



EAST

SRD

student research day

2019

March 29, 2019





Welcome to Student Research Day!

Student Research Day is a special event for students to showcase their work and for the campus to celebrate their achievements. By recognizing the hard work of our student scholars, we hope to validate their extraordinary efforts and to inspire others to follow in their path of excellence in research, academic, and creative work. Likewise, we hope Student Research Day will provide an excellent opportunity for parents and family members to come to campus and participate in the celebration of their student's scholarly growth and success.

Student Research Day began nearly two decades ago as an afternoon of presentations of the Summer Research Scholars work only. Over the years, significant enhancements have been made to the program. We have also joined with others to expand the breadth of student presentations, and this year, we are proud to be including art, music, professional development and the applied sciences. In total, the event will be the culmination of a celebration of student scholarly works throughout the campus, and we are glad you are here to experience the day with us!

Thank you for attending this year's excellent event, and thank you again for supporting the research and work of our student scholars.

Sincerely,
The Student Research Day Committee

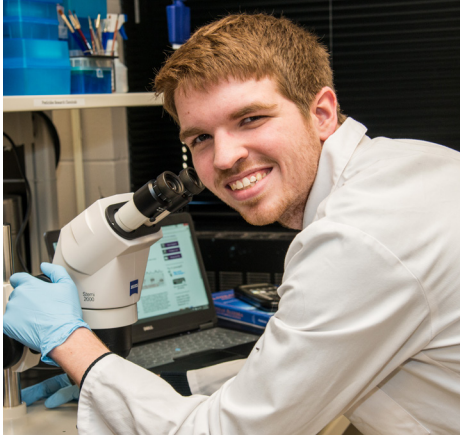


Schedule of Events

- 8:15 a.m.** | **Registration and Poster Set Up**
***Continental Breakfast**
Welcome and Introductions
- 8:30 a.m.** | **Narrated Poster Session and Judging**
- 10:15 a.m.** | **Keynote Speaker – Trevor Boram**
- 10:30 a.m.** | **Oral Presentations –**
Honors Scholars Showcase
- 11:30 a.m.** | **Artists and Scholars’ Luncheon –**
Spotlight Comments:
The Undergraduate Research
Publication
- 12:00 p.m.** | **Oral presentations –**
Concurrent Sessions A, B, and C
Oral Presentations
- 1:00 p.m.** | **Summer Scholars Showcase**
- 2:15 p.m.** | **Just Desserts and Poster Mill**
- 2:30 p.m.** | **Awards Presentation**

Keynote Speaker

Trevor Boram, B.S. '17



Trevor is a second-year graduate student in Dr. Jeremy Lohman's lab as part of the Purdue University Department of Biochemistry. He is currently designing malonyl-CoA analogs to probe the mechanism of various carbon-carbon bond forming enzymes, such as acetyl-CoA carboxylase using a crystallographic approach. Trevor did his undergraduate studies at Indiana University East, majoring in Biochemistry and Mathematics, where he was of President of the Honors Club for

three years. At IU East, Trevor worked closely with his mentors, Dr. Yu Kay Law and Dr. Hitesh Kathria, who both inspired him to pursue a Ph.D. in Biochemistry, and to become an academic. Outside of research, Trevor enjoys writing music, playing guitar in his bands (Kings of East and GyruSS), and watching Game of Thrones.

Selected Research Opportunities at Indiana University East

Art Student Showcase

The annual Student Showcase includes works of art from Summer and Fall semesters of 2018 and Spring semester of 2019. Art pieces are produced by students in courses, including Painting, Drawing, Sculpture, 2-D and 3-D Design, Ceramics, Art & Design, and Metalsmithing. In addition to the individual entries, Senior Capstone exhibits are included. Merit monetary awards are given annually through the sponsorship of Stagg Safety of Richmond, Robert Warfel, President.

Honors Program & MEHA Conference

Students in the IU East Honors Program complete at least 15 hours of Honors Option courses, as well as a Honors Senior Thesis. This capstone experience requires a scholarly, creative, or service learning project completed under the guidance of a faculty mentor. Students also have the option to present at the Mid-East Honors Association (MEHA) Conference.

Student Research Day

Student Research Day is an opportunity for all undergraduate students to present their research to the campus and larger community. In developing this year's ambitious program, we have included Summer Scholar students, the Honors Program scholars, and presentations from course projects from all campus disciplines. We have also invited our growing online population to participate.

Summer Scholars

The Summer Research Scholars Program provides support for students to make a substantial commitment to research and scholarly activity. Students work closely with a faculty mentor to develop a project which they will complete independently. This program is open to students in all disciplines, and the potential projects may take on many forms.

