



SCHOLARSHIP, PERFORMANCE, INNOVATION,  
RESEARCH AND EXPERIENCE SYMPOSIUM



# SPIRE Symposium

Monday April 15, 2024

*Featuring presentations from SAFIRE*



## SAFIRE

STAFF AND FACULTY  
INNOVATION & RESEARCH  
EXHIBITION

# The Program

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## **Poster Presentations**

9:00 A.M. – 9:45 A.M.

Whitaker Campus Commons

## **Break – 9:45 A.M. – 10:00 A.M.**

## **Oral Presentations – Session 1**

10:00 A.M. – 10:45 A.M.

Beneficial-Hodson Library and Learning Commons

## **Oral Presentations – Session 2**

10:55 A.M. – 11:40 A.M.

Beneficial-Hodson Library and Learning Commons

## **Oral Presentations – Session 3**

11:50 A.M. – 12:35 P.M.

Beneficial-Hodson Library and Learning Commons

## **Break – 12:35 P.M. – 1:15 P.M.**

## **Poster Presentations**

1:15 P.M. – 2:00 P.M.

Whitaker Campus Commons

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## **Oral Presentations Session 1: 10:00 A.M. - 10:45 A.M.**

Beneficial-Hodson Library and Learning Commons

### **Boardroom (Library room 2006)**

#### **Psychology Internship Experiences**

Bree Gobell, Catherine Melendez, Yvonne Baker, Jack Crehan (Psychology)

Faculty advisor: Erik Messinger

In this panel, psychology majors will share their internship experiences working with By Your Side Counseling LLC, Generation Hope, Goody Counseling Services LLC, and Sheppard Pratt. Each presenter will share their experience for approximately 10 minutes to discuss what the internship entailed and what was learned.

### **Tutoring Center (Library room 1026)**

#### **The Effects of Beavers on Aquatic Parameters**

Olivia Campbell (Biology)

Faculty advisor: Drew Ferrier

In Fall 2023, my research group and I conducted a semester-long project for our Coastal Studies curriculum. Today, I will discuss our findings on the ecological impacts of beavers and the benefits of enrolling in Coastal Studies. We believe reintroducing beavers in Frederick, MD can help improve aquatic parameters.

#### **Learning to Lead: Student Experiences with the Osgood Center for International Affairs**

Noah Turner, Isabella DiPietrantonio, Maura O'Malley-Young, Samantha Miranda, Alayna Hernandez

Faculty advisor: Paige Eager

A panel discussion about Hood students' experiences with the Osgood Center for International Studies. The Osgood Center has been home to many outstanding programs of leadership and international relations. It provides the opportunity to learn and make network connections with highly accomplished individuals and service organizations across the globe.

### **Library Room 2028**

#### **Mental Health Disparities in Rural vs. Urban Areas in the U.S.**

Tylere Hubbard (Health Sciences)

Faculty advisor: Yewande Oladeinde

This research delves into the stark differences in mental health services between rural and urban areas in the U.S. during the 2020s, emphasizing accessibility, quality of care, and prevalence of conditions. Through systematic review and data analysis, it uncovers key factors contributing to these inequities, offering insights for intervention.

#### **Navigating Healthcare's Workforce Drought**

Chanelle Lee (Health Sciences)

Faculty advisor: Yewande Oladeinde

Healthcare worker shortages, compounded by rising demand and an aging population, place significant strain on the system. Patients face longer wait times, reduced access, and compromised care quality. Main causes include insufficient training capacity and burnout. Solutions entail increasing education funding, offering incentives, and improving work conditions to attract healthcare professionals.

## **Addressing Dementia to the US Population**

Bithssie Etienne (Public Health)

Faculty advisor: Yewande Oladeinde

Throughout the paper, we will address the challenges facing dementia patients in the US population, such as loneliness, sadness, and aggression because they do not feel understood. With the public health approach, we can develop a good quality of care by providing education to help caregivers with available services and support in the community.

## **Oral Presentations Session 2: 10:55 A.M. - 11:40 A.M.**

Beneficial-Hodson Library and Learning Commons

### **Board Room (Library room 2006)**

#### **Predicting Hospital Readmission and Phenotyping Patients with Obstructive Sleep Apnea and Other Comorbidities Using Natural Language Processing**

Carrie Wasieloski (Computer Science)

Faculty advisor: Aijuan Dong

Obstructive Sleep Apnea (OSA) is a sleep disorder associated with serious health conditions. Our project utilized the BlueBert language model to identify tetragrams specific to OSA subphenotypes. Additionally, we trained a Logarithmic regression model for predicting hospital readmission for patients using doctor's notes.

