



*SPRING ANNUAL RESEARCH CONFERENCE*

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**AGNES SCOTT**  
COLLEGE

**SpARC 2025 Conference Program**  
**Tuesday, April 29, 2025**

[agnesscott.edu/sparc/](https://agnesscott.edu/sparc/)

## Table of Contents

<b>Schedule at a Glance</b>	<b>pg 5</b>
<b>Morning Poster Session, 9:15-10:15 am</b> Baker Atrium, Bullock Science Center <i>Participants listed in order of first author's last name</i>	<b>pg 6</b>
<b>SUMMIT Session, 10:00-1:00 pm</b> Teasley Auditorium (G-09), Bullock Science Center	<b>pg 22</b>
<b>Morning Presentation Sessions, 10:20-12:00 pm</b> Bullock Science Center <i>Listed in order of time slot and classroom</i>	<b>pg 22</b>
<b>Scottie Math Bowl, 12:00-1:30 pm</b> Lower Evans Dining Hall	<b>pg 39</b>
<b>Afternoon Poster Session, 1:30-2:30 pm</b> Baker Atrium, Bullock Science Center	<b>pg 39</b>
<b>Afternoon Presentations, 2:30-3:50 pm</b> Bullock Science Center	<b>pg 53</b>
<b>Music, Theatre &amp; Dance Performances, 2:30-4:30 pm</b> Maclean Auditorium, Presser Hall Winter Theatre, Dana Fine Arts Building	<b>pg 63</b>
<b>Gallery Exhibition &amp; Closing Reception, 4:30 pm</b> Dalton Gallery, Dana Fine Arts Building	<b>pg 65</b>

## Schedule at a Glance

\*for a more detailed schedule, visit <https://www.agnesscott.edu/sparc/>

	Posters/Talks/Math Bowl	SUMMIT Panel & Performances
9:00	<b>Opening Remarks by President Leocadia Zak</b> Bullock Science Center, Atrium	
	<b>Poster Session A</b> (posters set up by 8:45) Bullock Science Center, Atrium 9:00-10:00	
10:00	<b>Morning Talk Session</b> Bullock Science Center, classrooms 10:00-12:00	<b>SUMMIT @ SpARC Session  </b> (Journeys talks and SCALE panel!) Bullock Science Center, Teasley G-09 10:00-12:40
11:00		
12:00	<b>Scottie Math Bowl</b> Lower Evans 12:00-1:30	
1:00	<b>Poster Session B</b> (posters set up by 1:15) Bullock Science Center, Atrium 1:30-2:30	
2:00		<b>Music Performances</b> Maclean Auditorium, Presser Hall 1:40-2:20
	<b>Afternoon Talk Session</b> Bullock Science Center, classrooms 2:30-3:30	<b>Theater/Dance Performances</b> Winter Theater, Dana 2:30-3:35
3:00		
3:30-4:00	<b>Art Show/Closing Reception</b> Dalton Gallery, Dana	

**9:00 am-WELCOME by President Leocadia Zak, *Bullock Science Center, 1st floor atrium***

**9:00-10:00 am: POSTER SESSION A (with refreshments), *Bullock Science Center, 1st floor atrium***  
***Poster set up between 8:30-8:45 am (must be set up by 8:45 am)***

**1<sup>st</sup> POSTER SESSION (in alphabetical order of first name):**

**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***Death and Glamor: Media Portrayals of Vaping and Its Effects***

Author(s): Aaliyah Frederique, Bella Leonardi, Shewit Semere, Alisha Price

Advisor: Dr. Stacey Dutton

**Abstract:** Media coverage plays a key role in shaping public understanding of new trends, like e-cigarettes. In this study, we aimed to answer the question: How do media portrayals of tobacco products, specifically e-cigarettes, shape public opinion and policy? As e-cigarettes continue to expand their reach among younger audiences, understanding media influence is essential for developing effective public health strategies. To evaluate these portrayals, we reviewed various media, including news articles, a Netflix documentary on the Juul company, two Instagram accounts, and an Apple Music podcast. Given that each media format targets specific audiences, analyzing diverse sources provides insight into how various groups perceive and engage with vaping-related content. Our findings reveal that vaping is largely negatively portrayed, with media sources emphasizing severe health risks such as cardiovascular diseases, which has helped spread the stigma surrounding smoking to vaping. Some of our sources explored the methods the tobacco industry used to distinguish e-cigarettes from traditional cigarettes, such as the Netflix documentary, which explored how Juul used social media to target younger audiences, showing vaping as a social activity with fun fruity-flavored pods. Our research highlights how e-cigarettes, marketed as safer and more appealing to youth via social media, have replaced traditional cigarettes, despite both posing similar health risks. Addressing this misleading portrayal could lead to stronger policies to reduce youth vaping and improve public health, such as stricter regulation on influencer promotions and promotion of smoking products in social media algorithms.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***Evaluating College Students' Retention and Commitment After Completing Gratitude Interventions***

