcast a report with racially offensive language, the choice of specific words and grammar suggests a racial bias. This study examines the frequency of the reporting verbs say/said and claim/claimed among Caucasian and African American criminals on the local Fox news channel (Fox 59 News). The reporting verb claim is described as "negative" while the reporting verb say is described as neutral on the basis of former literature on these two verbs. Additionally, the frequency of active and passive voice were examined among both races. The active and passive voice were chosen for the study because it is argued that crimes are less accepted when using the active voice while crimes that use the passive voice are viewed as more acceptable (Henley and Miller, 1995). The two reporting verbs and the active and passive voice were collected by watching Fox 59 News at 10 on the Fox channel each night for a period of ten weeks.

The results of this study portray the harmful depictions of minority groups on the local Fox news (Fox 59). The issue of African American stereotypes will continue unless people are aware of this issue. It is hoped that by portraying the unfair treatment of African Americans on Fox News, viewers will not assume that African Americans are more likely to commit crimes. Moreover, the results will help to develop awareness to those who believe that racism is no longer an issue in our society.
Molotov Cocktail or Message in a Bottle: Feminine Narrative as Revolutionary Weapon
Lindsay Freed

With the guidance of advisors such as Kathy Taylor, Chris Swafford, and Rodolfo Guzman of the Spanish and Hispanic Studies department, I have composed my senior honors thesis on a type truth-telling that I have characterized as feminine narrative. Feminine narratives: 1. Reveal the processes of their own construction, 2. Are inclusive of all kinds of voices, and are polyphonic, 3. Accept and embrace their own inherent subjectivity and emotionality, 4. Understand time to be a non-linear force, and 5. Actively work to question and critique themselves, and to receive the questioning and the critique of others. In my thesis, I have examined four works containing narratives that I define as feminine: Rosario Ferré’s La casa de la laguna, Gioconda Belli’s La mujer habitada, Lucía Charún-Illescas’ Malambo, Manuel Puig’s El beso de la mujer araña, and Héctor Babenco’s film based on Puig’s novel, The Kiss of the Spider Woman. It is important to me that my thesis be understood as a discussion, and not as a Truth that I have presented.

Tsunami Tendenko – Protecting the Future through Science, Writings, and Legends
Minda Dettman

Japan has a long history of dealing with earthquakes and tsunamis. Because of this long history, the Japanese have methods in place to mitigate the effects of these disasters. The most important part of preparing for a disaster that happens once every other generation is making sure that people are aware of the danger and willing to make plans before the disaster strikes.

This semester, I analyzed different types of awareness-raising texts, by translating segments from Japanese to English. With each translation, I analyzed whether there was an equivalent English text, or whether this translation could fill a need for increasing tsunami awareness in English-speaking areas. In both English and Japanese, writing is one of the key tools to bridge multigenerational gaps, but different styles of writing are needed to reach different audiences. I focused on an informal scientific book, aimed at adults; a geologic report, aimed at other geologists; and a tenugui or hand towel, aimed at both adults and children. In translating each of these documents, I was able to further understand the rhetoric used in Japanese and English to encourage people to prepare for future disasters, in an attempt to answer the question, “how do we make sure we, our children, and our children's children, are prepared for a disaster we may never experience ourselves?”
Panel 8

Gambling on bodies: labor and fairness in Japan’s keirin bicycle racing
Eric J Cunningham

Keirin—fixed gear bicycle racing—is one of four forms of state-sponsored gambling in Japan. Originally started in 1948 as a way for prefectural government’s to generate income for post-war reconstruction, keirin grew to become one of the country’s most popular gambling sports. Today there are over 3,800 registered keirin riders who compete in five main classes. Like with other sports, becoming a keirin rider requires intensive training of the body. However, it also requires training of the mind. Would be keirin athletes must undergo eleven months of schooling before they are allowed to compete. This is done in the name of “fair play.” The aim is to produce bodies that can not only perform athletically, but can also understand and maintain the sport’s strict rules. Keirin’s rules and regulations are meant to structure competition in a way that creates conditions for gambling by forcing cooperation among riders and thereby introducing uncertainties and enabling odds. It is said that no rider can win a race on their own. This paper engages this tension between collaboration and competition by focusing on the bodies of keirin riders within the broader assemblages that structure their athleticism. I ask what kinds of labor are required and what kinds of athletic bodies are created when fairness and gambling exist in tension with desires for individual athletic achievement.