#### **A Comparative Study of Natural Language Processing Techniques in Diabetes Mellitus Mortality Prediction**

Sophia Isabel Ferrer, (Computer Science)

Faculty advisor: Aijuan Dong

Diabetes mellitus (DM) is a major public health concern associated with longer hospital stays and increased mortality rates. My research explores various natural language processing (NLP) techniques in analyzing unstructured data for predicting mortality associated with DM. This study provides insight into NLP applications in critical care and patient care.

#### **"What if" I treat my OCD? & CBT-ED for Anorexia Nervosa**

Caroline Roberts, Brianna Gobell, Angelica Sauer, Ariana Armstrong, Valeria Trujillo, Guin Schipper, Niki Etchison, Alyssa Peters, Ashley Stevens (Psychology)

Faculty advisor: Stephanie Masters

Our groups have created videos to advertise the efficacy of ERP and Fluoxetine, for Obsessive Compulsive Disorder, and CBT-ED for Anorexia Nervosa. Each of these videos will be roughly 5 minutes in duration.

### **Tutoring Center (Library room 1026)**

#### **Study Abroad in Seville, Spain**

Maria Giron, (Study Abroad)

Faculty advisor: Scott Pincikowski

I just want to show a small 30 clip of a glimpse of the study abroad experience and then explain some of the difficulties but also how it was when I was there, and try to put other students that will travel more at ease.

#### **An Introduction to the Archaeological World: Excavations at Sanisera, Menorca**

Anne Hudson, (Archaeology)

Faculty advisor: Jennifer Ross

I will present on my archaeological field school of summer 2023 at the Roman site of Sanisera. I will discuss history of the site, as well as our findings, in addition to the experience I gained in the world of archaeology from this opportunity.

## **Library Room 2028**

### **Access and utilization of the U.S. Healthcare System with Transgender People**

Shiloh Majano Santos (Public Health)

Faculty advisor: Yewande Oladiende

In the United States, access to gender affirming care such as medication, surgery, or hormone therapy is restricted. This presentation will discuss the lack of access, their inability to take advantage of the system, and fears about seeking medical attention for issues related to gender affirmation.

### **Colon Cancer rates rising in young people**

Elena Della Mea (Public Health)

Faculty advisor: Yewande Oladeinde

In the last few years colon cancer rates have been rising in younger people. Using the Social Determinants of Health, this presentation will explore why colon cancer rates are increased in young people and how these factors can possibly be changed.

### **Addressing Childhood Obesity in racial and ethnic minority/low-income families**

Min Shain (Public Health)

Faculty advisor: Yewande Oladeinde

There is a higher prevalence of childhood obesity among low-income and racial/ethnic minority groups in the United States. This presentation explores socioecological factors contributing to this disparity and emphasizes the need for targeted interventions to address systemic inequalities and promote health equity.

## **Oral Presentations Session 3: 11:50 A.M. - 12:35 P.M.**

Beneficial-Hodson Library and Learning Commons

### **Board Room (Library room 2006)**

#### **Innovative Ventures: Shark Tank-inspired Projects in Child Development**

Alyssa Brewer, Daniella Bowie, Hannah Brooks, Sidney Winpiger, Georgia Griffin, Samantha Larkin, Natallie Cabrera, Rachel Miller, Emma Boelke, Kadem Hodge, Simeon Waller, Allison Munoz-Flores, Grace Willerton, Christopher Panteleakis, Promise Green (Honors)

Faculty advisor: Sangeeta Gupta

Students will be presenting innovative Shark Tank style proposals for products or services related to human development. From prenatal care innovations to mindfulness tools for energetic children, our panel features six captivating pitches.

#### **Mental Healthcare Access in Rural America**

Allison Watt (Public Health)

Faculty advisor: Yewande Oladeinde

Healthcare access in rural communities of America is a difficult affair. Mental healthcare is less prevalent and carries stigmas in these communities. America experiences the highest rate of mental illness in the world, with 1 in 5 adults living with mental illness; with few mental healthcare facilities available outside cities.

#### **Chronic Traumatic Encephalopathy in Young Athletes**

Gabriel Fuentes-Reyes (Public Health Department)

Faculty advisor: Yewande Oladeinde

This paper is on Chronic traumatic encephalopathy (CTE). This is increasingly recognized in youth and it stems from repetitive head injuries in contact sports. It poses significant long-term cognitive and behavioral risks. There is a lot of prevention measures through early detection and modified equipment.