POSTER PRESENTATIONS

Shonda Brim, Richmond, IN

Behavior Management Systems

Behavior in the classroom can determine the success of the teacher and the student. The need for a system to help teachers manage behavior became imperative when corporal punishment was no longer acceptable. Many schools have adopted alternate systems of behavior cards or clips that are publicly charted. This should be reconsidered because they negatively impact a student's self-concept, can stereotype a student, and cause students to lack motivation to perform well academically. Just as schools have evolved in replacing corporal punishment to manage behavior, it is essential to continue to find the best way to further reach our students.

Courtney Carlton, Carthage, IN

Exploring Homicide

Through my presentation I will be helping the viewers understand homicide through theories. These theories will help give the viewer an insight on how there can be more possibilities behind the reasoning for committing homicide. I believe this presentation will help viewers gain the knowledge of how society and other factors effect those who commit homicide.

April Dabney, Charlestown, IN

Puerto Rico Taíno and Culture Perspective

My poster presentation will be based around the historical culture of Puerto Rico. I will be focusing on the Taíno Indians, but will also be including information and perspectives from Puerto Rican locals, about their African and European descent. I will be observing Taíno historical sites, asking about Taíno ancestry, and analyzing how Puerto Rican culture is now.

Princess Davis, Richmond, IN

Felon Disenfranchisement

For my Research Day presentation I will analyze Disenfranchisement concerning felons by using a poster board. On this poster, I will have facts regarding the definition of Disenfranchisement while also comparing and contrasting groups that it affects the most and how it affects them. These groups will consist of ethnic groups (Blacks versus Whites) and political groups (Democrats versus Republicans). I will underline the scope of Disenfranchisement and present potential policies that could benefit people affected by Disenfranchisement so that they can uphold their rights as citizens. And as for my audience, I would like to successfully inform them about the gratitude of Felony Disenfranchisement.

Taylor Feix, Hamilton, OH

Ohio v. The United States

For this project, I'm researching and comparing Ohio's drug problem to the drug problem on a national scale. I'm also going to compare how both Ohio and the country are combatting the drug issue. I hope to use this project in order to inform my audience about what is going on so close to home and how we, as individuals, can get involved to help fight the massive problem.

Alex Fugate, Greenville, OH

The War on the Poor

President Lyndon Johnson once declared a War on Poverty. Today, the U.S. is engaged in a War on the Poor. Nearly 40 million live in poverty, including over 22 million children. Children in poverty are at higher risk for a wide range of problems. The poor have been vilified and caricaturized to the point of now being simulacra justifying ineffective, malicious policies. These policies reflect a lack of morality and a refusal to acknowledge realities. Retargeting poverty- instead of its victims- is a matter of great importance for the entire U.S.

Jessica Jennings, Connersville, IN

Emotional regulation of children with Post-traumatic Stress Disorder (PTSD)

One's ability to control emotions (termed emotional regulation) is an important part of healthy behavior. Evidence suggests that children who suffer from PTSD have difficulties with emotional regulation. Studying the link between trauma and emotional regulation is a promising area

for treating children with PTSD. Reviewing this topic is relevant because trauma directly relates to poor emotional regulation. This presentation reviews findings from studies that investigate how poor emotional regulation relates to trauma. Findings summarized here show training children on emotional regulation strategies such as mindfulness techniques help children with PTSD manage their trauma.

Marcus Leverette, Richmond, IN

Excessive Force

I am creating a poster based around the topic of excessive force and if racial profiling plays a role in police brutality. I hope to grab the attention of all people who see the problem in today's society between the relationship with police officers and citizens.

Savannah Lynch, Somerville, OH

Phototropic Response in *Arabidopsis thaliana*

Phototropism is the response a plant or organism has to light, either away from it or towards it. In this experiment we used the model organism *Arabidopsis* and grew it in MS agar exposing it to different degrees of light. Some plants were exposed to light from a specific direction to see how they grew towards the light source even if it was not direct. To examine how these plants adapt we compared 3-D microscopic images of chloroplasts in the hypocotyl and cotyledon when exposed to various light conditions.

Michael Mackey, Connersville, IN

Effective Treatments For Generalized Anxiety Disorder

Excessive worry and nervousness, lasting longer than six months indicates generalized anxiety disorder. This disorder is rapidly becoming more commonly diagnosed which can lead to lower quality of life. This paper reviews effectiveness of treatments for GAD such as cognitive behavioral therapy, antidepressant medications and self-care techniques. Cognitive behavioral therapy aims to change negative ways of thinking. Commonly prescribed medications for GAD are antidepressants or benzodiazepine. Antidepressants are medications implemented to treat anxiety and depression. Benzodiazepine are an anxiolytic, medications that directly eliminate symptoms of anxiety. Typically a combination of treatments is required to fully combat symptoms of GAD.

