



Mid-East Honors Association Conference
Creative Minds Empower Success

April 12-14, 2024
Purdue University Northwest
2200 169th Street
Hammond, IN 46323



HONORS COLLEGE

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9:30am-11:00am	23



Mid-East Honors Association (MEHA) Conference 2024

WELCOME TO NORTHWEST INDIANA



Guide to Dining and Getting Around Northwest Indiana



About

MEHA represents honors programs in universities and colleges across the mid-east region through an annual conference, lunch and learns and email communication, and two open meetings, one in the spring at the annual conference and one held at the NCHC annual conference.

Our Mission

Through sharing information about honors programs and best honors practices region-wide, MEHA hopes to create an intellectual, programmatic, and administrative network of resources aimed at helping the region's honors programs grow and thrive.

The Mid-East Honors Association is comprised of honors colleges and programs from the following regions:

- Eastern Illinois
- Indiana
- Northern Kentucky
- Southern Michigan
- Ohio
- West Virginia

Institutions that are close to these states while not strictly within our designated region, are welcome to join MEHA and attend our annual conference.

Our Hosts

MEHA 2023 is hosted by Purdue University Northwest

Executive Committee

- Debbie Bachmann, Purdue University Northwest, President
- Laci Fiala, Hiram College, Vice President
- Jim Buss, Ball State University, Treasurer
- Adriene Pounds, Cleveland State University, Secretary
- Mary Beth Borst, Ivy Tech Community College, Professional Representative
- James Williams, University of Indianapolis, Immediate Past President
- Mya Bell, Purdue University Northwest, Student Representative
- Nathaniel Geise, Ball State University, Student Representative
- Leilany Porrata, Purdue University Northwest, Student Representative
- Jenny Sheets, Indiana University Kokomo, Student Representative

The electronic version of this booklet can be found at:

<https://mideasthonorsassociation.org/conference>



Schedule at a Glance

Friday, April 12th

4:00pm-8:00pm: Conference Registration Open
(Wicker Park Social Center)

5:30pm-9:00pm: Opening Reception ([Wicker Park Social Center](#))

Welcome, Buffet Dinner, Overview of Conference Schedule, Dance Party

Saturday, April 13th

7:30am-3:30pm: Conference Registration Open
([Purdue University Northwest](#) Student Union Library Building, The Point)

9:00am-9:50am: Session 1 (Nils K. Nelson Bioscience Innovation Building)

10:00am-10:50am: Session 2 (Nils K. Nelson Bioscience Innovation Building)

11:00am-11:50am: Session 3 (Nils K. Nelson Bioscience Innovation Building)

12pm-1:00pm: Lunch (Student Union Library Building, Alumni Hall, Room 300)

1:00pm-1:50pm: Session 4 (Nils K. Nelson Bioscience Innovation Building)

2:00pm-2:50pm: Session 5 (Nils K. Nelson Bioscience Innovation Building)

3:00pm-3:45pm: Plenary Panel “Creating Community and Connection to and through Honors”

3:45pm-5:30pm: Break

5:30pm-6:30pm: Dinner (Student Union Library Building, Alumni Hall, Room 300)

6:00pm-6:30pm: Keynote Speaker, Rebecca McKanna

7:00pm-8:00pm: **Service-Learning Project**
(Student Union Library Building 320,322,321,318)

8:30pm-9:30pm: Faculty and Staff Happy Hour ([ByWay Brewing](#)): Next to Hotels (self-funded)

8:30pm-9:30pm: Student Social ([Buffalo Wild Wings](#)): Next to Hotels (self-funded)

Sunday, April 14th

8:30am-9:30am: MEHA Regional Meeting (Student Union Library Building 353)

9:30am-11:00am: Poster Presentations (Student Union Library Building, First Floor Concourse)

Hotel Options

Home2 Suites by Hilton, 2847 Carlson Drive, Hammond, IN 46323

https://www.hilton.com/en/hotels/mdwhaht-home2-suites-hammond/?SEO_id=GMB-AMER-HT-MDWHHT&y_source=1_NDc5MTE3OTktNzE1LWxvY2F0aW9uLndlYnNpdGU%3D

Holiday Inn Express, 2918 Carlson Drive, Hammond, IN 46323

<https://www.ihg.com/holidayinnexpress/hotels/us/en/hammond/chiin/hoteldetail>

Conference Welcome



Dr. Niaz Latif

Purdue University Northwest Provost

Keynote Speaker

Rebecca McKanna, University of Indianapolis



Rebecca McKanna was born and raised in Iowa. Her debut novel, *Don't Forget the Girl*, was published by Sourcebooks Landmark in June. The book's TV/film rights have been optioned by HeyDay Films.

Her short stories have been anthologized in *The Best American Mystery Stories 2019* and recognized as distinguished in *The Best American Short Stories 2019*. She has been published in *Colorado Review*, *Michigan Quarterly Review*, *The Rumpus*, *McSweeney's Internet Tendency*, *Third Coast*, *Joyland*, and as one of *Narrative's* Stories of the Week, among other publications. She is an Associate Professor of English at the University of Indianapolis. She lives in Indianapolis with her husband and a mini schnauzer named Hans Gruber.

Service Activities: No-Sew Dog Toys Service Project, Capes for Kids in Shelters

Social Activities: Saturday, April 13th (see schedule)

Detailed Schedule

Saturday, April 13th

9:00am-9:50am

Faculty-Led Workshop

Student Union Library Building - Room 358

Rebekah Dement, Charles Nasby, & Xondrais Glenn, Indiana University- Southwest

Possibilities of Puppets: Sustainable Theatre in the Classroom and Beyond

Faculty-Led Honors Themed Scholarly Presentation

Student Union Library Building - Room 321

David Thiele & Ashton Knappenberger, University of Mount Union

The Medium is the Message: Promoting Honors through Student-Faculty Collaboration

Miscellaneous – Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 286

Reece Grace, Indiana University Southeast

Failure to Prosecute: Providing Stronger Support for Sexual Assault Survivors

In the United States, rape is the violent crime least likely to result in a conviction. While sexual violence is heavily underreported, the justice system tends to favor myths and misconceptions regarding sexual assault, which causes low prosecution rates. Misconceptions regarding sexual assault utilized by the justice system include the perpetrator committing the crime during the night with a weapon, the victim being visibly bruised by the perpetrator and immediately reporting to the police in distress, and the victim and the perpetrator having no prior affiliation with each other. Research indicates that most sexually violent crimes do not align with these misconceptions. Through a review and application of selected scholarly literature, this presentation's primary focus is examining how law enforcement and prosecution in Kentucky should be trained to improve their expertise in sexual assault to avoid misconceptions. Training will cover appropriate interviewing techniques, strategies used by victim advocates, victims from different demographic backgrounds (like women of color), and effectively collaborating with other fields dealing with sexual assault. The end goal is to increase prosecution and conviction rates for sexual assault in Kentucky.

Keziah Jones, Kara Wright, & Andrew Roy, Indiana University Southeast

The Gospel and the Modern World: An Investigation of the Teachings and Personal Implications of the Bible

Christianity is the largest religion in the world with more than two billion followers (Britannica). However, according to the Pew Research Center, only a little over half of Americans know the Ten Commandments. The cultural perceptions of a religion may not always reflect the heart of that faith. Seeking to explore the connection between perception and practice, this research project will explore how the Gospel answers the questions of hope, peace, and purpose in life. Utilizing theological resources, scholarly journals, and interviews, this presentation will explore one of the largest religions. In addition, a survey will be utilized to better understand how Indiana and Kentucky residents perceive the topic of Christianity.

Health and Health Care 1 – Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 306

Angel Esquivel Vazquez, Ball State University

Alone, Addicted, Alive: Navigating the Journey to Wellness

In the era of unparalleled connectivity, loneliness has emerged as a silent epidemic, affecting millions globally. Despite our digital interconnectedness, a staggering number of individuals experience chronic isolation. This phenomenon is not merely psychological; it has deep biological roots, embedded in our evolutionary history. Contrary to traditional beliefs, addiction is not solely a byproduct of substance use. A revolutionary perspective considers addiction as a response to unmet social needs, challenging the prevailing narrative. The intrinsic human need for connection, established over millennia, is crucial for survival and well-being. The journey into chronic loneliness often begins inadvertently, as individuals navigate the demands of modern life. As loneliness takes root, it becomes a self-sustaining force, altering brain mechanisms and shaping negative perceptions of social interactions. To break free from this cycle, individuals are encouraged to introspect, challenge negative thought patterns, and actively seek meaningful connections. This shift in focus from individual recovery to social recovery becomes imperative in addressing the broader crisis of disconnection. The solution lies in building a society reminiscent of interconnected environments, fostering bonds akin to the enriching Rat Park. Ultimately, the antidote to addiction is not mere sobriety but a collective embrace of human connection.

Rashiadah Weaver, Cuyahoga Community College

Womb to Tomb: The Endemic of Overweight and Obesity Amongst African American Women

Equity in health and wellness interventions and strategies is not a common practice among underrepresented populations. African American Women show disparities among the categories of overweight and obese. Projections show this population will have rates as high as 99% overweight and obese by 2034. What can be done?

Literary Analysis- Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 302

Kaysea Hartman, Hiram College

“Stalking Jack the Ripper” : A Criminological Analysis

Criminology covers a wide array of theories that attempt to explain criminal behavior. They have also commonly been applied to characters in pop culture in a wide variety of ways. This project focuses on applying more than one criminological theory to the analysis of Kerri Maniscalco’s novel, “Stalking Jack the Ripper”, focusing on the character Nathaniel Wadsworth. The theories emphasized and applied include rational choice theory, moral development, theory of crime and personality, and attachment theory- with a strong emphasis on psychological explanations also called trait theories.

Brooke Belork, Indiana University South Bend

Bystander Apathy in Imperialism: How Conrad’s “Heart of Darkness” Perpetuates the Dangerous Inclination to Remain Silent

Substantial research on imperialism argues that imperialism and patriotism share the same characteristics, insinuating imperialism is arguably created by passionate patriotism. Scholars appear to acknowledge and

fix blame on the imperialists themselves and uncontrolled patriotism. However, research proves that “bystander apathy” highly contributes to the perseverance of imperialism. Joseph Conrad’s *Heart of Darkness* is a historical work that proves the importance of outside interference by demonstrating the destructive effects of those who remained silent while witnessing abuse in the Congo. Through a close reading and analysis of Conrad’s historical work, I will illustrate how the author employs a layered narrative, multiple descriptions of “othering”, and incriminating diction to expose the catastrophic effects of chosen indifference, or “bystander apathy” in *Heart of Darkness*.