Re-examining Meridel Le Sueur’s Communalism in Empowered Femininity
Kelsey Stratman

This essay is a re-exploration of the work of Meridel Le Sueur, communist and feminist writer, which brings scholarship on Le Sueur out of the purview of outdated radical feminism and instead explores the redemptive qualities at the center of her anti-capitalist and anti-masculinist political gestalt.

Re(placing) Outdoor Education: Diversity, inclusion, and the microadventures of the everyday
Jay Roberts

With the increased emphasis on sustainability, localism, place-based education, and “micro-adventuring,” the time has come to critically examine the long-held “trip and expedition construct” within the outdoor education field. This paper will explore the theoretical influences of Romanticism on the field highlighting both the possibilities and limitations that come with this worldview. Using the Romantic concept of the “sublime,” I will argue that outdoor and adventure education as fields have traditionally settled around the organizing motif of the “trip” and the “expedition” in contrast with local and “everyday” experiences and, as a result, these approaches have missed opportunities for wider acceptance and usage as well as solidarity with like-minded pedagogies in environmental and place-based education. In “(re)placing outdoor education,” I will make the claim that a critical awareness of the Romantic legacy, combined with a renewed focus on the concept of place and “everyday” experiences will allow the fields of outdoor and adventure education to expand in influence and inclusion.
Presentations
Includes all sessions alphabetized by title

A Survey of Business & Non-Profit Management at Earlham College: Who We Are and What We Bring!
Seth Powluss, Robert Couch, Terence Motsi, Becky Jestice, Gene Hambrick
The Business & Non-Profit Management program has undergone a major transition with respect to new faculty, course offerings, and growth and research potential. We invite the EC community to come and check us out! New course offerings, current research and collaborative opportunities, and course outcomes with respect to employment, graduate school, and co-curricular initiatives will also be discussed!

Acid Dolphin Experiment: Creating a Fully-Student-Led Theatre Production
Sage HaleWolfe, Sam Reid-McKee
This semester's black box production of the Acid Dolphin Experiment is full-produced, directed, designed, and funded by students. The play, written by Tom Horan, an ex adjunct playwriting professor here at Earlham, centers around the far-out life of Dr. John C. Lilly, a neuroscientist famous for his experiments with hallucinogenics, sensory-deprivation tanks, and, of course, dolphins. This EPIC panel hopes to present on the process of creating a full-fledged production with first-time directors and designers, and encourage students to take charge and create the work they want to see without waiting for permission.

Acute Stress Modulates Risk Taking in Financial Decision Making: A Replication Study
Maren Schroeder, Ramiro Flores, Wangchen Wangchen, Sudeep Lama
The study conducted by Delgado et al. (2009) examined "the impact of exposure to acute stress on financial decision making and examines the particular influence of stress on decisions with a positive or negative valence." Their results suggested that stress seems to modulate risk-taking behavior by decreasing the likeliness of participants to engage in "automatized reactions to risk" under the influence of "disruptive stress." In this replication study, we are attempting to compare the results obtained by Delgado et al. and the data obtained from participants selected at Earlham College. A slight variation on the methods was introduced due to the lack of sufficient funding for the financial decision making task. We replaced monetary gain from gambling with gift card to the participant that won the most from the gambling task in order to maintain some of the aspects of the monetary incentive and preserve the nature of the study. We hypothesise that our results will not show a significant difference from the results obtained by Delgado et al.
Earlham Goes to Freedom School St. Louis
Emily Davidson, Arish Rakshasa, Celia Matthews, Anna Carlson, Khyrul Khan, Lobsang Palmo, Kudzai Mushongahande, Krystal Lee, Evelyn Sanchez, Rachel Sames
Youth participating in conversations and action surrounding institutional racism in the United States rose exponentially after the killing of Mike Brown in Ferguson, MO. The response in Ferguson proved that youth can actively resist and dismantle institutional racism. In partnership with the American Friends Service Committee, a group of nine Earlham students traveled to St Louis for the Alternative Spring Break 2017; participated in Freedom School, participated in service learning projects in the local area, and interacted with local activists to learn more about organizing. This Presentation of Learning will incorporate various multimedia tools and brief interactive activities to share our experiences during the program, and discuss the impact the program has had on their conceptualization of institutional racism.

Economics Senior Thesis Research
Rohma Zubair
The aim of the thesis is to understand the relationship between family friendly policies and fertility. To do this you will be constructing a "family friendly index."