Author(s): Aigner Muschette, Evelyn Patricio

Advisor: Dr. Jennifer Hughes

**Abstract:** Tolcher (2022) found that college students who implement gratitude interventions were happier and more resilient. For our study we hypothesized that participants who completed college-specific gratitude activities would experience greater commitment and dedication to college at immediate posttest compared to those who completed the general gratitude activity or the control group. We also predicted that they would express less intention to quit and view college as a long-term relationship. Based on prior research, we thought that completion of specific-gratitude activities would have more of an impact as compared to general gratitude (Wood et al., 2010). We recruited 127 students from four psychology courses at a private liberal arts college. Our sample was racially diverse, and 60.4% of participants identified as women. We performed repeated-measures ANOVAs. None of our hypotheses were supported, therefore we did not find that the gratitude interventions (college-specific or general gratitude) increased or decreased participants' commitment to college, dedication to college, intention to quit college, or viewing college as a long-term relationship. Limitations include that we had few men in our study, and we had students complete the study for grades or extra credit, but most studies use volunteers interested in improving their gratitude. In future research, we would like to start with first-year students and then have them complete the gratitude interventions multiple times each semester over their college careers, so we can track their gratitude throughout their years in college.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***Multiracial Identity Integration, Perceptions of Race, and Psychological Well-being***

Author(s): Alina Kuperminc

Advisor: Dr. Peeper McDonald

**Abstract:** This study explores the experiences of Multiracial individuals whose racial identities are not congruent with how others perceive them racially, analyzing the impacts of this incongruence on Multiracial identity integration and psychological well-being. There are a lack of studies comparing the experiences of Multiracial individuals whose racial identities are more congruent with others' perceptions of them versus those whose identities are less congruent with others' perceptions and exploring the impact this incongruence may have on identity integration. Data from a total of 53 Multiracial individuals was pulled from an existing dataset, with 33 of these individuals coded as having identities congruent with others' perceptions and 20 coded as having identities incongruent with others' perceptions. A significant difference was found in average Multiracial Identity Integration (MII) scores suggesting higher levels of integration among Multiracial individuals in the congruent group. However, there was no significant correlation between MII scores and psychological well-being, and there was no significant difference in psychological well-being between the congruent and incongruent groups. A strength of this study is that it included data from a variety of Multiracial individuals. However, it was limited by the fact that the data about racial identity was self-reported, and more information about identity and perceptions was not available due to data being pulled from an existing dataset. These findings can be used to inform best counseling practices for Multiracial individuals and explore the influence of incongruence between identity and perception on mental health.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***Series in Stereo: Using the Fourier Series to Mix Music***

Author(s): Amari Varfley

Advisor: Dr. Hodari-Sadiki Hubbard-James

**Abstract:** This project explores the application of Fourier series, a method of representing periodic functions as sums of sine and cosine terms, to real-world sound engineering. Using the DJ software MIXX, we created music mixes that involved blending three to five songs through techniques such as crossfading and applying frequency bandpass filters. These filters were used to isolate and manipulate high (above 2.5 kHz), medium (246 Hz to 2.5 kHz), and low (0 to 246 Hz) frequency ranges. The resulting six playlists, created collaboratively by students and the course instructor, demonstrate how mathematical tools like the Fourier series can be used to analyze and shape complex audio signals. This project highlights the intersection of mathematical reasoning and creative expression through music mixing.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***Investigating Behavioral Effects of Conventional and Organic Pesticides in *Bombus impatiens****

Author(s): Amelia Osborne, Mack Philliph

Advisor: Dr. Jennifer Kovacs

**Abstract:** Bees are vital pollinators for both agriculture and ecosystems. While there is plenty of evidence of sublethal behavioral effects caused by synthetic pesticides, there is a lack of research comparing the behavioral effects of synthetic pesticides to natural pesticides. The project aims to identify any differences in behavior caused by acephate (synthetic organophosphate) and neem oil (natural pesticide). The behaviors investigated include olfactory association, color association, and memory. Both pesticides are expected to negatively impact these behaviors. The study used two treatments of one control and two experimental groups, which were fed acephate or neem oil at field specific doses. Bees