### **Tutoring Center (Library room 1026)**

#### **An analysis of relationships in films surrounding education: student to student, student to family, and student to teachers.**

Remy Anderson (Early Childhood Education)

Faculty advisor: Kristine Calo

Popular culture opens the door to several topics to be highlighted and dramatized. The media can make for commentary on subjects through subtle nods and symbolism. This presentation dives into school in popular culture and observes as students define their relationships between peers, family, and teachers as they grow.

#### **The Use of AT (Assistive Technology) During Social Interactions at Rock Creek School**

Augusta Pinson (Education)

Faculty advisor: Amy Kilpatrick

The purpose of researching AT use during social interactions at Rock Creek School is to provide information on frequency and quality of social interactions students participate in during the school day with peers and school personnel. Inclusion will be explored, with information provided to attendees about volunteering at Rock Creek.



### **Data into Action: Adventures in Data Science Consulting**

Shelby Hendrickson, Kailey Johnson, Elizabeth Porter (Mathematics)

Faculty advisor: Sara Malec

Organizations know their decisions should be “data driven,” but turning messy data into answers is a complicated process. In this talk, we discuss our work to analyze data collected by the Hood College Career Center to improve student engagement with the center and successfully connect students and employers.

### **Library Room 2028**

#### **The Association between diabetes and age in the development of CVD in aging populations**

Kingsly Mante Angua (Health Sciences)

Faculty advisor: Sherita Henry

This project observes the current risk factors, pre-diabetes and age, have on the development of CVD. Subject terms include hypertension, diabetes, CVD, and age. The significance of this project is related to health disparities and the comparison of one group to another.

#### **Ethical Considerations of Xenotransplantation: Balancing Risks and Benefits**

Kaitlin Beckford (Health Sciences)

Faculty advisor: Danielle Albrecht

This presentation will explore xenotransplantation, the transfer of animal organs into humans, through examining its risks, benefits, and ethical considerations.

#### **Reasons for Physician Shortage**

Brenda Romero (Public Health)

Faculty advisor: Sherita Henry

Many people think more about entering the medical field, especially about becoming a physician. My presentation will reflect on reasons why there is a shortage of physicians and ways to improve.

## **Art and Music Displays: 10:40 A.M. - 11:50 A.M.**

Beneficial-Hodson Library and Learning Commons

### **Russian Dolls**

Amanda Smith (Studio Art)

Faculty advisor: Liana Owad

My Russian Dolls sculpture is a larger recreation of a set of nesting dolls I've had since I was a child. Each doll was created using the coiling method and then fired after being meticulously painted with underglaze. I wanted to sculpt something challenging that had nostalgic value to me.

### **Nostalgia**

Amanda Smith (Studio Art)

Faculty advisor: Liana Owad

This sculpture represents the emotion of nostalgia and the bittersweetness that accompanies it. Each detail on the mask represents something that personally makes me nostalgic such as the changing of the seasons and music. The warm color scheme consisting of mostly red and pink symbolizes my tendency to view the past through rose-tinted glasses.

### **Paris**

Ashlynn Stearns (Studio Art)

Faculty advisor: Jacob Muldowney

This panorama of Paris, France was taken on the 56th floor of the Montparnasse Tower. I stitched multiple vertical pictures together to create a detailed panorama of the city with the Eiffel Tower in the center.

### **Alien Princess**

Ashlynn Stearns (Studio Art)

Faculty advisor: Jacob Muldowney

The blue and pink hues of her home planet reflect on the iridescent skin of this alien princess.

### **LEGOs**

Katherine Stang (Studio Art)

Faculty advisor: Liana Owad

Large recreations of LEGO bricks. Ceramic hand-building, made with red clay.

### **Greek-Inspired Ewer**

Katherine Stang (Studio Art)

Faculty advisor: Liana Owad

Ewer inspired by Greek pottery design and mythology. One side depicts the story of Prometheus as he is tortured by an eagle, while the other side depicts the story of Odysseus as he stabs Polyphemus in the eye. Ceramic hand-building, made with red clay.

### **Minecraft Enchanting Table**

Katherine Stang (Studio Art)

Faculty advisor: Liana Owad

Box modelled after an enchanting table from the popular video game "Minecraft". Ceramic hand-building, made with red clay.

### **Relief Prints**

Khaliah Deya (Studio Arts)

Faculty advisor: Bonnie Kern

Each piece is an iteration of the relief printmaking process that I have been studying this spring semester.

### **just a cig**

Dan Blanchfield (Studio Art)

Faculty advisor: Jacob Muldowney

A photo of my model with a cigarette in their mouth.