Natalie McCoy, Brookville, IN

Education in Puerto Rico

I am doing a project researching education in Puerto Rico. I plan to research this topic by interviewing Puerto Ricans while I am on the Puerto Rico trip for the Spanish 390 class. I will prepare a poster presentation upon returning from the trip.

Stevie Nicholas, Mount Summit, IN

A Review of Emotional Processing and Schizophrenia

Schizophrenia is a mental disorder that is characterized by psychotic breaks, in reality, difficulty communicating with others, and disorganized behaviors and thoughts. Studies have found that patients who suffer from schizophrenia can also experience deficits or errors in processing the emotions of others. This poster presents findings that provide insight into schizophrenia and how deficits/errors occur in the emotional processing pathways. If a cause for deficits/errors in emotional processing is found then treatment for patients with schizophrenia can be adjusted to provide better treatment that could accommodate the deficits/errors that occur during emotional processing.

Levi Oswald, College Corner, OH

Race Relations with Police

My research is over the relationship between races and the police. Specifically over how the police treat civilians and how police treat different races differently. I will give statistics on the treatment of civilians given there different race. I will be able to show what has helped the police in recent years in improving relations. I will also propose further possible solutions in trying to solve the divide between police and civilians. There will be visual representations of graphs, charts and more to depict what is happening.

MacKenzie Philpot, Richmond, IN

Puerto Rico

I am going to study how the English language has affected Puerto Rico since the US has gained possession of the territory. I am going to look at where the free associated state includes English, what Puerto Ricans think about English, what they believe would be occurring if they were independent or a state. I am excited to take this trip and share what I learn with others.

Cory Powell, Richmond, IN

Puerto Rico Trip

My project is to research hurricane Maria. None of the island was spared from the hurricane, so I'm interested in how the island has recovered a year and a half after the hurricane. Some of the things I'll research is how much money in damage was caused by the hurricane, how many people are still affected, how many people still don't have work, etc. I will also research how the Puerto Rican government has aided the people in recovery. Since Puerto Rico is a U.S territory, I'm interested in how the U.S. helped Puerto Rico after the catastrophe, if at all.

Tanner Puterbaugh, Richmond, IN

Music in Puerto Rico

I will be traveling to Puerto Rico with a Spanish class. I want to learn more about other cultures and the influence they have on music. Being a music major I believe it is important to learn about all forms of music. I plan on researching the history and culture behind music and dance in Puerto Rico while there. I intend on performing this research through interviews and analyzing the music while in Puerto Rico.

Amber Rourke, Richmond, IN

Increased Emotional Intelligence Lowers Suicidal Behavior

Measures of the Emotional Intelligence (EI) in individuals who attempt or idealize suicide have been linked to the degree to which they are suicidal. A number of studies provide evidence that having high levels of certain types of emotional intelligence, such as Strategic EI are associated with reduce suicidal behavior. It is therefore important to understand what aspects of EI affect suicidal behavior. This poster presents the role that different types of emotional intelligence have on suicide rates and ideation. Helping patients develop EI is a promising approach as a protective factor against suicidal behavior.

Samantha Shockley, College Corner, OH

Neonatal Abstinence Syndrome: The rise, the effects, and the solutions

The rise in Neonatal Abstinence Syndrome does not come without consequence. The children are born with complications, and their development is impacted. The rapid increase could potentially pose problems for soci-

ety and the state of Indiana. The state has a lack of legislation to help fight against the rise, as well as fight for the infants born with NAS. Indiana needs to dedicated more time and attention to this increase to avoid future complications.

Autumn Smith, New Castle, IN

The Effects of Childhood Poverty on Emotional Development

Poverty is an issue faced all around the world and can be particularly detrimental to brain development. It is therefore important to better understand what aspects of poverty affect early development. Research has shown that early physical, social, family environments, including parenting strategies have important consequences on the well-being and development of children in poverty. This poster presents a review of studies that provides evidence of how different environmental and social factors can influence development of children in poverty. Understanding what factors affect development can provide potential avenues to counteract the negative effect of childhood poverty.