were trained to positively associate blue color. Bees foraged for 15 minutes in the foraging chamber, containing a set of blue and yellow flowers with reservoirs. Yellow flowers contained water while blue flowers contained sucrose. Trials repeated every five days for a total of four trials, and activity was recorded. Recordings were analyzed and results were averaged over the number of bees in each group. Data were analyzed using ANOVA in R. Bees were trained to positively associate orange scent, by exposure to orange essential oil with each feeding. After 21 days, bees were placed in a choice maze and chose between orange oil or lavender oil. Flower color and date were significantly correlated with number of visits, and bees preferred blue flowers over yellow. Bees unanimously preferred the scent of orange oil. There was no significant difference between the control group and the experimental groups. Although it is known that synthetic pesticides negatively impact behavior in bees, data did not support a significant handicap in visual or olfactory associations for bees exposed to the pesticides. There was strong evidence of the bees' abilities to learn and associate colors and smells with rewards.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***The Impact of Psychedelics and Their Portrayal in the Media***

Author(s): Amelia Lorenzo, Lily Brandt, Blessing Love, Sadie McCallum

Advisor: Dr. Stacey Dutton

**Abstract:** Psychedelics are substances that alter perception, mood, and reality, with their effects influenced by an individual's mental state and environment. While they do not always lead to addiction, they have long been used in religious and spiritual ceremonies. Research also suggests potential health benefits, though frequent use may lead to neurological and nervous system issues. This study examines twelve media sources, including movies, documentaries, music videos, and television episodes, to analyze how psychedelics are portrayed across different demographics. The sources include fictional depictions of underage use and real-life interviews with notable figures in pop culture, providing a broad perspective on societal perceptions of psychedelics. In children's and young adult media, psychedelics are often indirectly represented through common foods like fast food or soft drinks. These portrayals use exaggerated visual effects, such as vibrant colors and distorted imagery, to mimic hallucinations in a way that is more accessible to younger audiences. In adult media, psychedelics like LSD, mushrooms, and ecstasy are explicitly named and often depicted with an emphasis on their hallucinogenic properties. However, researchers and psychedelic users agree that these portrayals tend to be exaggerated. Documentaries, in contrast, offer a more realistic representation of psychedelic experiences and their effects on users. Pop culture plays a crucial role in shaping public perceptions of drugs, influencing their cultural relevance over time. Psychedelics have experienced waves of popularity, from the countercultural movement of the 60s and 70s to their resurgence in recent years. By analyzing media portrayals, we can better understand societal attitudes toward psychedelics and identify gaps in public knowledge. This insight is essential for harm reduction efforts, ensuring that information about psychedelics is accurate and accessible as they regain popularity in contemporary culture.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***Exploring the Relationship Between Social Media Identity and Psychological Well-being***

Author(s): Andrea Villanueva

Advisor: Dr. Peeper McDonald

**Abstract:** The use of social media has become increasingly prevalent and pervasive in contemporary daily life. With this rising prevalence, there has been emerging research on social media and its potential implications or ramifications. Social media provides people with a space to express themselves and share aspects of their lives on their platform with friends, family, and even strangers. Because comparison is so salient in humans, social media use has the potential to cause identity distress. It is important to identify how identity distress due to social media affects someone's psychological well-being because social media is so extensively ingrained in society. Because social media is here to stay, continuing related research is crucial in order to develop potential solutions and safety measures. These participants were recruited from Agnes Scott College's undergraduate student pool, social media, and mailing lists. A significant negative association was found between

the scores in Social Media Identity Distress Scale (SMIDS) and Psychological Well-being. When individual scores of SMIDS were compared between Black and White participants, there was no significant difference found. When individual scores of Psychological Well-being were compared between Gay and Straight participants, it was found that Gay participants reported significantly lower levels of Psychological Well-being. These results can be applied to create workshops in schools for adolescents, the most vulnerable group, because of how social media has cemented itself in society.

Keywords: psychological well-being, social media, identity development, identity distress.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***How Does Prior Knowledge and Exposure to Black History in Film Media Affect Interest in Learning More About Black History?***

Author(s): Anna Beth Rodriguez

Advisor: Dr. Stephanie Stern

**Abstract:** This presentation explores the potential connection between exposure to Black historical fiction and its influence on individuals' prior knowledge of Black history, as well as their interest in learning more about it. When considering effective methods for teaching Black history, it is important to examine which approaches best support long-term information retention. Studies have shown that people tend to remember information presented through fictional media more effectively than through traditional textbooks—and that, at times, fictional narratives can even shape or replace factual understanding (Marsh et al., 2012). To investigate this further, a survey was conducted to gather data on participants' existing knowledge of Black history, their exposure to Black historical films, and their motivation to deepen their understanding. The results of this study will be shared at a later date.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***Opioid Addiction Through the Media Lens: Exploring Public Perception and Awareness***