Gracie Russell, Morehead State University

The Power of Adaptation: The Amphitryon Theme Throughout Western Literature

The *Amphitryon* theme has inspired many plays over the centuries, along with operas, musicals, and even a full-length film. One reason for the enduring popularity of the theme is the flexible cast of characters. In this presentation, I will analyze how playwrights explore the possibilities of the basic six characters of the story, and in some cases add additional characters.

Student Round Table 1: Contemporary Business Environment

Nils K. Nelson Bioscience Innovation Building - Room 240

Aysha Sukurica, Ivy Tech Community College

Navigating the Road Ahead: A Comprehensive Analysis of the Current Economic Landscape Among Trucking Companies with Strategic Insights into Marketing Trends

This workshop like presentation delves into the dynamic economic landscape faced by trucking companies in the contemporary business environment. Against the backdrop of global economic shifts and industry-specific challenges, we conduct a comprehensive analysis to assess the current financial situation within the trucking sector. Our study incorporates key economic indicators, market trends, and the impact of external factors on trucking operations. Moreover, this paper explores innovative marketing strategies employed by these companies to navigate economic challenges successfully. By providing valuable insights, this research aims to contribute to a deeper understanding of the economic forces shaping the trucking industry and offers strategic recommendations for effective marketing approaches in these challenging times.

Sciences- Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 206

John Wasmuth, Indiana University Kokomo

Sustainability - Who Cares?

This research project will look at the varying perspectives on environmental sustainability within the local community in Central Indiana. Attention will be focused on gaining an understanding of how individuals perceive and participate in sustainable practices. It is critical for overall conservation and sustainability efforts to understand the grassroots-level sentiment on the issues at hand. This study will use a multi-faceted approach including surveys and interviews that will represent a cross-section of the local community. Gender, age, identity, socioeconomic standing, and more will be included to ensure a complete view. Findings will be compiled into a short film/documentary on sustainability and its perception and consequences.

Dalvy Lebron, Ivy Tech Community College

Biomimetics: Emulation for Our Preservation

It is a fundamental fact of the universe that everything naturally heads towards disorder. The second law of thermodynamics states that entropy always increases with time. We marvel at the ancient structures that have withstood the test of time, knowing that ultimately all that mankind creates inevitably crumbles to dust. One need only look at our own infrastructure to see that there are always tremendous forces at work against us. There is one thing alone that has not only stood the test of time but has grown stronger as time has progressed – life itself. Over 3.5 billion years, the evolutionary processes that control our DNA have adapted to every unpredictable and cataclysmic circumstance the cosmos has managed to throw at us. It is my belief that if we were able to better mimic and integrate living structures and/or develop analogous systems into our society, it might be possible to develop materials, tools and structures that would only not deteriorate, but may even actually grow more efficient over time. The possibilities and applications can range from self-repairing clothing to a permanent and viable solution for a perpetual energy source. We must move beyond our adaption to steer the adaption of all life.

Shelbie Black, Morehead State University

David A. Dixon, University of Alabama

Zachary Lee, Morehead State University

Predicting the Mechanism and Products of CS₂ Capture by NH₃ – An Exemplar Benchmark Study

Preliminary electronic structure calculations, mainly density functional theory (DFT) and the correlated molecular-orbital (MO) methods of MP2 and G3(MP2), have been performed in order to study the reactions of CS₂ with NH₃ and H₂O in the gas phase and to determine the plausibility and kinetics of thiocarbonic acid, thiobarbonate, thiocarbamic acid, and thiocarbamate from the possible sequestration processes of CS₂ by amines. An implicit self-consistent reaction field aqueous solvation approach (COSMO) was applied to the gas phase pathways to provide insight into these CS₂ reactions in aqueous and humid atmospheric environments. The higher-level G3(MP2) calculations will eventually be benchmarked at the CCSD(T)/CBS level in collaboration with the University of Alabama. The results collected throughout this project and following studies may provide significant implications for CS₂ capture by amines in both the gas phase and aqueous solution as well as in the solid state, analogous to amine capture of CO₂ mechanisms recently established by the respective Dixon and Lee research groups. These mechanisms of CS₂ sequestration may have serious environmental implications for the development of CS₂ scrubbing techniques for industrial CS₂ emissions as well as significant atmospheric and astrochemical relevance as it pertains to the possible formation of thiocarbonates and thiocarbamates in areas of high organosulfur content, such as Earth's permafrost or the atmospheres of Venus and Saturn's largest moon Titan.

10:00am-10:50am

Faculty-Led Lecture & Recital

Student Union Library Building - 358

Lia Jensen-Abbott, Albion College

The Unsung Voice of Florence Price: Her Teaching and Performing Repertoire As Framed By Her History

Faculty-Led Honors-Themed Round Table Discussion

Student Union Library Building - 321

Laci Fiala, Hiram College

Managing the Struggles of Honors at Small Schools

Education 1- Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 208

Rachel Wood, Indiana University Southeast

Doodling or Visual Notes? Utilizing Visual Note Taking within a Class Novel

Engagement is one of many issues that every teacher experiences during the school day. In an attempt to combat the struggles with attention and boredom that students exhibit, the strategy of visual note taking was utilized during a whole class reading of "Percy Jackson & the Olympians: The Lightning Thief" by Rick Riordan for ninth grade general and honors English classes. Defined as "a specific type of note-taking that includes a combination of text and drawing" (Indiana University Bloomington Library, 2021), visual note-taking is a strategy to increase the visibility of reading and implement creativity in a way that helps students to visualize characters, setting, and events within a story. During their unit, students created visual notes for each chapter of the text, and data collection in the form of teacher observations, student assignments, and pre and post-surveys was conducted. In addition to a review of scholarly research, an analysis of the teacher's findings and her plans for improvement will be discussed within the presentation.

Ahamdzia Momand, Ivy Tech Community College

The Social and Psychological Impact of Dual Credit and Dual Enrollment program on students who successfully complete these programs at Ivy Tech Community College.

This research project will be exploring the impact of dual credit and dual enrollment programs on students' overall well-being, academic performance, and future aspirations at Ivy Tech Community College. As a current student at Ivy Tech and a fellow with Complete College America (CCA), my commitment is to advance our understanding of these programs. We will explore how participation in dual credit and dual enrollment programs at Ivy Tech Community College impacts students' overall well-being and mental health, comparing these experiences to students who do not engage in such programs. We will also examine the level of preparedness, encompassing academic and social aspects, and the motivation of students who complete dual credit/enrollment courses, contrasting them with their peers who do not participate in these programs.

Religion and Culture- Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 302

Lacy Salgat, Indiana University Kokomo

How the Theological Arguments of William Paley and Charles Darwin Can Coexist

The theological debate of the 19th century was caused by various scientific discoveries. Two of the most influential people in the 19th century during this theological debate were William Paley and Charles Darwin. William Paley was a Christian man who used the “argument from design” and scientific data to explain the existence of a creator. Paley is often known for his watchmaker metaphor to demonstrate that there must be a creator, which can concisely be summed up by saying that, just like abandoned watch has an assumed creator, so does the universe. Meanwhile, Charles Darwin’s *Origin of Species* (1859) is a landmark for natural sciences and whose theory of evolution and natural selection are based off his observations of the islands surrounding South America. Often, Darwin’s theory is used to refute the existence of a creator, however, there have been attempts to use Darwin’s theory to strengthen Paley’s position instead further.

David Saleh, Indiana University South Bend

The War on Cultures and Its Impact on the United States

The central focus of this presentation is the impact of the events between Palestine and Israel prior to and after the events of October 7, 2023 on the United States. When conflicts occur in nations outside of the United States, not only are people’s lives affected, but entire cultures are also impacted because of the political stances taken as a result of these conflicts. Through the use of personal experience and a variety of different sources, including the United Press, New York Times as well as AP News, this presentation will argue that, since October 7, the perception of the culture of Palestine in the United States shifted from being viewed as one of peace to one of terrorism. It will argue that cultural relativism was extremely important in this phenomenon since the United States had close ties with Israel but also faced immense pressure from other Arab countries to end Israeli attacks on Palestinians.

Urbanization & Society - Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 240

Jessica Lambert, Cuyahoga Community College

Urban Revitalization Without Displacement

The by-product of revitalization is gentrification and displacement of the demographic who has been forced out of the neighborhood due to increased property values and rents. Cities improve an area but at the cost of those who can no longer afford to live there. Legacy cities must address these issues in their plans when they revitalize a city. The plans need to include ways to rebuild an area while keeping their stock of affordable housing, adding to community amenities, and avoiding displacement. Legacy cities need to devise a more suitable urban plan that accommodates the entire city instead of selective pockets. Preservationists need to remember to preserve not just buildings but the people that reside in them. The demographics vulnerable to displacement need to be made a priority within urban revitalization, and this can be done through better practices by developers and lawmakers within legacy cities.

Jaida Robinson, Cuyahoga Community College

The Links Between Different Social Constructs

My presentation is to discuss many different constructs we have in society and which one of the constructs is the root and which are the branches. We will be analyzing how hegemony, socialization, stigma, and free will/determinism beliefs are connected. Once this connection is established, I hope to find which one causes the others.

Visual Art

Nils K. Nelson Bioscience Innovation Building - Room 306

Calvin Brown, Cleveland State University

The Fisherman (rough cut)

The Fisherman is an animated short film I am working on. The film revolves around a fisherman living in New England in the year 1630. He experiences a series of strange curses, which strongly test his resolve. This film is currently a rough cut, and there is more work to be done. Music hasn't been added yet, and sound design isn't final. However, I am still very excited to show this piece of work.