Debi Smith, Richmond, IN

The Psychological Traits of Sexual Murderers

Sexual murderers have piqued the interest of psychology professionals. As children, these individuals are often diagnosed with specific psychological disorders such as Conduct Problems. As adults, certain behavioral tendencies such as substance abuse lead to a preference for impersonal sex which increases sexual violence. Also, perpetrators of sexual murder are frequently diagnosed as having Antisocial Personality Disorder and Sexual Sadism Disorder. In this poster, I present evidence from psychological evaluations of convicted sexual murderers that indicate similarities between the perpetrators and their crimes. Understanding these similarities and the contributing factors to sexual murder might help with prevention and identification.

Darrien Sparks, Connersville, IN
PTSD and Emotional Development

Many children who suffer trauma develop Post Traumatic Stress Disorder (PTSD). Children start to develop social and emotional skills early on in their childhood. PTSD can affect the emotional development of a child. Unfortunately, studies have shown that children who experience trauma at an early age have trouble regulating their emotions and understanding their emotions. This poster presents a review of findings from studies that explain how PTSD effects emotional development. It is important to understand this so a child can learn to cope and understand what they are feeling so they do not react negatively to situations throughout life.

Melia Sweet, New Castle, IN
**How REM sleep and dreaming affects
Mood Disorders**

Vivid dreaming occurs during Rapid Eye Movement (REM) stages of sleep. Studies have shown that REM dreaming affects mood and emotion. This poster summarizes literature on how REM sleep contributes to mood and anxiety disorders, such as, major depression disorder and Post-traumatic Stress Disorder (PTSD). Findings from several studies suggest that excessive vivid dreaming in REM sleep increases severity of symptoms in patients with mood disorders. Also, in patients with PTSD, REM sleep strengthen the fear associated with traumatic events by consolidating memories of the events. Understanding how REM sleep is related to mood disorders allows for better treatments.

Brooke Townsend, Connersville, IN
**Does school-wide positive behavioral support
decrease crime and violence?**

In my presentation I would like to show my audience how the use of school-wide positive behavior support (SWPBS) in our school systems would lower crime and violence in children and adolescents.

Delaney Trimble, Indianapolis, IN
What to know about Puerto Rico

I will be presenting everything that I learn while studying in Puerto Rico. There are 2 main points that I will be studying-food and culture. I want to make sure I know a good portion and I want to present it to others who have never been.

Abigail Weber, Richmond, IN

Abuse of a Corpse

Almost every culture around the world condemns the act of desecrating a corpse as deviant, so why does it still occur? This project explores the motivation behind corpse desecration through the perspective of three criminological theories, finding that Neutralization Theory, antisocial personality, and Conflict Theory all describe some aspect of the behavior. Emphasis will be placed on the application of these theories to preventative public policy.

Breanna Welbaum, Richmond, IN

Hypothalamic Pituitary Adrenal Axis (HPA) and Emotional Regulation of Resilient and Nonresilient Children Exposed to Maltreatment

Studies have shown that maltreatment in children leads to altered emotional regulation and transformed responses mediated by the HPA axis. However, some children exposed to maltreatment are resilient and do not exhibit these alterations. Therefore, it is imperative to understand why some children develop resilience to maltreatment. This poster examines the complexities involved in the developmental pathways linked to resilience. Current research indicates how neurochemical and neuroanatomical pathways react differently in the HPA axis in resilient individuals exposed to trauma. A better understanding of resilience can promote comprehension of stress pathways, helping aid development in prevention of trauma related disorders.

Hunter Willhite, Greensfork, IN

Before and after police shootings

This is to inform people and maybe even some police officer on what happens when a shooting does occur. My project will have the lead up during the event and what happens after the shooting itself. Also it will have policies that may happen to the police officer.

HONORS SYMPOSIUM

Whitewater Hall Lobby

Ashley Fulk

Impact on Kenya

Ashley Fulk had the opportunity to travel with a team to Kenya to be a part of opening a clinic her church built. There, she passed out hygiene supplies to everyone that entered the clinic. Through the generosity of her church members, 500 items were donated and passed out to the Kenyans. Everyone was extremely grateful for what they were given. All the smiles and thankful hearts are something I will carry with me forever. It was such a humbling experience and I am so thankful I was able to be a part of something so amazing.

Garrett Hadler

What Defines Friendship in Middle Earth

For this project, I focus on what J.R.R. Tolkien defines as friendship. Specific characters such as Frodo and Sam, Merry and Pippin, Gimli and Legolas, and Gandalf and Aragorn are examined. The entire saga of Middle Earth is covered, including texts from *The Hobbit*, *The Lord of the Rings trilogy*, *The Silmarillion*, and from *Unfinished Tales*. A creative aspect to the thesis includes mapping the routes of specific characters across Middle Earth and showing where and what happened to them along the way.