Author(s): Aylin Serrano, Briuna Edmond, Catherine Beltran, Azariah Leslie

Advisor: Dr. Stacey Dutton

**Abstract:** Opioids are derived from the natural substance found in poppy plants producing highly addictive effects in our brains when taken. As opioid usage and addiction rise it increasingly influences media and societal responses to addiction. For this reason, we explored how portrayals of opioid addiction across various media platforms (podcasts, news articles, films, TikTok) impact societal education and awareness. We used the Netflix series "Painkiller" to draw connections between the depiction of the opioid epidemic and the real-life recovery of opioid addiction from individuals in podcasts and Tik Tok. News articles covering stories of opioid addiction were analyzed to understand societal portrayals of addiction. Our findings suggest that due to the common perceptions of the opioid epidemic and addiction in society, there is a significant need to address the issues behind the pill and offer support to individuals. With the false biases of addiction, an individual's story often goes unnoticed until they are labeled as an addict. As seen in the series PainKiller, Glen is shown taking Oxycontin, and due to his behaviors, he is perceived to be an addict. The film challenges public perception of the opioid crisis and addiction utilizing individuals such as Glen highlighting the systemic exploitation in pharmaceutical companies. Our research provides insights into the opioid epidemic as a complex issue that cannot be addressed solely by medical, legal, or political solutions. By reframing addiction as a medical condition rather than a personal failure, media platforms can help address the root causes of opioid addiction arising from systemic issues.

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**Poster Session A: 9:00-10:00 am (set up by 8:45) Bullock Lobby**

***Framing the Self: Exploring the Impact of Teen Dramas on Self-Concept and Confidence***

Author(s): Bethany Moore, Catelyn Chaney

Advisor: Dr. Stephanie Stern

**Abstract:** This study explores the relationship between exposure to popular teen dramas and self-esteem, with a specific focus on television shows released before and after 2016. The primary aim is to examine how shifts in media representation, particularly regarding race and identity, influence self-concept and self-esteem among college students. As media has become more diverse in recent years, this research investigates how the lack of representation in earlier shows may have shaped social attitudes and self-perception, especially among young Black women navigating identity and confidence. Prior research suggests that children and adolescents often internalize the images and narratives portrayed on television, which can significantly impact their self-image (Alha, 2018; Lamb et al., 2015; Onuoha et al., 2024). To examine this, an online survey was distributed to students at a small liberal arts college. The results of this study will be discussed in detail during the presentation.

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**Poster Session A: 9:00-10:00 am (set up by 8:45) Bullock Lobby**

***Unpacking the Health Implications of Recreational Cannabis Use: Stigmas, Facts, and Risks***

Author(s): Casey Rice, Bria Mabry, Indie Lorick, Kai Edem

Advisor: Dr. Stacey Dutton

**Abstract:** Cannabis is globally recognized for its historical and cultural significance, as well as its controversial use. The portrayal of cannabis in the media reflects public attitudes and significantly influences policies regulating its recreational use, as well as the ability to study the drug objectively. Legislation restricting cannabis's recreational use and medicinal properties has been in place since 1990 (Maican, 2019). This research collects and analyzes mass media, including podcasts, documentaries, news articles, and social media posts. These sources present opposing viewpoints and various portrayals of cannabis. This will offer insights into how it's represented in different contexts. The analysis focuses on contrasting narratives and stereotypes found across these media groups. The overall body of research on cannabis's effects, particularly in the long term, is insufficient. The podcast Sawbones: A Marital Tour of Misguided Medicine episode "Medical Marijuana" highlights how the lack of research, due to cannabis's restrictive Schedule I classification, has hindered a comprehensive understanding of its effects. Public perception of cannabis use is largely affected by news reports, social media, cultural influence, and politics, all of which dictate potential research bias. Many news articles, despite ideological differences, have a similar take on cannabis use, often portraying its use (whether recreational or otherwise) in a negative light. Cannabis has a long cultural history both within and outside of the United States, and as such, criminalization has historically been racially biased, influencing policy. These findings highlight the urgent need for evidence-based cannabis policies that consider its behavioral and cognitive effects. These policies should acknowledge the history of racial biases in criminalization. Since the early twentieth century, "reefer madness" propaganda has shaped current cannabis laws. Policymakers must promote equity by reforming drug laws based on unbiased research rather than cultural and/or political narratives. There should be a focus on removing cannabis from Schedule I to allow federally funded clinical research. Future research should focus on the medicinal use of cannabis and minimizing bias.

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**Poster Session A: 9:00-10:00 am (set up by 8:45) Bullock Lobby**

***Prognostic Potential of TTN and PIK3CA Mutations in Predicting Survivability in Cervical Squamous Cell Carcinoma***

Author(s): Christina Beavers

Advisor: Dr. Jennifer Hurst-Kennedy

**Abstract:** Cervical squamous cell carcinoma (CESC) is recognized as one of the most common gynecological malignancies, associated with high mortality rates due to a lack of early diagnosis and limited predictive biomarkers for patient outcomes.