Hamilton: Did Lin Manuel Miranda Get it Right?
This group discussion is a check for and discussion of historical accuracy in the musical Hamilton by the Earlham Seminar 2: Women of the American Revolution. We invite all community members to join us as we use primary research included but not limited to diaries, journals, images, articles, and newspapers to investigate the degree to which women, men, people of color, are presented accurately in the musical. We will critique the songs, the lyrics, and actors' performances as powerful moments of popular culture. We ask how does Hamilton facilitate a useable past?
"Humor in the Eye Tracker"
Emily McGrath, Lara Khalifeh, Akul Sharma, Kayla Trevino
As part of the upper level course, Behavioral Neuroscience, students are responsible or a replication project. This presentation focuses on results obtained from the scientific article, "Humor in the Eye Tracker: Attention Capture and Distraction from Context Clues." The research question focuses on whether participants, when faced with a humorous text have impaired recognition of a stimulus presented with the text. To test whether participants prefer humorous texts over other stimuli, they are presented with neutral, positive, and humorous texts alongside four different foreign energy drinks. After presentation of the stimuli, participants will then be required to participate in a 5 minute intermittent period where they solve different anagrams. After the intermittent period, participants will then be presented with 20 energy drink brands - including the four brands presented earlier - where they will be asked to choose the ones they have seen before. The project aims to obtain results that reflect statistical significance or type of text where participants focus their attention on the humorous texts and therefore, don’t pay attention to the brand presented.

i4inclusion: Combatting Fake News
Sandra Kluivers, Vedant Tiwari, Ahsan Ali Khoja, Ronke Abodunrin, Lan Hoang Phan, Antonio Maestas
i4inclusion is a student-led organization that focuses on combating fake news in the forms of educational quizzes and interactive workshops. It was created as a direct result of competing in the Peer to Peer: Countering Violent Extremism 2016 competition that is hosted annually by the State Department, the Department of Homeland Security, and Facebook.
We believe that educating the public on the dangers of fake news will lead to a decrease in violence, which occurs as a result of misinformation. We intend to have our audience take one or two "Spot Fake News" quizzes and listen to our lecture on how to identify fake news in your every day life, as well as engage in group discussions concerning how fake news has impacted them personally and how we can combat it together. This would be a combination of a lecture, interactive quizzes, and group discussions.

Labor Unions and Trump’s Rise to Power: “Workplace Justice” Revisited
Ryan Murphy, Stuart Mora
This event is a conversation aimed at students who have taken Ryan Murphy's course "Workplace Justice: Readings in U.S. Labor History." Ryan will re-convene the course for students who took it in 2014, 2016, or for anyone else in the Earlham community who is interested in the topic. He will co-present with Stuart Mora, who is an organizer for the UNITE-HERE union that represents food service workers at Earlham. After brief remarks from Ryan and Stuart, they will lead a discussion of the current state of the labor movement and the challenge that the Trump Administration represents. This will be a dialogue oriented session, and aims to draw upon the knowledge that students created while reading and writing in Ryan's course, and then to apply that knowledge to the current situation.
Life Within the Binary: Radical Social Media and the Non-binary Identity in the Digital Era
Nicole Aleksandra Gruszka, Cloud Kelley
Social media has allowed for the creation of anti-hegemonic virtual discursive spaces, which we will explore as radical social media. Within this presentation, we will be exploring the relationship between radical social media and its role in the positionality of non-binary gender identity within queer spaces. In order to accomplish this, we will first explore the emergence of gender and sex binarism and their entrenchment within civilization discourse. After establishing this historical context, we will then examine the continued influence of civilization discourse and colonialist ideology as they pertain to contemporary gender politics. From here, we will introduce and analyze original research regarding the non-binary experience. Using this as a point of departure, we will illustrate the ways in which the aforementioned points pertain to contemporary social movements relating to non-binary identity.

M.A.T. Action Research
Alli Hunnicutt
This Action Research looked at student learning and engagement in regards to practical science laboratories in an effort to increase overall focus and performance.
Dylan Gentilcore
This action research explores the impact of short, consistent typing instruction in the English classroom on student typing and compositional aptitude. Students participated in nine weeks of the Edutyping.com curriculum as a daily bell ringer activity. Measures included teacher journals, timed transcriptions, writing samples, surveys, and Edutyping data.
Andrew Collins
This Action Research aims to see if increased ambition leads to increased class performance in high school honors biology students. Classroom performance in two groups was compared by measuring class average test scores, homework scores, attendance, and level of disruption. The study found minimal differences between groups presumably due to the action not being influential.
Jordan Kibler
This action research focuses on helping students view homework as practice so it can be a more effective learning tool. So they could get immediate feedback, students were provided solutions to homework problems and used an app to ask questions outside of class. This research showed an overall positive impact on student perceptions of homework and test scores.
M.A.T. Action Research: Social Justice and Classroom Climate
M.A.T. teachers engage in teacher inquiry to improve classroom practice.