### **Dialogue 0 & Dialogue 36660**

Anna Martin (Studio Art)

Faculty advisor: Jacob Muldowney

An artistic investigation into the Deconstructionist notion of language and its ambiguity as inherent to the human experience. My "dialogues" are physical representations of the overlapping iterations of conversation that occur daily, altering one's perception of reality and community. These endless, futile efforts to communicate are painted into my woven grids.

### **Drawing Exhibition**

Gabby Carton, Dominic Doyle, James Endicott, Katelyn Haufe, Natalia Herbosa, Sydney Main, Keys Meeki, Shaylee Metzger, Christian Monte, Chris Pappelis, Maison Ramnauth, CJ Snair, Blanca Ventura, Sofia Younus, Echo Ambrose, Anne Hudson, Mimi Bafour (Studio Art)

Faculty advisor: Jacob Muldowney

This exhibition will present a collection of work by Hood College drawing students. Student work focuses on technical concerns, such as line quality, perspective, volume, and proportion, while also utilizing design principles to create visually compelling artwork.

### **Still Life**

Max Peterson (Studio Art)

Faculty advisor: Jacob Muldowney

How can the shifting landscape of memories be portrayed? My current work is a reflection on this question. As I depict familiar memories, I intentionally muddy the image through layers of semi-transparent paint. The process mimics the act of recollection, as each layer of color obscures the one beneath.

### **Singing Across the Sea: Hood College Choir participates in 79th Anniversary of D-Day Ceremonies**

Isabella DiPietrantonio, Ashlynn Stearns, Maura O'Malley-Young, Dominic Bechtel, Julian Urban, Christine Reiss, Sophia Degennaro, Kinsey Walker, Max Peterson, Faith Mae Kiser (Music)

Faculty Advisor: Lynn Staininger

Directed by Lynn Staininger, Hood Choir students travelled to Normandy, France to perform at the 79th Anniversary of D-Day memorials and celebratory ceremonies. Get a glimpse into the students' weeklong experience honoring this period of history through videos and photos of their musical performances and travel throughout Normandy and Paris.

## **Poster Presentations: 9:00 A.M. – 9:45 A.M.**

Whitaker Campus Commons

### **The Environmental Impact of Failed Septic Systems**

Aidan Gilsdorf (Health Sciences)

Faculty advisor: Jaqueline Douge

Sewage waste from neglected systems leak into the environment which poisons local waterways which is a threat to public health and safety. Frederick County Health Department (FCHD) aims to reduce this hazard by conducting inspections on septic systems to ensure safe drinking water for the community

### **ERGi-USU Selectively Inhibit ERG Positive Prostate Cancer through ATF3 mediated Ferroptosis**

Angel Boardley (Biology)

Faculty advisor: Ayesha Shafi

ERG inhibitor ERGi-USU displays enhanced efficacy against ERG-positive prostate cancer cells, exhibiting ferroptotic morphological traits. RNA sequencing data of ERGi-USU reveals increased ferroptosis markers, suggesting its role as a ferroptosis inducer. This study aims to assess ferroptosis markers in response to ERGi-USU-6 Salt formula 7b.

### **Health Equity Capacity in Frederick County**

Britney Vidal (Public Health)

Faculty advisor: Jacqueline Douge

My research poster is about the health equity capacity of the Frederick County Health Department. In other words, I will be showing how equipped the health department is to address health disparities and health inequities. I will be using responses from the Barhii assessment to showcase this.

### **Assessing Access Challenges: Evaluating Frederick County Mental Health Services for Severe Mental Illness**

Cayla Watson (Public Health)

Faculty advisor: Jacqueline Douge

This poster evaluates Frederick County's Mental Health Agency Services for severe mental illness. It explores challenges in accessing appropriate treatment, reviewing literature, social history, qualitative studies, and healthcare inequalities. The interplay of social, behavioral, biological, and environmental factors affecting care for this population is highlighted.

### **Maternal Child Health Social Media Campaigns**

Gabrielle Dolan (Public Health)

Faculty advisor: Jacqueline Douge

Maternal-child health (MCH) issues exist in Frederick, Maryland. One strategy used by the Frederick County Health Department to address MCH health issues is the use of social media to provide relevant information and services. This presentation illustrates the impact of the use of Instagram through post engagement.

### **Program Evaluation of the Survey of FCHD Forms for Demographic Data**

Genevi Babati (Public Health)

Faculty advisor: Jacqueline Douge

To address health inequities, the Frederick County Health Department evaluated their forms which are used to collect demographic data. Something as simple as identifying yourself can play a big role in your health outcome. Identity is part of public health.

### **Jennette McCurdy: Her Story and the Inhumane Behavior Observed Throughout Her Life**

Katherine Stang (Honors)

Faculty advisor: Jessica McManus

My project is an analysis of the life story of Jennette McCurdy, star of "iCarly" and "Sam and Cat", including how aspects of her life story represent justifications of inhumane behavior.