Previous research indicates that PIK3CA mutations serve as oncogenic drivers, while the role of TTN in CESC survivability remains unclear. This study will investigate whether TTN and PIK3CA mutations can predict overall survival in patients with CESC. Genomic data from the 2020 Pan-Cancer Atlas was analyzed in cBioPortal. Patients were organized into mutated vs. wild-type groups for TTN, PIK3CA, or both genes. A Kaplan-Meier (KM) survival analysis was conducted to assess overall, disease-free, disease-specific, and progression-free survival. PIK3CA mutations were correlated with reduced survival, occurring in 38% of tumors, supporting their oncogenic role. TTN mutations (31%) were linked to high TMB, correlating with poor prognosis. Survival analyses revealed that neither mutation significantly affected overall survival ( $p = 0.495$ ). Co-occurring TTN and PIK3CA mutations exhibited a lower hazard ratio ( $HR = 0.554$ ), suggesting a potential protective effect. In the disease-free survival analysis, PIK3CA mutations alone were correlated with improved outcomes ( $HR = 0.294$ ,  $p < 0.05$ ). Oncoprints were generated to examine mutation type and frequency. Missense mutations were the most common type for both genes. The findings of this study highlight the potential of utilizing TTN and PIK3CA mutations as prognostic biomarkers in CESC.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***Protecting Young Girls from Over-Sexualization in Media and Society***

Author(s): Chrystaline Sullivan, Danielle Lemmon

Advisor: Dr. Mina Ivanova

**Abstract:** This poster examines the historical roots and contemporary manifestations of young girls' over-sexualization in media, entertainment, and fashion industries. Drawing on the American Psychological Association's (APA) definition of sexualization, we trace this phenomenon from Shirley Temple's problematic portrayals in the 1920s through post-WWII youth marketing, the emergence of "tween" culture in the 1970s, to today's digital landscape of child influencers. Our research documents disturbing trends in beauty pageants, clothing, toys, and social media that contribute to premature sexualization, while highlighting the lasting psychological impacts: eating disorders, depression, and diminished self-worth that often persist into adulthood. The analysis employs an intersectional framework, revealing how the Jezebel stereotype and "adulthoodification" of Black girls systematically denies them the innocence afforded to their white counterparts—a pattern traceable from 19th-century minstrel shows through modern media representations. The research identifies three highly effective activist strategies that have successfully challenged these harmful portrayals: reframing language to shift blame from cultural systems, creating alternative visual representations, and leveraging targeted campaigns against specific products. The poster concludes with a case study of the "Gallery of Absurdity," a digital meme campaign that employs humor as a "Trojan horse" to deliver critical messages through four themed exhibits targeting parents, young adult men, and media professionals. This innovative approach aims to debunk harmful narratives, particularly around the "fast-tailed girl" stereotype affecting Black girls, while transforming awareness into action through strategic deployment of digital content that balances emotional appeals, logical arguments, and research-backed credibility.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***The Impact of TTN and PIK3CA Gene Alterations on the Survival of Patients with Cervical Squamous Cell Carcinoma***

Author(s): Deborah Ikechukwu

Advisor: Dr. Jennifer Hurst-Kennedy

**Abstract:** Cervical squamous cell carcinoma is one of the leading causes of cancer related deaths in women, as there is usually a poor prognosis in advanced stages. Mutations in TTN and PIK3CA, may influence tumor progression, treatment response and patient survival. In this study we will look at the impact of PIK3CA and TTN mutations on patient survivability, tumor progression and therapeutic targets in cervical SCC. Data was obtained from the cBioPortal using the 2020 Pan Cancer Atlas dataset. Experimental groups were put together based on PIK3CA and TTN mutation status. Kaplan Meier survival curves, oncoprints and mutation frequency distributions were analyzed to determine associations between gene alterations and patient outcomes. The analysis showed that PIK3CA mutations were among the most frequently occurring in cervical

SCC and were associated with PI3K/AKT pathway activation. The patients that had TTN mutations demonstrated improved overall survival and distinct immune responses. It was also found that high tumor mutational burden influenced immune cell infiltration, with potential implications for immunotherapy. Additionally, analyzing genomic data supported the use of Alpelisib, a PI3Ka inhibitor, as a targeted therapy for PIK3CA mutant cervical cancer. The findings show the importance of genomic profiling in cervical SCC for predicting prognosis and identifying new therapeutic targets. The findings suggest PIK3CA mutations could influence personalized treatment strategies, in particular PI3K inhibitors such as Alpelisib, however the TTN mutations may serve as a prognostic biomarker. There is still more research needed to confirm these findings across diverse patient populations and treatment regimens.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***Depressants In Media: Danger, Recovery, and Mental Health***