Breanna Nowak

Changes in Gene Expression in *Drosophila Melanogaster* upon Exposure to Lindane

Lindane, an organochlorine pesticide, is currently used in lice shampoos and scabacide lotions despite being banned for environmental use. We tested the effects of lindane on *Drosophila melanogaster* at the genomic level to investigate possible toxic effects. *Drosophila* were exposed to lindane for 24 hours then subjected to microarray gene analysis. Microarray data was validated with RT-PCR. A total of 160 genes were found to be misregulated with three main groups of genes found by DAVID clustering analysis: developmental, transmembrane signaling, and protein metabolism genes. This data is used to elicit possible mechanisms of toxicity in *Drosophila* and predict possible toxic effects on humans.

Erin Springmier

Physician Assistants and Well Baby Visits

During the summer, I shadowed physician assistants (PAs) to help me make the ultimate decision on what I want to do as a future career. I chose to focus on “Well Baby Visits” and the health impact of these visits. My research led me to emphasize the importance of these visits in the early detection of potentially developmental defects. According to her faculty mentor, Libby “did a very good job of research and explaining the most important measurements taken during well-baby visits during the first 18 months of life.”

Alicia Thompson

Molecular Dynamics Simulation Methods & Nuclear Quantum Effects

This project used cutting-edge computational chemistry methods – specifically, molecular dynamics simulation methods – to determine how nuclear quantum effects affect dimer formation. To do this, Alicia completed simulations using OpenMM on IU’s Big Red II supercomputer using the AMBER force field, both with classical simulations and using the ring polymer molecular dynamics (RPMD) simulation method to model the effects of nuclear quantum effects. According to Dr. Law, “her results have – to the best of my understanding – not been reported previously and are more significant than I personally expected initially. I expect that these results will be submitted for publication in a journal such as the *Journal of Computational and Theoretical Chemistry* or *Chemical Physics Letters* fairly soon.”

ORAL PRESENTATIONS

12:00 - 1:00 p.m.
3 concurrent sessions

Session A Whitewater Hall First Bank Richmond Community Room

Tiani Christian, Richmond, IN **Celebrity Endorsements in Super Bowl** **Advertisements**

This project will explore the prevalence and characteristics of celebrity endorsements in national television advertisements that aired during the 2019 Super Bowl. An established body of critical media scholarship related to both Super Bowl advertising and celebrity endorsements in advertising exists, but no specific examination of 2019 Super Bowl ads currently appears in the literature. This study will employ critical theory to examine those ads. A content analysis of 2019 Super Bowl ads will be conducted to determine what proportion of those ads featured a celebrity endorser and celebrity endorser demographic characteristics such as gender, age, ethnicity, and the like.

Conner Byrket, Spiceland, IN **Effects of the Native American Firearms Trade**

My proposal for a research day presentation is to examine the effects of the trade of firearms to Native Americans in colonial America. I will break down the general idea of 201Cmourning wars by describing the Iroquois belief in revenge for all loss of life regardless of proof of foul play or not, then I will connect this to the rampant warfare resulting from this cultural belief with the usage of firearms by the Iroquois to overpower weaker opponents in retaliatory combat.

Wade Shipley & Will O'Farrow, Richmond, IN

Root Gravitropism and Plant Growth in the Presence of Latrunculin B

All plants grow in response to gravity by a process called gravitropism. Non-pigmented root cells are known to contain amyloplasts that are dense, starch-filled plastids that sediment, helping orient root growth downward towards gravity. The sedimentation process is thought to work in tandem with nearby actin filaments. In this project, we are growing the model plant, *Arabidopsis thaliana* in Murashige and Skoog agar containing different concentrations of the drug Latrunculin B; a known actin depolymerizer. We will discuss the experiment and discuss the results using qualitative and quantitative data of root growth and amyloplast imaging over time.

Barou Yoplo, Richmond, IN

The use of profiling on serial killers cases

The purpose of this presentation is to show the audience how does the science of profiling has developed to become a major tool in order to arrest and stop criminal especially serial killers. I hope to learn about what are the steps and what makes profiling an advantage for the criminal justice system. The question I hope to answer throughout this project are What elements qualify a case as a murder case? There are a lot of murders happening in an area, this question leads to determine how characterize a serial killer murder case. What is needed to make a criminal profile? After getting information about the case how do profilers uses evidence to create profiles. How accurate is the science of profiling in the criminal justice and what are famous cases that have been solved because of it? Unlike other methods profiling is a unique methods to find criminal, this question is trying to find what makes profiling a good enough methods to find criminal Can profiling be trusted as only tool to solve crimes? In some cases, profiles can be made and lead to suspect arrest, without clear evidence on the suspect even if he fits the profile would it be enough to incarcerate them.