Valentina Sanchez Rodriguez, Cuyahoga Community College

Taylor McKillen, Cuyahoga Community College

Adam N. Suntken, Cuyahoga Community College

Josh Bowman, Cuyahoga Community College

Adam Goldfarb, Cuyahoga Community College

Dollhouse

Bekah, a 27-year-old foreign woman who recently survived a terrible accident, wakes up in a hospital with no recollection of her past. After a moment of panic, James, a man who claims to be her fiancé, wants to take her back into his life. With no documentation or idea of where to go, Bekah goes home with James, who little by little starts to show a rather unsettling side to him. At the same time, Bekah struggles to find herself and cope with her flashing past.

Josiah Kilburn, Morehead State University

Entomoportraiture- A Carefully Curated Collection of Insects and their Landscapes

Using images of landscapes and comparing them to macro photos of the insects that inhabit them I present a photographic experience designed to encourage the viewer to consider the importance and impact of insects on our environment and bring into question our perception of insects as pests.

11:00am-11:50am

Faculty-Led Honors-Themed Round Table Discussion

Student Union Library Building - 321

Elizabeth Dalton & Shaina Miller, Ball State University

Medieval & Contemporary Chinese Art/Literature in Honors Humanities

Faculty-Led Honors-Themed Round Table Discussion

Student Union Library Building - 358

David Theile & Students, University of Mount Union

What Honors Students Need After College

Creative Writing 2: Personal Experiences

Nils K. Nelson Bioscience Innovation Building - Room 206

Lee Davis, Bellarmine University

Anthropological Poetry: Using Naturalistic Observation as Prompt

Have you ever overheard bits and pieces of a conversation and thought it reminded you of your own life? You move on, and you most likely completely forget about what you heard. My collection of poetry was written to make you think more about those secret moments of connection. Every poem in the collection was written from something I overheard in public, as though I were reading prompts from a writing book. The pieces are fictional in the sense that I really know so little of the full context, but real in the sense that when I wrote them, and hopefully when you read them, we see someone we know or even ourselves.

Sarah Farrough, Indiana University South Bend

The Kingdom of Kendanil: An Excerpt

I will be presenting a creative writing story that I wrote for an English class final during my sophomore year. The story is about a young girl who is trying to prove herself to be a knight while being looked down upon for being a girl. I will explain what the requirements for the story were and will read, what I believe, are some of the best parts of the story. I will also explain my thought processes for the parts I share.

Health and Health Care 2- Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 306

Jordon Keeley, Indiana University South Bend

Grey's Anatomy, The Hidden Tumor: Factual vs. Fiction: Television Romanticizing Illness

The television show Grey's Anatomy is known for an abundant amount of drama that coincides with numerous medical procedures and terminology. This presentation will focus on Season 5, Episode 22, What a Difference a Day Makes, and the episodes that follow. In episode 22, physicians determined that a patient had a cancerous tumor located in her brain. This presentation will argue that the producers of Grey's Anatomy took a serious diagnosis, romanticized it, and removed all accuracy. It will then identify the inaccurate depictions and compare them to the accurate procedures and processes in healthcare.

Dhruval Mukeshkumar Chaudhari, Indiana University South Bend

Cultural Differences and Informed Consent

This presentation delves into the complex world of informed consent in medical treatment and experimentation, emphasizing its ethical importance in healthcare decision-making. The ideas of Faden and Beauchamp, as well as Howard Brody's transparency model, are analyzed to better comprehend the complicated nature of informed consent. To investigate the impact of cultural differences, the history of informed consent is traced from ancient to modern times, with a focus on India. Advocating for ethical

advancement and increased accountability in creating the future of informed consent, the presentation will focus on such things as the HPV trials in Bhopal and Indore, India. To ensure inclusivity and respect for varied viewpoints, the significance of cultural adaptation in informed consent procedures is emphasized. The presentation will emphasize the imperatives of ethical progress, political determination, and collaborative efforts to safeguard patients' rights in both treatment and research settings, making informed consent a meaningful aspect of medical and research practices.

Alexis Striegel, Indiana University Southeast

Diabetes, not Diabetic: The Implications of the Education of Children Newly Diagnosed with Type 1

As of 2018, 18,200 children are diagnosed with type 1 diabetes (T1D) annually, and the number only continues to grow. Educating children newly diagnosed with T1D is essential to help normalize their experiences and empower them to live active, fulfilling lives. Through the composition of an engaging, accessible handbook, this project helps these children by giving them a baseline of knowledge compiled from scholarly literature and supplemented by primary survey data. Chronic illness in children can be very isolating because of how children want to fit in with their peers, and this handbook strives to make it easier for them to do so.

Marketing and Social Media- Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 302

Andrew Sohby, Cleveland State University

FinTech: Future Outlooks and Concerns Following 2023 Global Affairs

Financial Technology (FinTech) is a concept that has gained a fair amount of recognition in recent years. Research departments from universities, corporate enterprises, and governing bodies all over the world are considering how to develop, enhance, and regulate the use of this technology for profit, greater awareness, and safety concerns. The innovations that will be a result of FinTech will undoubtedly change the way decision-making by consumers and lenders make banking. Likewise, it will also bear consequences on the compliance structure of small and large corporations and businesses entering the new world of finance. Overall, FinTech is going to impact society with both positive and negative implications for all institutions and walks of life. Conducting scholarly research and engaging in the much-needed debate over these topics is what this paper aims to accomplish applying the concept to emerging technologies, domestic challenges in the United States, and 2023 International Affairs.

Andrea Garcia, Cuyahoga Community College

The Monetization of Children Online

Exploring the complex subject of monetizing children online. Discussing the risks, ethics, and societal implications of child influencers. Raising awareness and advocating for children's safety and right to privacy in the digital age.

Luke Peters, Purdue University Northwest

The Effectiveness of Data-Driven Digital Marketing

Understanding the dynamics of strategic and creative content while simultaneously leveraging data is essential in an influencer driven digital climate. With data accessibility rapidly growing and adapting, it is essential that marketing developers can interpret the data that their digital media creates. By accessing data, marketers can predict, adapt, and discover various innovative ways to interact with their unique target

market. Throughout this presentation I will be demonstrating directly how content creators have the capability to be in a sense created through digital advertising and leveraging of data. Moreover, as of 2023, 10% of content creators made around 100,000 a year, with 70% of them admitting that their source of revenue stemmed from brand collaborations. Knowing this information, I will be conducting a theoretical analysis and show-casing my findings relating to the possibility of creating influencers who can be successful.

Student Round Table 2: Honors Book Club

Nils K. Nelson Bioscience Innovation Building - Room 240

Makenna Poindexter, Ball State University

Sophie Richardson, Ball State University

Justice Reckner, Ball State University

Eleanor Witt, Ball State University

Rowan Hartje, Ball State University

Cardinal Classics: Constructing an Honors College Book Club

Most honors students want to have a deeper and more meaningful honors experience and a student-led book club is one way to do so. Over the past three semesters at Ball State University, a group of honors students have worked to create and develop Cardinal Classics, an honors student organization dedicated to reading and discussing literature outside of the classroom with both students and faculty. The honors humanities courses can often feel overwhelming for students who do not have much experience reading and discussing literature at a collegiate level and having a space in which they can develop that skill can help to build more confidence with participation in the classroom. The book club also allows for a space in which students can explore their intellectual interests that were not discussed in the classroom, such as magical realism or book banning, while also fostering a sense of community and connection between students and faculty. This presentation will provide an overview of the club as we discuss its creation and development with accounts of particular areas of success and challenges that we have overcome. Additionally, we will ask those in the audience to consider how a book club may function within their own honors program.

1:00pm-1:50pm

Faculty-Led Honors-Themed Presentation

Student Union Library Building - 358

Roger Gilles, Grand Valley State University

Who Belongs in Honors?

Criminal Justice- Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 206

Chloe Garner, Indiana University South Bend

Policy Implications Related to Crime in Global Cities: A Dublin Case Study

This paper examines crime control policies in practices utilizing personal experience and research regarding the newly globalized city of Dublin, Ireland. Dublin suffers from high crime rates, which impact the city negatively through an economic and social lens. This paper highlights policies implemented by the Irish police force, otherwise known as the An Garda, in their policing strategy report. Positive and negative qualities of problem-oriented policing as executed by the An Garda are analyzed to showcase the

effectiveness of the practice. The policing strategies implemented by the An Garda are compared to the global cities of New York City, London, and Tokyo to analyze the impact those policies could have on Dublin. Other policies that have shown to be effective in other global cities will also be recommended for implementation in Dublin.

Avery Wengerter, University of Mount Union

The American View of Terrorists

Prior to the terrorist attack on the Twin Towers in New York City, New York and the Pentagon in Arlington, Virginia on September 11, 2001, no single terrorist attack had claimed more than five hundred lives at once (Quillen 2002a, 2002b; Hoffman 2002). The September 11th attacks well exceeded that number and claimed almost three thousand lives. Due to the fact that this was one of the first major terrorist attacks on American soil, it stuck with the American public in extreme ways. According to the PEW Research Center, 93% of Americans aged 30+ and 42% of those aged say they can remember exactly where they were on September 11, 2001. The effects of these attacks were long lasting and shaped the American perception of what a terrorist is and is not, as well as what constitutes a terrorist organization. This presentation details the difficulty in defining what a terrorist is, the international definition of terrorists, and the American view of terrorists. This presentation also examines who Americans consider terrorists and how they treat those that they do believe are a threat to national security.

Gender 1- Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 302

Naomi St. André, Ball State University

On God and Girlhood: Brio Magazine, Power Structures, and Print Media

Scholarship on evangelical women has boomed over the past decade, offering vital insights into the American Christian Right, although analysis of evangelical girlhood and the power structures that it exemplifies is lacking. This presentation argues that evangelical girls exist at specific nexus of disempowerment and unique authority that constitutes them as a particular type of subject in evangelical and political discourses. Girlhood is a unique position that cannot be earned nor disposed of. This presentation examines the impact of *Focus on the Family's* Brio magazine, which ran from 1990-2009 and resumed publication in 2017. Its longevity and wide distribution make it the essential source for a study of evangelical girlhood. To understand the future of evangelicalism in the American narrative, it is essential to demonstrate the ways in which the system impacts those who exist outside of it and those who are internally positioned. It is impossible to fully grasp American evangelicalism or recent political events without understanding the role that teenage girls play in the evangelical imagination and our political realities.