Author(s): El Metler, Kykah Kellam, Taima Opare

Advisor: Dr. Stacey Dutton

**Abstract:** This project examines how depressant drugs are portrayed in the media, focusing on themes of danger, addiction, and mental health. Depressants, commonly prescribed for anxiety and sleep disorders, can lead to significant health risks, including dependency and behavioral changes. This study analyzes portrayals of depressants across different media sources to explore how these narratives shape public perception. Our analysis included the Netflix documentary *Take Your Pills*: Xanax, social media posts from Twitter, TikTok, and Instagram, and three AP News articles discussing Ambien. The documentary and social media posts emphasize the dangers of benzodiazepines, particularly their addictive potential and limited effectiveness in treating anxiety. Social media discussions often highlight personal experiences of dependency, withdrawal, and misprescription, raising concerns about overreliance on these medications. Meanwhile, the AP News articles examine Ambien's effects on behavior, detailing cases where individuals engaged in unconscious actions while under its influence. The articles also explore how Ambien has been used as a legal defense in cases of erratic or harmful behavior, sometimes downplaying its addictive potential. The portrayal of depressants in media often leans toward their risks, sometimes emphasizing anecdotal evidence over medical consensus. While these narratives raise awareness of addiction dangers, they may also contribute to stigma around prescribed medications for mental health. These findings highlight the need for balanced media portrayals to ensure public understanding aligns with scientific evidence and informs health policies effectively.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***Investigating Kin Recognition in Eastern Yellowjackets (*Vespula maculifrons*)***

Author(s): Emma Gosse, Rebecca Harshman

Advisor: Dr. Jennifer Kovacs

**Abstract:** Have you ever wondered how wasps recognize each other? We believe they use their version of facial recognition! Eastern Yellowjackets, *Vespula maculifrons*, are a social species of wasp that inhabit the southeastern US. They live in colonies that are headed by a single queen who mates with multiple males, creating numerous full- and half-sister groups within these colonies. With social insects and any species of animal that live in social groups, there are a lot of conflicts that can arise in these colonies. Some conflicts these wasps face are competition over resources, overcrowding, and reproductive conflict. The question is, how do wasps reduce conflict between sister groups? One possibility might be facial pattern recognition or rather a lack thereof. Each wasp has her unique face marking, which we believe helps in keeping kin in the nest and intruders out. These patterns could also help workers identify their sister groups and reduce in-fighting within the colony. But first, we had to investigate whether or not there was a link between facial patterns and patriline. Images were taken and prepared for analysis in ImageJ. After this was done, the images were loaded into the R packages *patternize* and *recolorize*, which I used to perform further image corrections and the statistical analysis needed to quantify facial patterns. We specifically looked for correlations in facial patterns between patriline and between patriline within castes. These

correlations will allow us to determine whether there are differences in genetic architecture between gynes and workers and whether there is a mechanism for kin recognition.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***From Classroom to Care: Enhancing Core Competencies at Piedmont Henry***

Author(s): Erin Jackson

Advisor: Dr. Shoshana Katzman

**Abstract:** Currently completing the Accelerated Masters of Science in Medical Sciences Program at Agnes Scott College in Decatur, GA. My career aspirations after completion of this program include attending medical school and becoming a physician in an urban community. I applied and was accepted to complete an internship at Piedmont Henry Hospital in Stockbridge, GA. This internship provided hands-on clinical experience in various departments of the hospital. I had the pleasure of shadowing different types of healthcare workers including wound care specialists, ultrasound technicians and certified nursing assistants. I have chosen to focus on core competencies including Interpersonal and Communication skills, Professionalism and Ethical Responsibility, and Critical Thinking and Problem Solving which are essential to become a successful medical school student and future physician. By interacting with patients, healthcare providers, and staff, I honed my ability to communicate clearly, listen actively, and deliver information empathetically. I learned to tailor my communication style to diverse audiences, ensuring that patient concerns were addressed while maintaining a professional rapport with team members. I observed firsthand the importance of ethical decision-making, patient confidentiality, and maintaining a high standard of care. As I assisted in various clinical tasks and observed patient care, I was able to contribute to diagnostic processes and treatment planning. These experiences allowed me to apply theoretical knowledge to real-world scenarios, promoting a deeper understanding of medical practice. Overall, my internship at Piedmont Henry significantly enhanced my AAMC core competencies, offering invaluable hands-on experience that has prepared me for the challenges of a medical career.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***A Construction of Set-Theoretic Solutions to the Yang-Baxter Equation***