Candice Lackman, Milan, IN

Parenting and Juvenile Delinquency

Children who are exposed to alcoholic parents or domestic violence will be likely to have symptoms of depression, various medical illnesses, and have a variety of impulsive and self-destructive behaviors (A Van Der Kolk, 2005). The trauma often occurs within the child's caregiving systems and include physical, emotional, and educational neglect and child maltreatment be-

ginning in early childhood (A Van Der Kolk, 2005). An Adverse Childhood Experiences Score (ACE) study was completed and confirmed a highly significant relationship between adverse childhood experiences and risk factors for juvenile offenders, such as drug abuse, and domestic violence (A Van Der Kolk, 2005).

Heidi Klein, New Paris, OH

A Place for the Canon

In the context of the secondary language arts classroom, controversial topics abound. Among these controversies stands the disagreement about the literary canon: should the canon be kept as it is, should room be made for new texts, or should it be thrown out altogether? This author would suggest using texts in the following order of importance: canonical texts, modern and nonfictional texts, and other media. Teaching texts with this order in mind will be likely to challenge students, to engage students, and to prepare students to function in the workplace, while still using the existing education system as a base.

Session B

Whitewater Hall

Room 202

Robert W. Jones, Union City, IN

The Impact of a Purchase

The presentation of how the Louisiana Purchase effected the ecosystem following the migration of colonists who used farming tactics that did not work correctly and caused man made issues in the Great Plains region.

Luke Sheridan, Greenfield, IN

Arson

During this presentation I will give you information about arson. Why people commit the crime, and the theories that go along with why people commit arson. The theory that goes best with arson is rational choice. Rational choice theory is when a person thinks that the crime will out weigh getting caught. There will be reasons for why this crime gets committed. One that is popular in big cities is to set your property on fire to get the insurance money.

Ella Dils, Blake Brooks, & Miranda Wisecup,

Richmond, IN

Enhancing Culture and Communication

Belden is a very successful global company that has multiple people and

cultures in their company to manage. A manager is important in the success of their business and they would need these people to manage multiple different types of people and be able to accommodate all of their needs. While Belden has done very well there are still places where they can improve and better their tactics. With all of the people they have to manage their culture and communication is extremely important. These two components could be the demise of this company if not addressed correctly.

Clayton B. Williams, New Castle, IN **Puritans Mayflower Compact**

The proposal that I am submitting for student research day is about how the Puritans arrived in the American colonies. I am currently conducting a research paper on that this semester. The piece of research that I will be discussing in this presentation is the Mayflower compact in which it will be a 7-minute presentation discussing the Mayflower compact and its significance to the overall lifestyle that the Puritans had. The Mayflower Compact was the first document composed by the Plymouth colony. It is a good piece of history that is interesting to learn about from the Puritans.

Brooklyn Sweney, Connersville, IN **Germanic Female Manipulation**

For this presentation, I am required for my capstone class to explain my research of a 25 page article I completed. The presentation will be over Germanic women in early modern and post modern times abusing the patriarchy. I will be explaining in detail on how women manipulated the men dominated society to benefit themselves and their independent works (poems, illustrations, etc.) to being published to the public eye.

Morgan Jackson, Englewood, OH **A Universities Affect on City Growth**

Research has shown in cities where industry diversity is booming there is a direct correlation to the overall growth of that city. Where industry is diverse and knowledge spillover is high, cities are flourishing. I propose to research and compare the GDP, the population, and the type of industry between the cities with universities and cities without universities. By this research, I could discover if the knowledge spillover from the diversity of specialties within universities acts in the same, or in a similar, manner to knowledge spillover and diversity in industry. Is city growth expedited when a university is present?

Scott Franklin, Cambridge City, IN

Pemmican Power The Lifeblood of the West

Pemmican, which was a food product produced by Native North American women, was equated with political, social, and economic power in North America during the early part of the 19th century. The control of pemmican facilitated empire building for European colonization, aided societal interactions between Native Americans and others, and aided economic expansion for both groups. Pemmican production and distribution, which was in the hands of women, was the key to power that led to conflict and destabilization. My presentation will examine the role of Native American women in relation to Pemmican production and European political control.