Zachary Bell
This Action Research seeks to increase positive classroom climate and student behavior by having ‘Triage’, a sharing activity adapted from the student researcher’s mentor teacher. For the duration, students started their week by answering simple questions about themselves that focused on respect and listening to classmates, with Fridays being a group discussion activity.

Chloe Woodard
What happens to student dispositions when they learn about the Industrial Revolution and Imperialism from the perspectives of marginalized people? This action research collected data from a survey, end of unit assessment, student journals, and my own journals to discover just what happens in the classroom when the historical narrative shifts to the margins. This action research has found that learning about history from the perspective of the margins does have an impact on student dispositions.

Lena Morrow
This action research considers the role of gender and conflict in the classroom. Students were asked to critique Romeo and Juliet as a way of framing analysis about conflict and control. Students wrote responses to questions about the text and were surveyed. Research found that students were engaged through the criticisms, but were not more aware of their role in classroom climate following this action.

M.A.T. Action Research: Student Agency, Engagement and Choice
Each M.A.T. candidate conducted classroom research to test an approach to enhancing learning. Each candidate intended to contribute to the educational field in which he or she engaged as student teachers.

Mimi Marstaller
This research explored the role of talk in student learning in the 9th grade English Language Arts classroom. Activities during a poetry unit were designed to promote peer-to-peer discussion. Results indicate that dialogue is essential to student comprehension, transfer, and ability to analyze an issue.

Sadie Rehm
This Action Research explores the impact of teaching students in a Spanish language classroom about recent neuroscience findings that suggest that intelligence is malleable.

Josh Gard
This research endeavors to determine whether student motivation can be enhanced through an increase in student agency. Students in this study were offered additional choice regarding assignments in an attempt to increase student motivation and performance as measured by rate of on-time, complete assignment submission and grades earned on submitted work.
Memory and Literature in 20th Century Spanish and Latin American Short Novels
Danilo Leon, Eva Chaitman, Azaan Khan, Eleonor Batista, Isabela Bicalho
This panel will provide a venue to explore the relationship between remembering and writing and its representation in different short novels written in Spanish during the 20th Century which have been studied during their literary text analysis class. Participants will offer their original interpretation of these works and explain how those stories can be connected to today's world. Presentations will be entirely in Spanish, however, the audience will be able to ask questions in either English or Spanish.

Monsters and Marvels
Nate Eastman, Global Seminar class “Monsters and Marvels”
Sari Stissi, Ellie Gelser, and Kharis Murphy
Hogwarts
When we were younger, we needed a way to escape reality. We didn’t rejoice at the mention of school, or homework, or grades and we wanted the ability to forget about all that. A good way for us to do that was to read books that we actually enjoyed and not books that were assigned to us in class. The Harry Potter Series by J. K. Rowling is something that each of us read growing up and something that each of us fell in love with. What could be better than getting your letter to go to Hogwarts and be able to practice magic and see all the amazing creatures that we could only dream about? We never got our letters and had to deal with the sad fact that Hogwarts is a fictional place, but what if we could make it real? Drawing inspiration from our younger selves, we decided to research how much it would cost to build a real version of Hogwarts that is recognized by the government as an actual school. The school we would build won’t be as magical as the Hogwarts in the series, but while it won’t have magic or magical classes, through the magic of science and creativity, we can still make the school a magical experience while learning the subjects that we normally would in school now.

Hung Tran and Vuong Khuat
Connecting the Brain to a Digital System
We know that the human brain controls the body by sending electrical and chemical brain signals via nerve cells. From several experiments and research conducted on brain-computer interaction, we explore the possibility of connecting the human brain to a computer system and fully control it using our thoughts.

Lan Phan
Reflect
A short video-essay project with visual aspects as a bonus. No explosions sadly.
**Playground with a Purpose**

Regan Lowring, Truman McGee, Caleb Smith, Rachel Logan-Wood, Peniel Ibe

We are a group of five seniors who are working as consultants for Richmond Parks and Recreation to kickstart their sensory playground project at Clear Creek Park. We envision that the playground will give children with autism spectrum disorders and physical disabilities equal opportunity to enjoy the merits of outdoor play. As a group we have researched, designed, fundraised, presented, and interacted with the impacted community. This has been a learning experience as well as our lasting legacy on the Richmond community.