Author(s): Gwendolyn Flaherty

Advisor: Dr. Alan Koch

**Abstract:** The Yang-Baxter Equation has applications in many fields of physics and mathematics, including statistical mechanics, quantum physics, and knot theory. In this talk, we focus on constructing set-theoretic solutions to the Yang-Baxter Equation on a set  $B$  of order  $p^k$ , where  $p$  is a prime number and  $k$  is a natural number. We generate these solutions using a certain class of matrices. We determine the size of this matrix class for any given dimension, and count the number of distinct set-theoretic solutions these matrices generate on the set  $B$  for small values of  $k$ . Explicit examples will be given.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***Scientific Basis for Casual Alcohol Portrayals in Media***

Author(s): Grace Phillips, Saia Bennett, Ryan Schmidt

Advisor: Dr. Stacey Dutton

**Abstract:** This project explored the normalization of alcohol consumption in the media and used scientific sources to verify whether these portrayals are evidence-based. This research is being done to determine if alcohol consumption and its effects should be painted in a different, more scientifically-based light within the media. To complete our analysis, we will

use a variety of popular media sources including the documentary *Secrets of the Blue Zones* on Netflix, the 2012 film *Project X*, recent news articles about trends and effects of alcohol use, and social media posts about alcohol use. The significance of alcohol varies culturally depending on geography; however, alcohol is a normalized drug of choice in social interactions reigns in almost any area. The negative stigma regarding its effects seems to be associated more with your behavior while engaging with alcohol and not its impact on the body. (Mäkelä, pp. 21) This is what is most often perpetuated in media where one might see: aggressiveness, lack of coordination, and deficits in impulse control in an individual who drinks too much or too early in their development. However, the biological impacts alcohol has on moderate/occasional drinkers and in any age group is notable (Contaldo, 1989). The research indicates that the media, for the most part, depict alcohol's effects on behavior rather than its effect on physiology and thereby normalize it. Better representation would educate the public and lead to responsible drinking. Future studies must examine the influence of the media on alcohol culture and policymaking in order to achieve better awareness of the effects of alcohol.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***Finding The Shore***

Author(s): Icic Richmond

Advisor: Dr. Shoshana Katzman

**Abstract:** As a Masters of Sciences in Medical Sciences student at Agnes Scott College I was able to participate in an internship at Avant Psychiatry. This provided an opportunity to learn more about the medical field while also enhancing professional competencies that are important for healthcare professionals. During this internship, I was able to gain hands-on experience into the daily interactions that take place in a psychiatric office. I was able to observe the psychiatrist, office managers, front desk administration and PA's work together to provide medical services to patients. I was able to learn the operational aspects along with the clinical side of an outpatient medical office. At each office visit, I learned new information including the patient intake process, how the physician reviews case notes, and how treatment plans are constructed. I was able to learn how the clinician handled more complex and time-consuming cases. Prior to this internship experience, I had a surface level understanding of Psychiatry and patient care in a clinical setting. I was able to see how the providers created trust with the patients so that the patient feels protected and heard. Throughout this experience I gained specific professional competencies including interpersonal communication skills, understanding ethical decisions in medicine, and adaptability. The internship deepened my drive to make sure I become a provider that focuses on a patient centered approach that is dedicated to equitable care for the community. The experience reinforces how necessary it is to take into consideration the patient and their environment into the treatment plan while also being compassionate and patient.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***Impacts of an Invasive Plant Species on Native Plant Distribution and Abundance***

Author(s): Indie Lorick

Advisor: Dr. Jennifer Kovacs

**Abstract:** By nature, invasives endanger native species and their ecosystems, as well as threaten the economic well-being of the areas they invade. There is a large distribution of invasive species across the state of Georgia, but large-scale data collection of plants can be difficult. Citizen science-based databases, such as iNaturalist, provide large global biodiversity datasets. Very few studies show the effects of specific invasives on native plant distribution and abundance. This research aims to identify the effects of English ivy (*Hedera helix*) on the distribution and abundance of three native plant species: red maple (*Acer rubrum*), Christmas fern (*Polystichum acrostichoides*), and Virginia creeper (*Parthenocissus quinquefolia*). Invasive species frequently create significant competition for native species, decreasing their access to resources. I hypothesize that English ivy will have a significant effect on the distribution of the three selected native species. RStudio was used to analyze data collected from iNaturalist between 2020 and 2025. I predict that there will be a difference in the

abundance of the three native species relative to the abundance of English ivy. Using RStudio will provide the ability to graph the distribution of species throughout the selected period and identify any patterns. A statistical analysis will be performed to either confirm or reject the correlation between the presence of the invasive species and the distribution of the native species. The ability to understand the impact of individual invasives could provide further information on the effects of native plants and ecosystems.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***Assessing College Students' Gratitude and Their Feelings About College***