### **Drosophila melanogaster as a Model to Study Type II Diabetes, Preliminary Evaluation**

Katie Amaguana (Biology)

Faculty advisor: Pushpa-Rekha Konkalmatt

A high-sugar diet is a major contributor to the development of insulin resistant type II diabetes. In this study, *Drosophila* fed a high-sugar or a low-sugar diet were evaluated for changes in body weight, survival, ability to climb a certain height, and the amount of advanced glycation end products.

### **Emergency Room Wait Time Management**

Luke Harned (Nursing)

Faculty advisor: Jennifer Cooper

This poster will provide information on the current issue of wait times within the emergency department, along with possible solutions to reduce wait times.

### **Relationship between Sex and the Leading Cause of Death, Heart Disease.**

Markya Lovett (Public Health)

Faculty advisor: Sherita Henry

Heart disease (CVD) is the leading cause of death in the United States. 1 in every 5 individuals in the United States will die from CVD. This study will assess the relationship between sex/gender and CVD using SPSS software and previous data from the Framingham Heart Study.

### **Sex and BMI and its effect on risk for Cardiovascular Disease (CVD)**

Melody Par (Public Health)

Faculty advisor: Sherita Henry

The project will focus on CVD among participants and the different exposures that serve as risk factors. This project explores Sex, BMI, and the risk for CVD using datasets from the Framingham Heart Study and usage of SPSS software.

### **Does Your Age Effect Your Risk of Heart Disease**

Menna Salem (Public Health)

Faculty advisor: Sherita Henry

Based on the Framingham Heart Study, a subset of the data will be assessed to establish if two variables are dependent on each other and provide information to help reduce risk if the alternative hypothesis poses true "that there is a relationship between age and cardiovascular disease."

### **The Effect of Snooping on Short-term Memory in Students**

Isabella Bellucci, Noelly Jerez, Joseline Moran (Psychology)

Faculty advisor: Sangeeta Gupta

Previous research examines how distractions impact working memory. Our study looks at the effect of different types of distraction on students while they watched an educational video and took a quiz on memory recall. Specifically, it looks at the effects of gossipy versus mundane text messages on short-term memory recall.

### **Environmental Factors & Short-Term Memory Recall**

Alyssa Peters, Kelcey Whipp, Josie Croker, Lillian Larsen (Psychology)

Faculty advisor: Sangeeta Gupta

Studies show that scents such as lavender and rosemary improve free memory recall. This study looks at effects of peppermint essential oil on short-term memory tasks by diffusing peppermint in the room. Additionally, the study looks at whether awareness of the aroma and its effect will impact scores.

### **The Impact of Musical Tempo on a Card Memory Game**

Ava Swartz, Kate Bentz, Nicholas Covert (Psychology)

Faculty advisor: Sangeeta Gupta

Much research has been done about different types of music and memory tasks. Gaps exist in the speed and accuracy trade-off while listening to different genres and different tempos. Our study aims to look at the effects of classical and hip-hop music on different tempos on a card memory task.

### **A World of Politics: Who Gets What When and How**

Noah Turner, Noah Hersh, Ibtisam Alafghani, Samuel Shea, Caylee Shaeffer (Political Science)

Faculty advisor: Tamelyn Tucker-Worgs

Come and hear engaging presentations exploring our political world. Topics include: Palestinian women's resistance and organizing efforts in the diaspora; Political fronts and wings of terrorist organizations in electoral politics; Political polarization and its effects on public trust; The use of soft and hard power in foreign policy

### **Supporting International Student Success at Hood College**

Amani Al-Dajane, MBA & April M. Boulton, Ph.D. (Graduate School)

This poster will feature several data-informed strategies used to support international student success at Hood College. Supporting the diverse needs of international students (both undergraduate & graduate) is essential for fostering a welcoming and inclusive environment. From career to cultural events, we create a variety of strategic, welcoming opportunities that allow our F-1 students to thrive. Over the years, we have used student engagement and feedback to refine our offerings. Attendees will also explore tangible ways to make our international students feel a sense of belonging in our learning community.

### **Effects of Picture Valence on Serial Pattern Production**

Shannon Kunday (Ruth Whitaker Holmes School of Behavioral and Health Sciences)

Undergraduates learned an interleaved pattern in a computerized pattern production task while briefly exposed to positively- or negatively-valenced pictures between pattern production trials. Briefly presented negatively-valenced pictures disrupted performance relative to a group experiencing positively-valenced pictures. This suggests some of processes needed to learn or perform the pattern were explicit.