Session C

Whitewater Hall

Room 212

Kaylyn Mundt, Richmond, IN

Magic Realism in Latin American Literature

Magic Realism is not a genre born of Latin America, and yet it is a major part of the Latin American literary movement. Magic realism is such an integral part Latin American literature, it is hard to separate whether or not the genre is a result of the culture or if the genre influenced the culture. This presentation aims to answer, which came first?

Baylee Moreland, Fort Bliss, TX

Suicide Prevention Among Military and Veterans: Representations in Film

This presentation discusses media representations of mental illness and suicide of military and veterans. Existing research suggests that suicide rates are high for these individuals. Cultivation theory guides this research. The data were collected through symptomatic and manifest reading (Moore, 2016) of four films: Thank You for Your Service (2017), War X2 (2018), For Love of a Fish (2018), and American Sniper (2014). The analysis suggests that representations align with scholars' findings on stigma and do not adhere to guidelines. This research suggests a need to aid in the suicide prevention effort.

Austin VanDevender, Centerville, IN

The Necessity of Women in the Growth of Colonial America

When discussing, studying, and reading history about Colonial America men are usually the ones in the spotlight. Men farming, men constructing rules and policies, men obtaining property, men exerting their social power, men going into war, essentially men doing everything. Men seem to dominate history books and act as the singular force driving the growth of the colonization of America. Women were significant to the growth of colonial. Outside the home, they inspired future generations, improved American literature, and so much more. Contrary to general beliefs, women were essential to the colonies, arguably the most essential aspect.

Emily Merrell & Abigail Reed, Brookville, IN

Park Awareness in Local Restaurants

The goal of this project is to raise awareness for Richmond's local parks and to promote the parks through local restaurants. Local restaurants have a good relationship with the parks department and will be willing to support the parks if it does not cause a financial burden to the restaurant. The planning, development, and implementation of raising awareness in local restaurants will occur through a collaborative effort from the following: - Richmond Parks Department - The School of Business at Indiana University East - Local Restaurants - Other Richmond Stakeholders I will present this research project with Abbi Reed.

Colleen Turner, Richmond, IN

Ancestral impact on self-representation of identity

This paper is designed to explore the relationship between cultural intensity and identity. From a social identity theory standpoint, adaption of traditions changed over time alters culture and group identity. I explain that this connection is focused on the extent to which people embrace cultural traditions and their generational closeness to ancestral heritage. The mobilization of tradition through ancestry coupled with family knowledge influences how one defines themselves and outwardly portrays oneself. Using a content analysis, this study examines how cultural intensity and identity are expressed in the content shared on the social reblogging site, Tumblr.

Carla Carey, Bloomington, IN
**Transformative Learning in
Worldschooling Blogs**

Worldschooling is a new trend that emerged from the growing homeschool movement. These families forego schools and educate their children while traveling. Many worldschooling families share their experiences through social media. Examining blogs is an impactful way to select an educational style to worldschooling. This research analyzes posts from popular blogs in the worldschooling community to review how the families practice and reflect on the opportunities for transformative learning. Mezirow's transformative learning theory (1978, 1991) frames the analysis of blog posts. Within the blog narratives, the findings reflect the authors' focus on experiential learning and an absence of mediated reflection.

Kassy Smith, Liberty, IN
**La Muerte Mexicana: Como agua
para chocolate**

proposal: English Abstract for Butler Research Conference Throughout my study on death and in examination of the work of Laura Esquivel's Como Agua Para Chocolate I have found a clear distinction in the way Mexican culture has celebrated and accepted death in comparison with the culture of the United States that has had clear fear of it. Because of years of the differing cultures ways of presenting the subject today we have two cultures close in proximity but at opposite ends of the spectrum in terms of all cultural and societal ideas of death.

Summer
Research Scholars
Whitewater Hall Lobby

Abbie Sliger, Richmond, IN
**Shakespeare's Coriolanus: An Analysis of
Politics, Rhetoric, and the Human Condition**

Shakespeare's Coriolanus uses politics of rhetoric to provide commentary on not only the political climate of Rome in the play, but also England during the time of Shakespeare's publication. The politics of rhetoric used in Coriolanus demonstrate a familiar political climate, as the play is similar

to countless scenarios that have occurred in history, contemporary times included, and the play's themes are still applicable in modern times. In this article, I examine specific instances of political metaphor that showcase the play's rhetorical velocity, along with analyzing the persuasion functioning within the tragedy.

Phineas Yoder, Greens Fork, IN

Education Gamified

"The Witness" is a puzzle video game that uses an intuitive approach to teach the player its rules without any written or spoken tutorials. My objective was to emulate this approach and apply it to real world education. I created a demo of the introductory financial accounting course using this approach and tested it with business students who were currently enrolled in that very course. It yielded generally positive feedback.