Ryan Leto, Hiram College

The Aftermath of the Dobb's Decision

Following the overturn of Roe v. Wade in June of 2022, abortion laws have been shifting and morphing throughout the entirety of the United States. As a result, women are left to fend for themselves when it comes to abortion and reproductive freedom. Every state has different laws, causing immense confusion among the women seeking abortion, as well as the doctor's giving abortions. Drastic measures are being taken by a variety of people to ensure they have access to abortion and other reproductive health necessities. In some cases, this is leading to unnecessary deaths and complications, as women participate in dangerous measures to receive the care they need. This project is meant to be a review of the changing abortion laws in the United States and how it is impacting the people involved. The major

goal is to educate women across the United States on where, when, and how they can receive the care they need.

Plants and Ants- Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 306

Donald Bothe, Bellarmine University

Xanthorhiza Simplicissima

Xanthorhiza simplicissima is a plant that is steeped in medical history. It has been used for hundreds of years by the Native Americans, and later by the Europeans, of Appalachia for its medicinal properties. One of the most useful medical applications of this plant are its antibiotic properties. This plant was often used as a tea that was drunk to treat mouth sores. This is due to some of its secondary alkaloids such as berberine, liriodenine, oxyacanthine, and magnoflorine. These compounds have been found in other plants and they have had their antimicrobial properties researched. However, oxyacanthine and magnoflorine have not been researched in tandem with the use of efflux pump inhibitors. Neither has the X. simplicissima extract itself. Efflux pumps allow bacteria to exude antibiotics and other cytotoxic molecules out of their cells. The disabling of these pumps has been shown to greatly increase the effectiveness of antibiotics and antimicrobial compounds. This study examines the effect of efflux pump inhibitors on the antimicrobial effectiveness of magnoflorine, oxyacanthine, and the X simplicissima extract against Staphylococcus aureus. Norfloxacin is the control antibiotic in this trial. The Yellowroot extract and its two secondary alkaloids have been found to inhibit S. aureus growth and Reserpine has been found to not be a good antibiotic against S. aureus. Therefore, its effects don't confound the antibiotic abilities of X simplicissima and its secondary alkaloids. The determination of true MIC and the usefulness of Reserpine as an efflux pump inhibitor and antibiotic aid in lowering MIC is currently in progress.

Josiah Kilburn, Morehead State University

Photographing New (Undescribed) Ant Species in Papua New Guinea during Ant Course 2023

This summer, I got to attend the Ant Course in Papua New Guinea (PNG). The course was hosted by the California Academy of Sciences and the Ants of the World Project, mainly for PhD students studying ants. I was the youngest participant in the course and the only undergraduate. In this talk, I share my photographs from the course and discuss my experiences there.

Politics- Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 208

Pamela Martin, Ivy Tech Community College

Our Fragile Democracy

Our ancestors had to fight intensely at many points in history to be included in the democratic process, which is especially evidenced during the women's suffrage and the civil rights movements. Voting is a right that many people take for granted when they don't see how they are impacted by its loss. Today, most people in the US feel like democracy is at risk, but for very different reasons. Some believe that there are too many obstacles to voting and others believe that votes aren't being counted properly. I will present the solutions that have been proposed in bills, but not adopted, and explore the implications of weakening the Voting Rights Act of 1965 before alternatives were legislated. We currently have a two-party system that is partially splintered but still striving for single party dominance. Cooperation, once prized, is now seen as working with the enemy. Very few of the issues today are unprecedented, but with modern technology we

have seen a shift in precision of data analysis and the speed at which messages can reach a worldwide audience. My goal is to create an informative presentation that will spark more interest in political involvement.

Gabriel Mott, Ohio Northern University

An Interdisciplinary Analysis of Environmental Rhetoric in State of the Union Addresses

I sought to use an interdisciplinary approach combining basic social scientific text classification, political theory, and linguistic theory to analyze environmental rhetoric in State of the Union (SOTU) addresses. I chose to consider every Presidential spoken address to a joint session of Congress since 1970, the year the Environmental Protection Agency (EPA) was established. I classified transcripts of these addresses by thirteen dimensions, covering empirical matters, normative matters, and tone. I found an increase in overall explicit mentions of the environment over time, while normative matters are highly varied, and tone is concentrated among the Democrats. I use political theory to propose that the shifting of the Overton Window can explain the increase in empirical metrics over time, while Game Theory and Presidential motivations can explain the variability in normative matters. Finally, I consider classical linguistic theory to identify differences between SOTUs and proper rhetoric, focusing on rhetorical composition and logical fallacy.

Student Round Table 4: Creative Works Journal

Nils K. Nelson Bioscience Innovation Building - Room 240

Afton Vanek, Ball State University

Emily Loney, Ball State University

Desi Wells, Ball State University

“Odyssey Creative Works Journal”: Maintaining a Student-Run Publication

Odyssey Creative Works Journal is the Ball State Honors College creative works publication, produced by undergraduate students in the Honors College. This year, under the guidance of Professor Elizabeth Dalton, three co-editors organized meetings, moderated submissions, edited written works, designed the journal and its cover page, and oversaw the social media accounts as a part of a fellowship. In order to involve the larger community of Honors students, we as the co-editors accepted applications for a review board, which ultimately contained eleven students. These students, known as section editors, were organized into groups to review submissions of specific art and literature genres. This presentation will cover how the fourteen college students were able to produce the 2024 issue of Odyssey. We will discuss the selection of the submission review board, the training process we utilized, and the review meetings to ultimately decide what was accepted for our journal. We will share insight with the audience on one way of running a literary journal that receives more than a hundred submissions for review. During this discussion, we will touch on obstacles such as the short timeframe for printing, the use of content warnings, navigating the social challenges that arise within a niche community of artists, and how to accommodate the schedule of each hardworking co-editor and section editor. Overall, our presentation will share the necessary skills for a student-run organization to successfully collaborate on a deadline.

2:00pm-2:50pm

Faculty-Led Panel Discussion

Student Union Library Building - 358

Patricia Williamson, Emma Buschlen, & Jillian Maloney, Central Michigan

Planning a Student-run Film Festival as a Form of Experiential Learning and Honors Student Engagement

Creative Writing 2: Health & Healthcare

Nils K. Nelson Bioscience Innovation Building - Room 206

Brittany Ryan, Indiana University Kokomo

Bridging Worlds: Nursing, Poetry, and the Human Experience

In this presentation, Brittany delves into the intersection of nursing, poetry, and what makes us human as seen through the lens of her experiences and creative journey. Through the exploration of a selection of her own poetry, Brittany offers insights into the unique ways in which poetry has enriched her nursing school experience and facilitated deeper connections with patients. By weaving together personal reflections and poems, Brittany demonstrates how the act of writing serves as a therapeutic outlet, allowing her to navigate the emotional complexities of caregiving with grace and empathy. Attendees are invited to explore the role of creativity in nursing, with an emphasis on the potential for enhancing patient care through navigating the human experience, and with recognition that creative expression can profoundly benefit patients and caregivers alike.

Karaline Kapke, Indiana University South Bend

Reading and Commentary of 'My Person,' a Poem about Mental Health

For my presentation I will be reading a poem I wrote, entitled My Person. This poem is about two of my worst experiences and includes details of what happened, how I felt, and my healing process. The main point of the poem is to emphasize that allowing oneself to be open about what they're going through and letting someone in on what they're feeling can make the difference in someone's life. The purpose of this poem is to share my own experience with mental health and healing to offer support to others who may have gone through similar experiences. I want others to know that they can get better; they are not alone; and I aim to ease the stigma associated with mental health issues.

Education 2: Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 302

Mateo Galdamez, Indiana University South Bend

Break The Mold of Campus Socializing

Being social on a college campus is not the same as society sees it. Some students want to believe that being in college means being free to befriend many people and not worry about their academics. However, just because a student is young does not mean they will go out to party daily. In this presentation, I will first argue that if students drink, this could lead to dangerous consequences that may risk their well-being, such as the loss of self-confidence, befriending not-so-good friends, and being part of a gang where they get corrupted by the thought of wealth and reputation. The second part of my presentation will discuss the reality of students being independent and trying to have stable living conditions by following what their

parents taught them regarding social standards and making sacrifices on proper rest to excel in their grades. I finish the presentation with my solution: campus clubs. Clubs on campus can help combat students' depression, let students regain confidence in others, allow them to express their frustrations, and help them get to know their peers in a safe way while they stay true to who they are in a campus setting.

Mary Ann Cunningham, Ivy Tech Community College

Whose Brilliant Idea Was This?/ Is Academia Ready for the Senior Student?

Is Academia ready for the non-traditional Student Over Fifty-five? “Are you sure?” I knew I was in for an adventure when this popped up on my computer screen. I was completing a rebate form for the computer I had just purchased through the Ivy Tech bookstore. The form asked for my birthdate. That was when I realized there would be obstacles as I returned to the land of academia. From a student’s point of view, very little thought is given to the different experiences and educational needs of the over fifty-five students. As I was registered for a two-year degree at a two-year school, I was required to take a class in resume writing, life skills, and goal setting as well as how to pick four-year school. Time and energy spent on classes like these could be used more effectively enrolling in a humanities course or a brush up math course. Are schools totally accessible or ADA accessible? There is a difference between the two. How is marketing to the non-traditional student presented? Is a twenty-one-year-old sent to the Rotary Club to talk about opportunities? Do marketing brochures depict youthful students enjoying a conversation on campus someplace? Is there any indication the mature student is just as welcome? With Baby Boomers retiring, more opportunities than ever are available to reach out and expand the customer base. I propose to share my personal experiences of “Living my life backwards” in a creative narrative and offer constructive solutions to real problems in academia accepting the mature student.