### **Benefits of the Hood College 4PLUS Program**

Nick Masucci '17 (Graduate School)

The 4PLUS dual-degree program is an accelerated degree track that allows Hood College undergraduate students to earn two degrees in 5-6 years. Students in the 4PLUS program can take up to nine graduate credits (three classes) starting their junior year. These classes are covered under undergraduate tuition, which means our students are completing a whole semester of graduate school at no additional cost. Our presentation will focus on both the benefits for undergraduate students and the positive impact our recent recruitment efforts have had on the program's overall interest.

### **Same behavior, different diagnosis: Examining the role of social group membership on mental health professionals' perceptions of client symptoms.**

Jessica McManus (Ruth Whitaker Holmes School of Behavioral and Health Sciences)

This study examined the impact of social group membership on mental health diagnoses. Mental health professionals and student participants read one of eight case studies where we varied the social group membership of a person who presents symptoms of generalized anxiety disorder and obsessive-compulsive disorder. After reading the case study, participants completed a questionnaire to provide a diagnosis and complete clinical assessments (e.g., severity, impairment, distress, risk of harm). Our research aims to add to the literature on stereotypes and their impact in a mental health setting.

### **Geopolitical Hostility and Corporate Innovation: Evidence from US High-tech Firms in Trade Sectors with China**

Yankuo Qiao (The George B. Delaplaine Jr. School of Business)

This study aims to examine whether and how the innovation activities would change in the face of shocks caused by heightened US-China tensions for US high-tech firms from trade sectors with China. The study utilizes multifaceted empirical methods including staggered difference-in-differences, parallel trends test and propensity score matching, and triple difference model and subsample heterogeneity analysis. The findings show that the superiority of the innovation intensity of US high-tech companies from trade sectors with China to other firms is curbed during periods of heightened tensions.

### **A Consensual Qualitative Research Study: LGBTGEQIAP+ Experiences Coping and Healing from Microaggressions**

Amber M. Samuels, PhD, LPC (DC), NCC, CCC (Ruth Whitaker Holmes School of Behavioral and Health Sciences)

Microaggressions are interpersonal acts of violence that are known to cause harm to LGBTGEQIAP+ communities. A critical gap remains, however, in identifying mechanisms for coping and healing. The researcher will present the findings of a recent consensual qualitative research (CQR) study that investigated experiences of LGBTGEQIAP+ individuals with other marginalized identities coping and healing from microaggressions. Implications for counseling, advocacy, and research will be discussed.

### **Assessment of Learning and Study Skills and Academic Success**

Sangeeta Gupta (Ruth Whitaker Holmes School of Behavioral and Health Sciences)

There is a lack of consensus on the specific learning strategies that best serve students. Strategies, such as goal setting, test anxiety reappraisal, and time management, play a pivotal role in student success and retention. This study aims to evaluate the learning and study skills among students enrolled in an academic support course, and correlations between demographic factors and different learning skills.



## **Poster Presentations: 1:15 P.M. - 2:00 P.M.**

Whitaker Campus Commons and 220

### **Posters in Whitaker Campus Commons**

#### **Putrefaction of Beef: Recreation of Historical Experiment**

Alayna Butwinick (French & Biology)

Faculty advisor: Lisa Marcus and Craig Laufer

My poster is about a translation project of a series of experiments from the 18th century. I took and recreated one of the experiments and then transferred the microbes from each broth to a petri dish. Then I compared my data with conclusions drawn in 1760s.

#### **Comparative study of large language models in classifying patients with obstructive sleep apnea and comorbidities**

Anthony Rispoli (Computer Science)

Faculty advisor: Aijuan Dong

Obstructive sleep apnea patients have an increased risk of developing cardiovascular and metabolic complications. Large language models can be used to develop a lexicon to help differentiate between patients with OSA and its comorbidities. This work shows the potential benefits of incorporating LLM into health care.

#### **Predicting Mortality Risk and Diagnosis in Patients with Obstructive Sleep Apnea, Type 2 Diabetes Mellitus, and Hypertension**

Awwal Ahmed (Computer Science & Information Technology)

Faculty advisor: Aijuan Dong

Our project addressed cardiovascular risks in sleep apnea, diabetes, and hypertension patients. Using Natural Language Processing (NLP) and Machine Learning (ML) on discharge notes, we developed predictive models for diagnosis and one-year mortality with an Area under the ROC Curve (AUC) score of 0.9. Despite a simpler approach yielding better results, interpretability requires further research, aiding in precise patient care.