**Relational Theory (part I)**

Scott Hess, Somer Eckert, Eliza Rehard

Scott Hess will present on "Relational Theory," a new approach to literary and cultural interpretation that he is currently developing as part of his larger book project, Landscapes of Genius and the High Art of Nature. "Relational Theory" focuses on how interpreting texts can produce specific effects in the world by generating new relationships among various literary, cultural, social, economic, political, and ecological systems. Instead of trying to determine the meaning inherent in the text itself, or the meaning of the text in relation to its original contexts of production, this approach explores how various interpretations of texts generate various, specific consequences in the world. To what extent can we deliberately interpret literary works and other forms of culture in order to generate specific consequences, and how can we trace those consequences out into the world? As part of this panel, Somer Eckert and Eliza Rehard will also present their research projects from the "Relational Theory" course Scott is teaching this semester, exploring this methodology; another panel will follow, in which the other four students from the course also present their research.

**Relational Theory (part II)**

Kristina Brunner, Kate Buche-Pattison, Jalen Sleet, Lily Fishleder

Students will present their research projects from the "Relational Theory" course, exploring a new approach to literary and cultural interpretation that Scott Hess is currently developing as part of his book project, Landscapes of Genius and the High Art of Nature. "Relational Theory" focuses on how interpreting texts can produce specific effects in the world by generating new relationships among various literary, cultural, social, economic, political, and ecological systems. Instead of trying to determine the meaning inherent in the text itself, or the meaning of the text in relation to its original contexts of production, this approach explores how various interpretations of texts generate various, specific consequences in the world. To what extent can we deliberately interpret literary works and other forms of culture in order to generate specific consequences, and how can we trace those consequences out into the world?
Replication of: Effects of Externally Mediated Goal Setting on Intrinsic Motivation
Isabela Lopez, Naomi Ongjanco, Anthony Maggard

To observe the relationship between externally mediated goal setting and intrinsic motivation. Participants will be assigned to two groups with two subgroups: no goal task group and an assigned goal task group, then within these groups, subjects will either be exposed to an interesting task condition or a boring task condition. The assignments include assigned goal-interesting, no assigned goal-interesting, assigned goal-boring, and no assigned goal-boring. Subjects in the interesting task condition will construct an asymmetrical car model set. Subjects in the boring task condition will attempt to build a simplistic version of five pieces modeled after a shown example of a car. The no goal task group will be instructed to build the model sets at their own pace, while the assigned goal task group will be given index cards with numerical goals of pieces to construct with assignments to be completed. In the interesting task condition, the participants will construct pieces that will build toward completing a car model. In the boring condition, the participants will construct pieces with increasing difficulty, without the intention of building a complete model. After the construction, participants will answer a post-experimental questionnaire.

Sex and Drugs and Viral Disease: Public Health in Richmond
Lindsey McGee, Tierra Binder, Malia Paulmier, Lindsay Freed

In June of 2016, the State Health Commissioner declared a public health emergency in Wayne County. Following this declaration, the Wayne County Health Department began taking steps towards implementing a needle exchange program in the county. This discussion, facilitated by pre-health Earlham students and including all who are interested, EC students and otherwise, will address issues surrounding the spread of contagious viral disease in Richmond. Together we will talk about intravenous drug use, HIV, and Hepatitis C. Our talk will include an overview of epidemiology near us and of the pros and cons of needle exchange programs. Attendees will participate in smaller conversations about hypothetical public health scenarios, and then bring their ideas to a larger discussion with the entire group. Participants are encouraged to bring their opinions, concerns, and expertise regarding these issues.

Solutions for Sustainability in the Theatre
Mickey White, Saskia Bailey-de Bruijn, Isabella Aguirre

Sustainability requires consideration of issues in three spheres of endeavor - Environmental, Economic, and Societal - also known as "the Triple Bottom Line." We are each researching aspects of sustainability issues in the theatre - paperless stage management, the possibility of regional co-ops for theatre scenery and props, community involvement in theatre companies beyond being an audience, long-term (beyond one year) season planning and how it benefits a theatre company's sustainability. These research areas require examination of issues in all three aspects of the Triple Bottom Line. Our research encompasses what practices may be employed currently and project future solutions or offer information a theatre may use to develop their own sustainability projects. Our presentation and, hopefully, poster display will be a brief presentation on our "solutions."
Targeted ITS2 rDNA Sequencing to Analyze Morphological Strain Variants in Two Geographically Separated Populations of the Digenean Trematode Proterometra macrostoma