Gender 2: Scholarly Presentations

Nils K. Nelson Bioscience Innovation Building - Room 306

Kathleen Donoho, Ball State University

Hoosier Homespun: The Gender Division of Textile Production Labor in Early-19th Century Indiana

In the twenty-first century, the textile labor of the past— spinning, weaving, sewing, knitting, etc— is commonly conceptualized as solidly within the sphere of “woman’s work”, but the truth is more complicated. The gendered division of labor varies across time and from region to region. Weaving has had a particularly circuitous past in this regard. Frequently, examining textile production can illuminate broader patterns of the time and place, such as the structure of the artisan economy, the accessibility of owning capital, political and social ideals of femininity, the divides (or lack thereof) between domestic labor and wage labor, and more. In “Hoosier Homespun”, I examine the models of textile production used in early 19th century Indiana and the role played by gendered division of labor. While discussing state-wide trends and context, I focus on Delaware county as a case study, inspired by Adrienne Hood’s study of Chester County, Pennsylvania in “The Gender Division of Labor in the Production of Textiles in Eighteenth-Century, Rural Pennsylvania (Rethinking the New England Model).” Some questions I investigate include: In Indiana, were certain textile tasks divided along gendered lines? What circumstances, material or cultural, could have contributed to these labor divisions? What roles were played by both commercial and household weaving as access to industrially produced textile goods increased? How did this compare to earlier periods? How common was ownership of spinning wheels, weaving technology, and other textile equipment? Who owns or inherits these objects? What may this tell us about Hoosier’s conception of gender at the time, particularly in relation to labor?

Abigail Franks, University of Mount Union

Effects of an Outdated Boys' Club Culture in the United States Military

The presentation explores the U.S. Military's pervasive and deeply rooted "boys' club" culture that persists despite increased female participation and acceptance in the military over time. This culture includes the unwavering admiration of traditional hypermasculinity and, consequently, the inherent rejection of femininity. Specifically, the presentation will cover the reasons why the military's "boys' club" culture still exists and its lasting negative impacts on both servicewomen and servicemen. Some examples of these impacts are female and queer service members being undervalued and under-promoted despite their qualifications, the utilization of sexual violence to prove one's masculinity, and sexist notions poorly affecting work performance. First-generation college students face a variety of challenges and disadvantages throughout their undergraduate experience and continue to as they pursue higher education, such as law school. These students come from diverse walks of life and can be found across the country. The Law School Survey of Student Engagement identified 26% of the nation's law school students as first-generation. This is conducted annually as part of Indiana University's Center for Postsecondary Research; however, this year was unique as first-generation students were a point of focus for the first time. Although this population is responsible for one-fifth of law students and faces substantial difficulties, little research has been done to better understand and assist this group. This research project hopes to acknowledge and explain the barriers and societal discrepancies that impact their venture and success during law school and the bar examination. A focus of the research has been placed on the relationship between first-generation student enrollment in law programs and bar exam passage to determine if this population positively or negatively impacts the rate. This roundtable hopes to bring awareness to the challenges faced by this population of students, share data regarding their experiences and outcomes, and discuss methods to assist first-generation law students before, during, and after law school.

Student Round Table 5: 1st Generation Student Challenges

Nils K. Nelson Bioscience Innovation Building - Room 208

Mya Bell, Purdue University Northwest

From Admission to Bar: Understanding and Supporting First-Generation Law Students Through Research

First-generation college students face a variety of challenges and disadvantages throughout their undergraduate experience and continue to as they pursue higher education, such as law school. These students come from diverse walks of life and can be found across the country. The Law School Survey of Student Engagement identified 26% of the nation's law school students as first-generation. This is conducted annually as part of Indiana University's Center for Postsecondary Research; however, this year was unique as first-generation students were a point of focus for the first time. Although this population is responsible for one-fifth of law students and faces substantial difficulties, little research has been done to better understand and assist this group. This research project hopes to acknowledge and explain the barriers and societal discrepancies that impact their venture and success during law school and the bar examination. A focus of the research has been placed on the relationship between first-generation student enrollment in law programs and bar exam passage to determine if this population positively or negatively impacts the rate. This roundtable hopes to bring awareness to the challenges faced by this population of students, share data regarding their experiences and outcomes, and discuss methods to assist first-generation law students before, during, and after law school.

3:00pm-3:45pm

Plenary Panel: “Creating Community and Connection to and through Honors”
Student Union Library Building - 358

Lead: Laci Fiala, Honors Program Director, Hiram College
Student Moderator: Nathaniel Geise, Ball State University

During and following the pandemic, student involvement in events and activities has waned. Getting students to show up and show out for academic, social, and other events has been challenging. In the age of the phone (and scrolling TikTok), growing concerns around mental health, especially anxiety and depression among college students, and other issues, absenteeism is up. This can create a problem for honors programs and colleges that really emphasize and embrace the idea of community. This panel of honors staff and students will engage in a Q&A relating to involvement and engagement in honors activities, barriers, solutions, and role of student leadership. Audience members will be encouraged to share their ideas electronically via a QR code, by submitting ideas in writing, or simply raising their hands to share live in the session.

Panel Participants:

- Allison Vickers, Honors Academic Advisor, Purdue Northwest
- Danielle Hart, Honors Academic Advisor, Ivy Tech Community College
- Sha-Hannah Soaper, Honors Academic Advisor, Ivy Tech Community College
- Ahmadzia Momand, Student, Ivy Tech Community College
- Catlyn Kauffman, Student, Hiram College
- Joann Kaiser, Teaching Professor of Communication and Performing Arts, IU- Kokomo
- Neovi Karakatsanis, Honors Program Director, IU- South Bend

Poster Presentations

Sunday, April 14th

9:30am-11:00am

Chloe Belford, Purdue University Northwest

Religious Inhibition

There are many things that shape us as human beings as we grow. There are societal pressures, family, friends, and religious views and beliefs to name a few. In this study, the focus is on how religion affects development in adolescents on a sexual orientational level. The phase of life known as adolescence is where the most physical, mental, and emotional development happens. This is also the stage of life where people start discovering who they are on an individual scale. This research is being conducted to examine how the views on sexual orientation in Christianity and Catholicism impact the development of sexuality in an individual who is brought up in either, or both religions.

Seeing as this is a pinnacle point in the growth of human beings, this study will research the views from the past, the religious views from the present, and how these two eras of religion differ and are similar. Then, using the timeline given, the religious viewpoints will then be taken into account on how they affect the human psyche during this developmental period. Using this information, it will be reasonably understood how much religious views and beliefs affect and/or inhibit sexual orientation and growth in adolescence.

Mya Bell, Purdue University Northwest

An Investigation into Revolutionary and Post-Revolutionary Propaganda in Mexico

In the years leading to the start of the Mexican Revolution in 1910, much of the population lacked the right to a good quality of life, representation for change, freedom, and even safety from violence under General Porfirio Diaz's government. The hardships, injustices, and emotions faced by the people of Mexico fueled the revolution that led to the overthrow of Diaz and 10 years of conflict as various groups fought to create what they believed was a robust nation. Throughout the revolution, the perspectives of unique individuals were captured through art, music, writings, and additional forms of creative expression. These artifacts now illustrate the history and culture of a nation to individuals across the globe, but in their time, they were used to spread information, provoke action, and advocate for the inequalities and changes needed for the country. This project provides a unique perspective on what is considered propaganda, accounting for varying perspectives on the term's definition. Propaganda has been utilized to promote political beliefs, share perspectives, demonstrate unity, work to enforce traditions, and inspire change. Throughout its many objectives, each piece comes from an individual or group's shared experiences or objectives for the Revolution and Mexico as a whole.

Savannah Benitez, Purdue University Northwest

Ai in Marketing - Can People Really Tell the Difference?

My poster presentation will be research focused and will delve into the use of Ai in marketing efforts. With the advance of technology, Ai has been more widely used. With the additions of Chatgpt, OpenAi, segment, and more, Ai has been shaping the way marketing works. The purpose of this research is to look at the benefits of Ai used in marketing as well as the negative effects/outcomes it has. It will also look at whether people can tell the difference between an artificial intelligence voice and its ideas in comparison to an actual human. This research will really focus on marketing efforts such as verbal language in ad descriptions, automated ideas from robots, and looking at real world examples and how artificial intelligence has improved or backfired their marketing. Through the use of one focus group with people of any age, gender, and ethnicity, they will see two different examples of an ad designed by artificial intelligence, an ad designed by a marketing student, and an ad that consists of a mixture of both. This focus group will know Ai is being used and will point out their favorite ad as well as the ad they feel was made by Ai. The next focus group will not be told Ai is being used and we would see if opinions changed from the first focus group. This research will help understand whether people can tell the difference between an Ai voice in marketing in comparison to a human's voice. It will also look into if Ai and a human mixed together are a great combination in marketing. This information overall will help determine how beneficial or negative Ai is in marketing ads. Our results may show us how effective Ai use is in marketing and if people really notice when it is used. As Ai in marketing is growing, it is important to understand how we can use it and what we should avoid. Additionally, strategies for how to effectively use Ai in marketing will also be presented.

Bradley Bieniak, Purdue University Northwest

Apple AirPods and the Environment

Apple's wireless AirPods have been a popular trend since their launch in 2016, but is this wireless convenience worth the environmental risks? Through this research, the environmental impacts of Apple AirPods as well as the quality of the impact will be studied. Through a Google form, students will be asked how many pairs of Apple AirPods they have and how long they had each pair before disposing of it. This is to calculate how much the average student contributes to Apple AirPods' environmental impact. In addition, this research will cover how students can make their Apple AirPods work longer. Questions will

be asked about how long students their Apple AirPods have turned on and when they have them turned on. This is to determine how much time their Apple AirPods are on when necessary and unnecessary. Questions will be asked about how students feel they could reduce their Apple AirPods' battery usage. The purpose of this research is to inform students about the environmental impact of Apple AirPods and make them aware of the small changes they could make regarding their Apple AirPods usage to reduce the environmental impact.

Kaitlyn Boellner, Cleveland State University

Debbie Espy, Cleveland State University

The Interaction of Pelvic Stability, Landing Velocity, and Fatigue in Sauté Jumping of Ballet Dancers

Introduction: Sautés are single or double leg jumps in ballet (3). Injury rates tend to be at their highest during periods in which dancers are learning new choreography due to this training's receptiveness (4). Current research shows mixed results on the effects of fatigue on pelvic stability & landing velocity during sautés (1) & (2).

Purpose: We will explore ways to quantify pelvic stability & landing velocity during sautés to study the effects of fatigue on these variables.