#### **Unlocking the Age-Hypertension Connection: Exploring Prevalence through the Framingham Heart Study Population**

Cayla Watson (Public Health)

Faculty advisor: Sherita Henry

This study examines the relationship between age and hypertension prevalence in a specific population. The null hypothesis assumes no significant correlation, while the alternative implies a notable association. By analyzing age as the independent variable and hypertension as the dependent variable, it aims to reveal insights into cardiovascular health dynamics.

#### **Community-Based Survey - Frederick Rescue Mission**

Christine Reiss (Sociology)

Faculty advisor: Jolene Sanders

I conducted a community-based assessment for the Frederick Rescue Mission. The program utilization survey documented the extent of services that are being used. Clients are primarily those who are low income in need of food, personal hygiene items, and clothing. These services are heavily utilized and needed by the community.

### **Type 2 Diabetes: fostering community engagement**

Elena Della Mea, (Public Health)

Faculty advisor: Jacqueline Douge

My project will report findings from my internship. My internship involves how community engagement is fostered through health promotion and advocacy work in Frederick County in regards to type 2 diabetes.

### **Role of Racial Implicit Associations on Estimation of Diversity**

Ethan Fireside (Psychology)

Faculty advisor: Sangeeta Gupta

This study looks at the role of race and implicit associations on the estimation of diversity when shown arrays of faces of different races. We found that White individuals overestimated the number of Black faces in the arrays, but that implicit association was not correlated with estimates of diversity.

### **Decomposing Organic Waste with Black Soldier Fly Larvae**

Isabella DiPietrantonio (Sustainability Studies)

Faculty advisor: Yanting Guo

Black soldier fly larvae (BSFL) demonstrate promising potential to decompose organic material and divert waste from landfills. Using commonly trashed organic materials such as spent coffee grounds, compostable to-go containers, milk, and soda, this study analyzes the consumption pattern of BSFL when presented with different liquid-substance combinations.

### **Black Soldier Fly larvae consuming and converting animal manures into biomass.**

Kate Maltby (Environmental Science)

Faculty advisor: Yanting Guo

The problem of animal waste has become a significant issue. Black Soldier Fly larvae, *Hermetia illucens*, exemplify high bioconversion rates in manure consumption. This study determines an effective methodology to optimize larval bioconversion and an appropriate larvae-to-manure ratio for waste reduction by *H. illucens* in horse, zebra, and alpaca manure.

### **A Novel Approach to Determine Lactase Enzyme Activity**

Katie Amaguana (Biology)

Faculty advisor: Pushpa-Rekha Konkalmatt

Lactase enzyme assay is used in undergraduate teaching labs to demonstrate enzyme function. Lactase enzyme hydrolyzes lactose to glucose and galactose. The current methods available to measure lactase activity are either not specific or use expensive chemicals. This study evaluates a new method that uses commonly available and inexpensive chemicals.

### **Mental Health Services Awareness at Hood**

Katy Castillo Marquez (Sociology)

Faculty advisor: Jolene Sanders

A research study looking at Hood students and whether they are aware of the mental health services provided to them and their thoughts/beliefs towards their usefulness, accessibility, and likelihood of using these services.

### **Frederick County Health Department and their Partners Addressing Gaps in the Health System**

Markya Lovett (Public Health)

Faculty advisor: Jacqueline Douge

The Frederick County Health Department (FCHD) Golden Mile office aims to assess the relationship between the FCHD and its partners to address specific public health criteria, health disparities, and health inequities using the BARHII Collaborating Partners assessment survey.

### **Opioid Prevention Capstone Experience at Frederick County Health Department**

Thomas Kasanicky (Public Health)

Faculty advisor: Jacqueline Douge

Frederick County Health Department (FCHD) behavioral health unit faces challenges of addressing opioid use due to stigma around opioids; addressing this issue requires innovative approaches. This presentation highlights FCHD methods to address opioid prevention using community-based strategies, training, working with federal agencies, and more.

### **Phone Screen Time and Sleep Quality Impact on Mental Health and Study Habits of Hood College Students**

Violeta Flores (Sociology)

Faculty advisor: Jolene Sanders

This research study is going to see how screen time and sleep quality impact mental health and study habits of students. The poster will include hypotheses and statistics to show that high screen time and poor-quality sleep can negatively affect both mental health and study habits.

### **Same behavior, different diagnosis: Examining the role of social group membership on mental health professionals' perceptions of client symptoms**

Max Peterson, Katy Svitak (Psychology)

Faculty advisor: Jessica McManus

Our current study is centered on how social group membership may impact mental health diagnoses. Mental health professionals and students read one of eight case studies where we varied the social group membership of the patient. The participants then reported a diagnosis and rated the severity of the person's symptoms.