Sara Baxter, Richmond, IN

My Trip to the Kenyon Review Writers Workshop

In the summer of 2018, I attended the Kenyon Review Writers Workshop at Kenyon College in Gambier, Ohio. At this week-long writing intensive creative writing workshop, I had the opportunity to work with the esteemed poet and professor Kimiko Hahn as well as seven other talented poets as I learned new approaches to the study and craft of writing poetry. In my video presentation, I will discuss my experience at Kenyon including the challenges I faced, the people I met, and the progress I made toward completing my first poetry collection.

Katelyn Groff, Richmond, IN

Researching and Creating Nonfiction Children's Literature

As an elementary education student, it has always been an interest to pursue new examples of literature for use in the primary and intermediary classroom. In this presentation, I will discuss my research on writing nonfiction picture book biographies. This will connect to my exploration in writing about Dr. Ann Preston, one of the first female doctors in the United States. I will discuss the publishing process as well as how this research led to a deeper understanding of nonfiction picture books and the process of researching to write a picture book biography.

Tiffany Cohee, RICHMOND, IN
Accounting for the Difference in
Photochemistry of TpdA versus dApT

A detailed description of the conformations of DNA molecules TpdA and dApT was obtained and studied. Using Karst computing cluster, a molecular dynamics simulation was run on both molecules to see how the conformational distributions differ between the bases to account for known photochemical and photophysical properties. We expect to see the bases of TpdA to be occasionally stacked in an orientation favorable to the development of the TA* photoproduct. It was found that there were significantly fewer cases of well stacked bases in dApT which supports the hypothesis

Scott Franklin, Cambridge City, IN
American Raku: Misunderstanding as
Historical Change

History, as an area of study, seeks to reconstruct former eras of human behavior with the goal to shed light on our shared past. One area of history that is not often thought of as a vehicle for change is human misunderstanding. For the student of history we rarely anticipate an error as a catalyst for change. Rather, we often assume human advancement proceeds in a somewhat linear fashion and that human foibles play little role in changing history. In my presentation, I will examine the role of Raku pottery as a facilitator of change in the ceramic art movement.

Daniel Arthur, Richmond, IN
The Barn on Manning Road

Over the summer, I worked with Dr. Brodeur on writing a series of poems regarding family, religion, and life in the midwest. For my Student Research Day submission, I will submit a video in which I narrate a selection of these poems.

Kiana Cleere, Union City, IN
ORCA: Developing an Objective Risk
Continuity Assessment for Police Deadly
Force Encounters

There appears to be an increase in the use of deadly force by American law enforcement officers. The most consistent explanation for the use of deadly force is the fear for the officer's life. This project developed and tested an

Objective Risk Continuity Assessment Scale that examines the degree of actual risk faced by law enforcement officers involved in deadly force situations. This presentation presents the findings of the project.

Alicia Thompson, Richmond, IN

The Impact of Nuclear Quantum Effects on Thymine Dinucleotides

In this work, a fragment of single stranded DNA containing two bases of adjacent Thymine (dTpdT) was studied by observing the impact nuclear quantum effects have on base stacking and thymine dimerization conformation. Our approach involves calculating this influence using the ring polymer molecular dynamics method. Results suggest that base stacking of the thymine dinucleotide conformer behaves dissimilar to previous studies. The integration of nuclear quantum effects on dTpdT leads to reduced base stacking than otherwise found in previous simulations. Although more time expensive, it is suggested that NQE's be incorporated in future simulations.



Judges Panel

Parul Khurana, Associate Professor, Biology

Felix Burgos, Visiting Assistant Professor, Spanish

Melissa Blankenship, Lecturer, English

Jason Jedlicka, Visiting Lecturer, Music

Kelly Blewett, Visiting Assistant Professor, English

Marc Wolf, Archaeological Site Director, Anthropology

KT Lowe, Instruction Coordinator, Library

Gloria Dixon, Assistant Professor, Nursing

Paris Pegg, Director, Morrisson-Reeves Library



Planning Committee

TJ Rivard - Chair, Associate Vice Chancellor, Academic Affairs

Ange Cooksey - Chair, Sr. Lecturer, Philosophy

Brian Brodeur - Assistant Professor, English

Ann Kim - Assistant Professor, Fine Arts

Edwina Helton - Professor, English

Eevett Loshek - Lecturer, Psychology

Sue McFadden - Associate Librarian, Library

Steven Petersheim - Assistant Professor, English

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SRD

student research day

2019

Celebrating students' research,
scholarly, and creative work.