Hypothesis: We hypothesized that our methodology would demonstrate changes in pelvic stability & landing velocity with fatigue.

Methods: 13 dancers completed 16 consecutive single-leg sautés. Data was collected & exported with Cortex (Motion Analysis Corp. Rohnert Park, CA) and further analyzed in Excel (Microsoft Corp. Redmond, WA).

Results: No statistical effect for fatigue on landing velocity or pelvic stability was found via a paired two-tailed t-test with 0.05 significance level.

Conclusion: No statistical effects were shown on landing velocity or pelvic stability in the frontal or sagittal plane. There was too much variability within the data to find meaningful results. The dancers varied in ballet experience which may have affected results.

Future research should have a larger sample group and less variability in experience between dancers. To better understand how fatigue affects jumping in ballet, researchers should study combinations commonly found in ballet class sequences.

Mary Burton, University of Indianapolis

The Effects of Language Barriers on Patient Care

Language barriers refer to difficulties in communication often experienced by individuals who speak different languages or dialects. The healthcare system in the United States has guidelines and procedures to break down these barriers. However, whether these procedures are followed properly or are the most helpful methods for the patient are to be determined. These deficiencies in the healthcare system are dangerous and pose a threat to patients who speak different languages than their healthcare provider. There is a lack of research on the perspective of Spanish speakers and what they feel will best meet their needs. To better understand the patient experience of Spanish speakers, interviews and observations will be conducted with staff and patients at the Gennesaret Medical Clinic as well as the Heart and Soul Free Clinic. It is predicted that medical personnel want to provide better care for their Spanish speaking patients but are unable to due to flaws in the systems such as time constraints. Some patients will be satisfied with their care, while others will not, depending on their demographics and English language capabilities. The findings in this study will be helpful to the owners and employees of both clinics to help provide better care. This information can then be passed to other clinics to help solve the systematic issues in the healthcare system and could open up ops and/or policy recommendations.

Naomi Chan, University of Indianapolis
Lee Hernandez, University of Indianapolis
Nick Soltis, University of Indianapolis
David Styers-Barnett, University of Indianapolis

Distribution of Heavy Metal Concentrations in the UIndy Garden

With the known danger that heavy metals pose on various organisms and their environment; the purpose of this study is to analyze soil lead concentrations in the University of Indianapolis (UIndy) Community Garden which resides on the land of a demolished residence containing lead paint. Several series of lead, cadmium, zinc, titanium, and arsenic standards were run through the Microwave Plasma Atomic Emission Spectroscopy (MP-AES) instrument to ensure the accuracy of the instrumentation. Furthermore, control and sample digestates were obtained by following the Environmental Protection Agency (EPA) Method 3050a for nitric acid digestion. Following this methodology, various soil samples from a transect of the garden were digested and analyzed for their respective heavy metal concentrations using the MP-AES instrument. Through the utilization of a geographic information system (GIS), the concentrations will be spatially mapped to analyze the distribution of lead along a transect of the UIndy garden.

Jae Evans, Cleveland State University

Socioeconomic Factors Affecting the Recidivism Rates of Indigenous Americans

By examining several socioeconomic factors relating to the daily lives of Indigenous Americans, we can demonstrate a link between these disparities and the rates of recidivism among this population. Focusing on four key determinants - unemployment, poverty and housing insecurity, access to substance abuse treatment and the prevalence of substance abuse, and access to legal representation – this research aims to unravel the intricate web of factors facing this distinct population and define an association to incarceration trends. Throughout the research, we aim to understand how both limited resources and cultural considerations impact the potential for success among the Indigenous population, particularly in connection to the legal system. The incorporation of both quantitative and qualitative research methods, namely surveys, interviews, and data analysis, allows for a more expansive view on this topic while simultaneously committing to proper and sensitive communication regarding these communities. A population that is often forgotten about or dismissed in academic discussions on race, privilege, and the incarceration system, this presentation additionally intends to highlight the disparities faced by this population overall. By shedding light on these interconnected socioeconomic factors, the presentation aims to ultimately inform policy discussions and initiatives aimed at fostering a more equitable and just environment for Indigenous American individuals involved in the criminal justice system.

Chimdera Ezeani, University of Indianapolis

Synergistic Battery Management Systems for Lithium-Sulfur Batteries

This research project focuses on the exploration and creation of an integrated battery management system (BMS) specifically tailored for Lithium Sulfur (Li-S) batteries. The heightened interest in Li-S batteries arises from their impressive theoretical energy density and the promise of cost-effectiveness. Despite these advantages, Li-S batteries encounter hurdles like limited cycle durability and modest power density. This study aims to address these obstacles by investigating an off-the-shelf BMS that can counteracts these limitations but also augments the overall performance of Li-S batteries.

The BMS will be a multifaceted system that is a harmonious blend of hardware and software elements, encompassing an array of components such as specialized sensors, microcontrollers, and cutting-edge machine learning algorithms. These components will collaborate seamlessly to facilitate real-time monitoring, intricate control, and intelligent optimization of Li-S battery operation. The key deliverables

include demonstrating the synergistic BMS with both battery chemistries on a breadboard and in a small drone. The BMS's success will be measured by its ability to effectively control dual battery chemistry, ensure successful drone operation, and improve flight duration compared to single battery setups. The project's significance lies in advancing energy storage technology and enhancing the performance of Li-S batteries, contributing to renewable energy and electric vehicle applications.

Hunter Galvin, Central Michigan University

Eric Petersen, Central Michigan University

Kaylee Taylor, Central Michigan University

Biosensor optimization through optimized cellular trafficking proteins

Optical imaging is an evolving method and promising technology to enhance indications of biological processes and study biological function and disease conditions. Through the use of discrete membrane trafficking proteins, protein-based biosensors can be improved for their ability to report more specific cellular processes and utilized to efficiently observe biological mechanisms and the movement of neurotransmitters (Petersen et al. 2022). Neurotransmitters are biologically significant because they are the chemical communicators between nerve cells. These neurotransmitters can be prevalent and causative of bioluminescence, which is the production of light by a living organism. The common problem within the imaging of these in targeted cells is that there is not enough necessary research and utilization of possible membrane trafficking peptides to observe the neurotransmitter movement. The purpose of this experiment is to enhance the existing bioluminescence of the glutamate sensor. The imaging of the engineered sensors can be adapted and improved through including new enzymatic and genetic combinations in response to different wavelengths of light. Identifying these pathways and optimal signaling is important because analyzing the abundance of neurotransmitters and their locations can be useful in identifying current or potential future conditions such as Alzheimer's or neurodegenerative diseases/conditions (Kabir et al. 2018). To address this problem, the BLING (BioLuminescent Indicator of the Neurotransmitter Glutamate) construct was augmented with the addition of GPI inserts, COBL9 and NGR. The introduction of some GPIs to current bioluminescent sensors has proven to be beneficial in neurotransmitter identification and enhanced cellular luminescence and shows promise for additional testing and clinical application.

Chloe Garner, Indiana University South Bend

The Great Hunger: An Exploration of the Impact of the Great Famine on Irish Identity

This paper discusses the impact of the Irish Famine through a lens of colonization and intergenerational trauma. The paper incorporates historical Irish literature to establish the baseline of Irish identity, highlighting the low self-esteem and shameful qualities English rulers pushed onto the Irish people. A historical context is brought into consideration as well, including modern perspectives from personal study-abroad experiences in the cities of Dublin and Galway, to note the impacts of the famine on the country. The paper then addresses and identifies the qualities of Irish culture that resulted from the famine, highlighting the intergenerational trauma inherited from survivors of the famine, and shares the recent developments made towards healing from the famine trauma taken by the nation.

Ashley Gomez, Purdue University Northwest

The Impact of the High Ability Label on Young Learners in Third and Fourth Grade

High ability is a term that is often used to label students who are gifted or above average in a certain content area but does the term have a negative impact on a student's mental health? This research aims to study the effect of the label high-ability on elementary school students. Additionally, this research will focus on comparing the levels of stress between high-ability students and students who are not labeled as being high-ability. Through a Google form students in third and fourth grade will answer questions pertaining to the stressors affecting their learning. This research will focus on the many possible stressors that children might be experiencing. The stressors being evaluated are parents, teachers, peers, environment, and one's own self. In order to evaluate parents being stressors, questions will be asked about how involved parents are in the students' learning, how much parents ask about grades, and how that makes students feel. To evaluate the environmental impact on the student's stress levels, questions about how safe they feel learning in the classroom will be asked. Additionally, questions about interactions with peers and teachers will be asked regarding the classroom environment. Lastly, questions about how much stress students put on themselves to maintain good grades at school will be asked. Using the information from the Google form, the major causes of students' stress levels will be determined, as well as if there is a difference in the types or levels of stress between high-ability and general education classrooms. After analyzing the data, strategies to help support high-ability students in developing coping mechanisms and academic skills to lower stress levels will be presented. If all students are experiencing the same levels of high stress, strategies will be presented on stress reduction for all students. Additionally, strategies for teachers to support stressed students will be presented.

Crystal Grasso, Ivy Tech Honors College

Modernizing Mental Health

Mental Health Matters. According to the National Alliance on Mental Health, "22.8% of U.S. adults experienced mental illness in 2021 (57.8 million people). This represents 1 in 5 adults" (NAMI, 2023). Many individuals do not know where or how to reach out for help because resources and information are limited. NAMI additionally states, "25+ Million rural Americans live in a Mental Health Professional Shortage Area, where there are too few providers to meet demand" (NAMI, 2023). Technology can bridge the gap of limited access to resources, providing better care for those who struggle with mental health. This poster project presents innovative ideas of ways we can combine computer science and psychology to help advance the mental health field. These ideas will help not only the general public but doctors, therapists, and researchers alike. My hope with this presentation is to pique the mind and raise awareness of how we can modernize the mental health field. Everything starts within the mental realm; when the mental realm is cloudy, so is a person's life. Let us continue to clear the way for those who have limited access to resources.