### **Lecture Speed and Note-taking on Quiz Scores**

Katy Svitak, Max Peterson (Psychology)

Faculty advisor: Sangeeta Gupta

We were interested in how lecture speed impacted the effectiveness of computer and longhand note-taking on quiz scores. Our results suggest that computer note-taking leads to higher quiz scores when a lecture is slow, while longhand and computer note-taking leads to similar quiz scores when a lecture is fast.

### **Predicting Molecular Structures as Community Experiment**

Eckart Bindewald (Biology/Computer Science and Information Technology)

Computationally predicting the 3D atomic structure of proteins, RNA, DNA and small molecules is a long-standing goal of bioinformatics. To facilitate comparability and objectivity the Critical Assessment of Techniques for Protein Structure Prediction (CASP) events are held every two years in form of a "competition" and international conference. In this poster, our strategy for the universal prediction of macromolecular structures is explained. It is argued that the CASP

prediction events are a prime opportunity for student learning and fostering innovation and collaboration.

### **Computational Thinking Conference for Teachers**

Jennifer Cuddapah, Marisel Torres-Crespo, and Jiang Li (Education and Computer Science)

In our grant-supported work, we delivered two conferences to build capacity, knowledge, and skills of computer science standards with teachers. The conferences integrated Keynote Speakers, Content Learning Sessions, and Mini-Grants. Attendees learned how to incorporate CS standards into lesson plans, work with coding materials, and develop curriculum for teaching. They could apply for mini-grant support for their classroom implementation. We will share about the conferences.

### **New 5-Alkyl Resorcinols Isolated from *Gevuina papuana* with Antibacterial Activity**

Susan Ensel (Chemistry and Physics)

The National Cancer Institute Program for Natural Product Discovery, in collaboration with the National Institute of Allergy and Infectious Diseases, presented the results of a high throughput screen of 326,000 natural product fractions against a panel of microbial and fungal pathogens. Fractions derived from the organic extract of the plant *Gevuina papuana* (Proteaceae) were identified as having antibacterial activity in this screen. Bioassay-guided isolation led to the identification of natural products that showed selective activity against *Staphylococcus aureus*.

### **Ew to Wow!: Black Soldier Fly Larva Munching Its Way to Sustainability**

Yanting Guo (Biology)

Pizza scraps, coffee grounds, and horse poopoo - our sustainability superhero, the Black Soldier Fly, can rescue them from ending up in landfills. What's even more exciting? We're transforming the waste into nutritious animal feed, natural fertilizer, and even stylish earrings (Seriously!). We're on a mission to build a closed-loop food production and consumption system that generates zero waste and zero carbon. Check out our students' innovative works. Whether you're passionate about making a difference, gaining research experience, or creating a one-of-a-kind gift, we invite you to join us!

### **Experiences of Pre-Tenure Faculty at Predominantly White Institutions (PWIs)**

Sangeeta Gupta, Amber Samuels (Ruth Whitaker Holmes School of Behavioral and Health Sciences)

Prior research has examined the role of racial identity and stereotype threat on student performance. Minority students who internalize the stereotypes of their group show lower academic performance and higher burnout than those who do not. In the present study, we examined these constructs in the context of pre-tenure faculty in Predominantly White Institutions (PWIs). Specifically, we hypothesized that racial/ethnic identity predicts burnout and self-efficacy among pre-tenure faculty at PWIs and examined how commitment to identity and stereotype threat mediated these relationships.

## **Oral Presentations in Whitaker Room 220**

**1:15 P.M. – 1:30 P.M.**

### **Translating Reproductive Rights in Emile Zola's Work**

Lisa Marcus (Global Languages and Cultures)

I'll talk about my current research project, translating Emile Zola's 1899 novel "Fertility" which describes abortion, contraception, sterilization, and other reproductive issues with such frank openness that the original English translator had to omit about two-thirds of the novel to avoid going to prison. My goal is to produce a faithful translation so English readers can learn about reproductive practices in late nineteenth-century France.

**1:35 P.M. – 1:50 P.M.**

### **Structured Treatment**

Chaz Martinsen (Art and Archaeology)

This latest body of work delves into the artist's personal journey following a profound diagnosis, contemplating the impact of treatment, existential crises and the varying degrees of support from those in their social circle. The pieces within this collection intricately weave together formal design elements, manipulating positive and negative spaces. The compositions are characterized by a fusion of rectilinear structures and organic movements, collectively reflecting the artist's emotional and physical experiences.

## Special Thanks

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Last but not least, we appreciate the support of the Provost, who sponsored this research day and declared an alternate day of instruction to encourage students and faculty to attend.