Noah H Kelner, Maleeka Shrestha

Trematodes are a globally diverse and highly successful class of flatworm. Cercariae are a larval stage of Digenean trematodes that emerge from aquatic gastropods, an intermediate host, eventually infecting a vertebrate, the definitive host, where the parasite matures into the adult form. Proterometra macrostoma, a fairly common trematode found in the Midwest, was originally described to have eight morphological variants from specimens collected from North Elkhorn Creek, Scott County, Kentucky (Riley and Uglem 1995). In 2014, we identified a population of P. macrostoma cercariae emerging from the freshwater gastropod, Pleurocera semicarinata livescens in Clear Creek, Wayne County, Indiana. Our prior research identified complete large subunit rDNA sequence identity (~1400 bp) between both phenotypic variants and geographically separated populations. The goal of this study was to utilize direct sequencing of the more variable internal transcribed spacer-2 (ITS2) region from individual cercariae to validate our prior results. Two independent PCR primer sets were used to amplify the majority of the ITS2 region (>400 bp). Independent recombinant clones of the resulting amplicons were produced and verified by restriction digest. Each strand of the recombinants was independently sequenced and analyzed using BioEdit software. The results of our direct ITS2 rDNA sequencing validates our prior findings by confirming a lack of allopatric speciation between the two geographical areas and phenotypic variants. Future studies would include sequencing of other target genes from unique chromosomal regions to ultimately validate our findings.

The Science of Sound: What Makes Music Pleasing?
Molly Rannebarger

Have you ever been curious about the science behind sound? From YouTube, radios, iPods and television, music is around us all the time, and the physics of music are constantly affecting our daily lives. This presentation is a 30-minute interactive program on musical acoustics and its affect on what we enjoy hearing within different cultures.

Vaccines, Public Health, and You
Lindsey McGee, Claire Rickerman, Alexander Loui, Kaitlyn Funck, Noah Kelner

Those who support vaccination state that it is safe and one of the greatest health developments of the 20th century. They point out that devastating illnesses, including rubella, diphtheria, smallpox, polio, and whooping cough, are now prevented by vaccination and millions of children’s lives are saved. Opponents say that children's immune systems can deal with most infections naturally, and that injecting questionable vaccine ingredients into a child may cause side effects, including seizures, paralysis, and death. This discussion, led by Earlham students and including all members of the Earlham and greater Richmond community, will aim to address misconceptions about the science behind vaccinations, bring an historical perspective to humanity's long battle against viruses, and discuss the general mistrust surrounding vaccinations.
Wayne and Donald: An Analysis of the 2016 Presidential Election
Jennifer C. Seely, Jake Breen, Genesis Galo, Fredrik William Lyford, J. Jacob Uzzell
In 2016 Wayne County Indiana voters for the Republican candidate, Donald Trump, outnumbered those who voted for the Democratic candidate, Hillary Clinton, by more than thirty percentage points. By contrast, in 2008, Wayne County votes cast for Republican John McCain were just 4 percent higher than those cast for Democrat Barak Obama. Even accounting for differential rates of turnout in these years, it appears that some of the same people in Wayne County who voted for Barak Obama in 2008, opted to vote for Donald Trump in 2016. We know this trend mirrors shifts on a larger scale, including Indiana as a whole, so what can we learn from Wayne County that might be instructive for understanding voting in non-urban America? We break down voter turnout and indicators of party support in Wayne County's 58 precincts to show where the changes happened, and offer a preliminary test of demographic and other arguments that might help us understand the shifting of the local political winds.

WNBA Marketing Plan
Malik Reid, Kamari Hunter
For our project, we have decided to focus on the WNBA and offer a potential solution to the lack of revenue generated. We decided to focus on this aspect, because we have noticed that female athletes earn far less than male athletes and have to go through more rigorous paths to achieve financial stability. The problems faced include low fan attendance, lack of fan interest in women’s basketball since it’s inaugural year as well as conflicts with summer events. To solve these problems, we have offered a potential solution that not only incorporates the WNBA, the fans, but also the NBA who is the primary source of funding. Our presentation offers a potential marketing plan that can see a more cohesive and financially stable league for women’s professional basketball.

Psychology Trade Fair
The students of PSYC115, both Fall 2017 and Spring 2018, have worked on a group project where they are to design a product or service that improves lives based on research in psychology. In Fall 2017, students successfully presented their work at a "psychology trade fair" in the CoLab.