Hannah Ingraham, Purdue University Northwest

The Controversy Behind the Cost of Insulin in the United States

Diabetes Mellitus (DM) is a group of metabolic disorders that result in hyperglycemia due to the inability to secrete or cellularly respond to insulin in the body (Norris, 2019, p. 1073). For patients diagnosed with DM, they often are prescribed insulin shots to help maintain their blood glucose levels and obtain hemostasis. Therefore, this makes insulin mandatory for patients to administer. Pharmaceutical companies saw this necessity as an opportunity to make a profit, despite the fact that they did not put in any funds towards the findings of insulin for medical purposes. This discovery was done by Sir Frederick G. Banting, Charles H. Best, and James B. Collip at the University of Toronto, which they decided to not patent on their discovery in hopes to keep insulin affordable for those who need it (Pierre & Rostène, 2021, p. 517). The decision that

was made a century ago by pharmaceutical companies has left a major controversy in this country with the cost of insulin today. Presently, the price of insulin has become almost impossible to pay without adequate insurance to cover the costs, which leaves many diabetics to either use their insulin sporadically or not at all. This increases the mortality rate of diabetics, despite all the resources that have been found over the years (Rajkumar, 2020, p. 22).

Catlyn Kauffman, Hiram College

Phidippus audax Cognitive Planning Capabilities

Jumping spiders are noted for their large and well developed anterior median eyes, used in active stalking and prey capture. Tarsitano et al. (1992) showed that large tropical jumping spiders of the genus *Portia* can navigate simple mazes via visual cues to plan attacks on prey. For this project, we raised the local jumping spider *Phidippus audax* to see if these classic results could be replicated. *P. audax* was found to be able to navigate similar mazes to capture live prey but would often stop mid pursuit if there was no movement. Altering the task to include escape from an island set in a small moat, the spiders proved their ability to plan complex escape routes using visual stimuli. From a single central island, the spiders could make multiple jumps to several subsequent islands, and select the correct route based on visual cues as to distances between islands. Being smaller than *Portia* spp., their visual acuity is more limited, and the mazes have to be smaller. Our data show that *P. audax* are highly motivated to escape, even jumping across multiple islands were placed in series. Preliminary results show that *P. audax* are capable of preplanning escape routes and choosing optimal routes. The cognitive abilities of jumping spiders remain a rich area for further research.

Carly Landon, Indiana University South Bend

Doll therapy as a nonpharmacological intervention for behavioral and psychological symptoms in residents with moderate-severe dementia in skilled nursing facilities

Doll therapy as a nonpharmacological intervention for behavioral and psychological symptoms in residents with moderate-severe dementia in skilled nursing facilities

Carly Landon, Indiana University South Bend

The prevalence of behavioral and psychological symptoms of dementia (BPSD) highlights the importance of safe and effective nonpharmacological interventions, with doll therapy emerging as an innovative treatment. Despite evidence supporting nonpharmacological interventions as the first line of treatment, psychotropic medications are overprescribed and exposing residents to severe cognitive and health risks. Two randomized control trials and one cohort study were evaluated to identify the impact of doll therapy on BPSD in residents with moderate-severe dementia residing in skilled nursing facilities. The studies demonstrate significant improvements in BPSD, supporting the clinical significance of utilizing doll therapy over the standard treatment of psychotropic medications. The social ecological model is utilized to analyze the impact of doll therapy at the individual, relationship, community, and societal levels. The Theory of Planned Behavior is also applied to understand the factors influencing staff attitudes and behaviors regarding nonpharmacological interventions. This theoretical framework supports the translation of the evidence shown into the actual daily practice of professionals. This research contributes to the ongoing enhancement of dementia care through innovative, person-centered approaches that promote the well-being of both residents and caregivers in skilled nursing facilities.

Emily Loney, Ball State University

Building an Honors Colloquium: The Evolution of the Horror Genre of Two Centuries

At Ball State University, students are required to take two upper division classes called ‘Honors Colloquia.’ Each of these classes are very student-focused, allowing for in depth study into a topic that may not be offered in other curriculums. These colloquia often focus on the exploration of the relationship between culture and art, and how it affects the people involved. During the spring semester of 2024, I worked closely with Dr. Brent Blackwell in order to develop one of these courses that focused on the evolution of the horror genre over the past two centuries (roughly the 1830s to 2014). Through this fellowship, I had to familiarize myself with the genre itself as well as the process of creating an undergraduate class, as I hope to eventually teach at the college level. I weighed the impact of the intellectual material on the surrounding culture and ultimately decided which benchmarks of horror film, literature, and other primary/secondary sources would be best to include in a 16-week course. Under the guidance of Dr. Blackwell, I was taught how to prepare objective material but also how to run discussions, manage student-run group work, and how to create interesting and effective assignments. I’m expected to understand the ins and outs of all of the material included in the colloquium course, as well as the foundational horror material that was cut from the final syllabus, which would be required of me to teach the course. I hope to present my findings in the form of a poster presentation that is open to questions and one-on-one discussion, allowing me to explain the challenges I had as well as the new skills developed during this rewarding experience.

Rebecca Mansell, Cuyahoga Community College

Techniques to reduce pain and anxiety in phlebotomy patients, and the feasibility of dried blood spot technology

There are many research studies that examine ways to reduce phlebotomy or other procedural related anxiety and distress in children, but not much research exists on reduction of stress in the adult population. My experience working in inpatient phlebotomy has shown me that many adults also experience anxiety with phlebotomy. This anxiety is amplified when hospitalization requires repeat lab draws in close succession and may lead to patients refusing their lab work and delaying important diagnostics. This poster examines existing research to find techniques that may help patients of all ages reduce anxiety. It also explores the feasibility of dried blood spot technology to reduce the amount of blood needed for critical tests, and to reduce anxiety associated with lab work.

Emily Maskill, Central Michigan University

Synthesis and Characterization of Trehalose-Biotin Conjugates as Potential Detection Reagents for Mycobacterium tuberculosis

Diagnosis of tuberculosis is a slow and complicated process because it takes weeks to culture the causative bacterial species, Mycobacterium tuberculosis (Mtb). New tools for rapid and specific detection of Mtb are needed. Trehalose is a sugar that is uniquely metabolized by Mtb into cell surface glycolipids, a process which can be exploited for specific detection. For example, azide- and fluorophore-modified trehalose analogues metabolically incorporate into the cell membrane to allow for visualization of bacteria. In this project, trehalose-biotin conjugates with variable length PEG linkers were synthesized to enable testing of the compounds as potential Mtb detection tools. The biotin molecule, once incorporated into the bacterial surface, is hypothesized to facilitate the rapid, selective, and amplifiable detection of Mtb from complex samples by using biotin-binding avidin reagents.

Claire Miller, Ohio Northern University*Effects of Psilocybin on Context-Based Fear Learning, Extinction, and Reinstatement*

Many psychological stress disorders, including Post Traumatic Stress Disorder (PTSD) are linked to the abnormal development, storage, or extinction of fear memories. Fear memories linked to trauma can reflect the details of the traumatic event (cue-based fear) or the environment in which the trauma occurred (context-based fear). Context-based fear is understudied as a whole, especially as it pertains to potential treatments and therapies for PTSD. One such potential psychopharmacological treatment, the serotonergic 5-HT_{2A} agonist psilocybin (colloquially known as ‘magic mushrooms’), has been linked to increased fear extinction in cue-based fear trials. The current study assessed potential uses of psilocybin to enhance fear memory extinction with a context-based fear paradigm in rodents. Significant data was found during early extinction trials, but not long-term retention trials, and more work with sex- and dose-dependency effects will be tested in future studies.

Grace Murphy, Ball State University*The Library: An Architectural Exploration of Community and Green Design*

What does it mean to be a modern library? This question was the basis of design for the 120,000sq ft library located in Cincinnati. The city of Cincinnati has a long history of beautiful libraries. The original main branch of the library was built in 1874, but sadly demolished in 1955. This building draws inspiration from this historic building and reinterprets it with modern materials. The building's tall arches and three-story atrium emphasize light and verticality throughout the space. The fins that make up the roof draw inspiration from the shape of the Ohio river and its constant movement. The building also has an emphasis on green design. There are solar panels placed along the fins to create energy. Daylighting strategies are incorporated throughout the building. The building also focuses on water by collecting roof water to use in building functions, the incorporation of green walls, and the reduction of runoff through rain gardens and limited hardscape.

Ashlyn Nagel, Central Michigan University*Effects of the Otago Exercise Program on the Mood of Older Adults*

The Otago Exercise Program (OEP) is an evidence-based program that works to strengthen muscles and improve balance among the elderly population. While the physical benefits of the program have been extensively studied, little research has been done to evaluate the psychological benefits. The purpose of the present study was to examine (1) whether participation in the OEP produces an enhancement in mood state, (2) whether any effects persist 24 hours later, and (3) the motivational factors for initiating, implementing, and maintaining physical activity behavior. The study utilized five different senior centers where Otago exercise classes were held. This constituted 30 individuals aged 65 and older. The Profile of Mood States (POMS) inventory was used to assess total mood disturbance immediately before and immediately after completing the exercise program. The POMS inventory was also completed the following day while the participants were at home. Analysis indicated a significant beneficial effect of the OEP on mood, particularly tension, vigor, and confusion. 24 hours later, total mood disturbance had not fully regressed to pre-exercise levels. In addition, semi-structured, individual, qualitative interviews were conducted with five participants. Analysis, as suggested by Malterud in Systematic Text Condensation, emphasized that commitment and obligation were motivational in initiating physical activity. This data will contribute to the growing field of exercise-based research. It will also add an additional component to the review of the Otago Program thus informing researchers of the best practices for implementing and encouraging physical activity.

Ananya Pendela, University of Indianapolis
Kavitha Anbarasu, University of Indianapolis
Michelle Surma, University of Indianapolis

The Role of Proteasomes and Lysosomes in Maintaining Mitochondrial Homeostasis in Human Pluripotent Stem Cells

Ubiquitin Proteasome System (UPS) and lysosomes are central for cellular quality control and defects in these pathways lead to neurodegeneration and developmental issues. Our lab has shown human pluripotent stem cells (hPSCs) are highly sensitive towards UPS inhibition while differentiated retinal ganglion cells (RGCs) are for lysosomal inhibition (Das et al; Redox Biol, 2020). This indicates there is a transition in cellular quality control pathways from UPS to lysosomes during stem cell differentiation. Here, our aim is to investigate the contribution of the UPS and lysosomes in degrading damaged mitochondria in hPSCs for maintaining mitochondrial homeostasis. This study will reveal the mechanism of maintaining mitochondrial homeostasis in stem cells, which is critical for their differentiation and pluripotency.

Makenna Poindexter, Ball State University

Books Behind Bars: Bridging Boundaries Through Literary Connections Between University Students and Incarcerated Individuals

Reading is one of the greatest tools that can be utilized to help foster a sense of community and compassion amongst people of different backgrounds. Delving into existing studies on programs that connect universities and American prisons, this presentation examines how these initiatives contribute to incarcerated individuals' educational and social well-being. Emphasizing the importance of reading accessibility for those behind bars, this presentation also explores the unique role books play in fostering personal growth and resilience within the prison environment. Through reciprocal learning experiences between university students and incarcerated individuals, these initiatives not only contribute to a more informed, empathetic, and equitable society, but they also play a crucial role in humanizing those behind bars. By rekindling a sense of compassion from those on the outside, these efforts challenge societal perceptions and in our current society which is marked by the need for criminal justice reform, this humanizing aspect becomes pivotal in reshaping narratives and dismantling stereotypes surrounding incarceration. These initiatives create a profound rippling effect, shaping a future where education transcends boundaries and compassion redefines our collective narrative.

Leilany Porrata, Purdue University Northwest
Fatima Esquivel, Purdue University Northwest
Stephanie Martinez, Purdue University Northwest
Nia Valdez, Purdue University Northwest

The Effect of Cultural Awareness Education and How It Increases Competency Among New Graduate Nurses

The Nursing Leadership & Management course teaches the theories and evidence-based practices related to leadership, organization, and management that are examined in the healthcare field. During the semester, I will be taught specific strategies for effective time management, priority setting, decision-making, career planning, and delegation. These approaches to the evaluation of quality nursing practice within a complex work environment will allow for better comprehension of various roles I may attain in the future as a nurse. The basis of my research project is structured using a nursing mnemonic called PICO (patient/population, intervention, comparison, outcomes) that embodies all the components of a well-rounded clinical question. The breakdown is as follows: Population/Patient: New graduate nurses; Intervention: Cultural awareness education or training; Comparison: Conventional nursing education without a specific focus on cultural

awareness; Outcome: Examining the impact of cultural awareness education on enhancing cultural competence among new graduate nurses during their transition to professional roles. The project aims to be a teaching component for first-year nursing students and concepts that students further along in the nursing program value as important. Cultural awareness is an essential piece in any field but critical in health care. Every patient comes from a different background, ethnicity, race, religion, language, and culture. Being emotionally intelligent and knowledgeable allows nurses to become better caretakers for their patients by recognizing their holistic wants and needs. My intended goal is to enhance the grasp of this topic for both future nurses and students to recognize and utilize in their respective careers.

Adeline Roberts, Bellarmine University

A Perfect Model: Exploring Gender Differences within Commercial Graphic Design Preferences

Personal preferences regarding a variety of subjects are shaped by social factors, including culture and environment. This includes a person's social demographics, and the experiences they encounter being raised within a particular community. This project explores the effect of gender on visual design preferences, by establishing the elements preferred on average by men and women within advertisements and product packaging. The source of these preferences are also explored, as these variations often stem from cultural influences, such as gendered marketing. These results are demonstrated via two contrasting magazine covers, visually illustrating the effects of social demographics on personal design preferences.

Ashley Rojas Romero, Indiana University South Bend

Yilei Qian, Indiana University South Bend

Acid Tolerance and Resistance to Oxidative Stress in Oral Bifidobacterium and Streptococcus Species

Bifidobacterium is a genus of beneficial bacteria that primarily reside in the human gastrointestinal tract, but some species have also been found in the oral cavity. One such species, Bifidobacterium dentium, has been found not only in the intestines, but in dental caries as well. Compared to other narrow-range intestinal bifidobacterial species, B. dentium was found to produce a high level of polyphosphate granule (PolyP) in sucrose even under reducing conditions. We hypothesize that its PolyP-producing ability could contribute to its resistance to oxidative stress and acidic pH in the oral cavity. This hypothesis was tested in three species: B. dentium, Bifidobacterium longum (intestine-only), and Streptococcus mutans (a common cariogenic pathogen). Culture media were designed to mimic oral cariogenic conditions, such as the use of sucrose ("table sugar"), and calcium phosphate (the major component of tooth enamel). Acid-tolerance and oxidative stress experiments were carried out in these three organisms. Results indicated B. dentium had a higher acid tolerance than B. longum and S. mutans under both PolyP producing and non-producing conditions. The granule-producing cells of B. dentium and B. longum were also more acid-resistant than the non-granule-producing cells. The two bifidobacterial species also demonstrated a greater resistance to hydrogen peroxide under granule-producing conditions. S. mutans, an aerotolerant species, was the most resistant to hydrogen peroxide. We concluded that the high-level granule production in B. dentium might contribute to its survival in unfavorable environments outside the intestines.

Abby Sanders, Purdue University Northwest

"The Talk"

A menstrual cycle is a prominent memory of every female's life. When a female first spots blood in their underwear, they seek guidance and support from other female role models in their social environment. When guidance from others is not applicable or seems unavailable, it is in our best hopes that the school education systems prepare students with the proper knowledge and skills of menstrual cycle health, maintenance, and education for the well-being of all students. In Indiana, no classified policies,

requirements, or guidelines are set in place to educate students about menstrual health or maintenance. It is up to every school district to determine if and how they would like to educate their students about menstrual cycle education. This research dives into the current Indiana Department of Education codes that may correlate with menstrual cycle education, as well as the improvements and long-term effects of providing adequate menstrual cycle education to adolescents. The goal of this research is to advocate for improvements in Indiana's menstrual cycle education on behalf of the overall well-being of females. Important changes in the female body can go unrecognized for far too long, once realized it can be too late. Improvements in menstrual cycle education can be used as a preventative strategy. Discussion of menstrual health in education systems will overall lessen the taboos and stigmas of what should be viewed as healthy and normal.

Kaitlyn Sears, Central Michigan University

The Integration of Religious Concepts & Autism Spectrum Disorder

A diagnosis of Autism Spectrum Disorder can mean daily struggles in communication and life skills for the person diagnosed. For these individuals, typical treatment methods can be found through therapies and spending time with specialists. While these methods are proven to be effective, what if there was another method of treatment that could be used to help these individuals gain skills and quality of life? The goal of this research is to answer that question within the concept of religion. This research aims to enhance understanding of how those with Autism Spectrum Disorder conceptualize religious concepts, and if that conceptualization plays a role in improving their communication with others and their personal well-being. Previous research studying how those with ASD engage with religion and religious concepts was analyzed to understand how these interactions can have lasting benefits. Using a base of established treatment methods for those with ASD, ideas for new treatment methods that integrate religious concepts were proposed.

Megan Swain, Hiram College

Examining the Benefits of Wool Pellets for Soil Health and Plant Growth

The presentation will focus on Senior Capstone Research conducted in Spring 2024. The goal of the research is to gain a better understanding of the effects wool pellets have on plant growth and overall nutrients found in soil. This research is especially interesting in the context of organic farming. Wool pellets are a natural fertilizer that release nitrogen and aerate the soil. To test the effectiveness of wool pellets, 40 plants (half control, half wool pellets) are being growing over a 12-week period. After and during the growth period, soil nutrients and plant height will be measured. It is hypothesized that there will be a significantly larger increase in nutrients like Nitrogen levels as well as stem height in the plants that have wool pellets in their soil.

Kaitlyn Vasilko, Purdue University Northwest

Combating the Mental Health Crisis on University Campuses: Mental Health Rooms and Art Therapy

America is currently facing a mental health crisis caused in part by stressors resulting from the COVID-19 Pandemic. Adequate resources are not available to manage the mental health of Americans and specifically college students, who do not have access to the resources they need on campus to support their mental health. One in three college counseling centers are not able to meet the needs of students due to extended waiting lists. Earning a college education is crucial to be successful at a wide range of careers; thus, it is vital that students have access to the resources they need to stay on track and earn the most out of their education. Art therapy and/or art as therapy, has been found to be beneficial to mental health. Further, the designation of "mental health rooms" at colleges and universities, which may utilize art therapy, music, and

other de-stressing practices, have been identified as critical solutions to address the college mental health crisis. This presentation will dive deeper into literature on these topics and detail the results of a survey of Purdue University Northwest (PNW) students, which was conducted to explore students' current mental state and access to mental health resources. The presentation will also outline our proposal, informed by our survey and literature review, for mental health/art therapy rooms on the campuses of PNW.

Kaitlyn Vasilko, Purdue University Northwest

Toxic Waste Dumps and Intersectionality

Solid waste dumps hold non-toxic waste in the form of solid, semisolid, liquid, contained gas, garbage refuse, sludge and other materials discarded from businesses and homes, whereas Toxic waste dumps contain waste that is hazardous and therefore require procedures to ensure the public safety and are mandated by established environmental regulations. For this study it was hypothesized that both toxic waste and solid waste dumps in Lake County, Indiana are disproportionately located north of I-80, which bisects the country. A standard of 67.67 percent of such dumps was set to confirm disproportionate location of each category of waste dumps. However, after locating 11 toxic waste dumps and another nine solid waste dumps in the county, it was found that the toxic waste dumps, which are more harmful to human health and which are located in communities of color and of poor whites, were disproportionately located in north Lake County, while the solid waste dumps were more equally distributed across the county. Thus, the findings regarding toxic waste dumps confirm previous findings in the literature. Moreover, through reviewing the literature and meeting with a community activist, it has been found that toxic waste dumps are more likely to be placed North of I-80 than South of I-80 and this placement is correlated with ethnicity as well as income; more toxic waste dumps are placed in communities of color and low-income people of all colors. This poses major negative effects on the health of individuals living in what are known as sacrifice communities. To fix the inequality when it comes to environmental justice, we must all do our part to participate in acts of resistance, force EPA comprehensive testing, conserve our resources and recycle more. We also need to find new ways to turn the toxic chemicals we produce through industrial activity into something non-toxic.