Author(s): Isabel Ley, Meredith Scafidi, Katherine Cox

Advisor: Dr. Jennifer Hughes

**Abstract:** Prior research evaluated grateful students and how their gratitude affected their experiences in college (i.e., social integration, academic integration, degree commitment, and general college persistence; Mofidi et al., 2014). We hypothesized that students with very high levels of trait gratitude would report stronger feelings of gratitude for being in college, gratitude for the other people (i.e., faculty, staff, advisors, and other students) at their college or university, and school connectedness. Our participant sample included 127 undergraduate students in psychology courses at a private liberal arts college. Participants completed an anonymous online survey containing questions about gratitude (Gratitude Questionnaire, GQ-6, McCullough et al., 2002), feelings about being in college (College Student Subjective Wellbeing Questionnaire by Zhang & Renshaw, 2002), and demographic information. Most participants identified as women. One-way ANOVAs revealed a statistically significant difference in feelings of gratitude for being in college among the four gratitude groups,  $F(3,117) = 6.75, p < .001$ . We also found a statistically significant difference in gratitude for other people at the college among the four gratitude groups,  $F(3,117) = 4.73, p = .004$ . Finally, we found there was a statistically significant difference in school connectedness among the groups,  $F(3,115) = 3.03, p = .032$ . These findings suggest that trait gratitude may influence students' feelings about their college experience. Although we used scales with established reliability and evidence for validity, we were limited by an underrepresentation of men. Future research should investigate how trait gratitude impacts students longitudinally as they progress through their undergraduate careers.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***Examining School Connectedness After Gratitude Interventions: A Longitudinal Study***

Author(s): Isabel Ley, Meredith Scafidi, Amani Smith

Advisor: Dr. Jennifer Hughes

**Abstract:** Past research has found that gratitude promotes connectedness with others and the maintenance of social relationships and interactions (Rash et al., 2011). We hypothesized that those who participated in the college-specific gratitude journal would experience improvements in their school connectedness and would display increased gratitude towards specific groups of people at college compared to those who completed the general-gratitude journal and the control group. We collected data from undergraduate students in introductory psychology courses at a private liberal arts college. The anonymous online survey contained questions regarding feelings about being in college (College Student Subjective Wellbeing Questionnaire by Zhang & Renshaw, 2002) and demographic information. Of the 127 participants, only 92 completed the pre- and post-surveys and the four in-class gratitude interventions. Of those, most identified as women. Repeated-measures ANOVAs showed that the effect of participating in the gratitude journal about college, participating in the general-gratitude journal, or being in the control group on school connectedness was not significant at the .05 level,  $F(2, 89) = .036, p = .96$ . Such effect on gratitude for specific groups of people at college was also not significant at the .05 level,  $F(2, 89) = 1.24, p = .30$ . Although we used scales with established reliability and evidence for validity, we were limited in our participant sample and conducted the study at a stressful point in the semester. Future research should investigate the effects of the intervention on participants who are particularly interested in improving their gratitude.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***Criminal Sentencing Using the Representative Heuristic: Mental Illness and Criminal Behavior***

Author(s): Jessica Pinsker, Aartu Kakkad, Lyndee Hollifield

Advisor: Dr. Brielle James

**Abstract:** The representative heuristic is a mental shortcut in which people estimate the likelihood of an event based on similarity to their prior stereotypical representation of it. This project explored the use of the representativeness heuristic in the context of criminal sentencing biases and the insanity defense. Research suggests that people develop negative stereotypes against those with psychotic mental illnesses, including linking them with criminal behavior. Therefore, we predicted that the representative heuristic would play a role in participants' sentencing decisions, leading them to sentence both individuals with or without a psychotic disorder to jail as opposed to mental health treatment. Participants consisting of mostly undergraduate students at Agnes Scott College completed an online survey distributed via email or text. Participants read a short vignette that described a crime scene and a suspect. There were two vignettes that included descriptions of someone with or without signs of a psychotic disorder. Participants then had to respond whether the suspect described should be sentenced to jail or a mental facility. The results showed a significant difference in sentencing decisions across vignette conditions. Individuals with a psychotic disorder were mostly sentenced to mental health treatment, while individuals without the same disorder were mostly sentenced to jail. Although these results contradict our hypothesis, the representative heuristic may still be applied through a different stereotypical construct. Exploring the representative heuristic in the context of sentencing and the insanity defense has important implications on the treatment of people with mental illness in the criminal justice system.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***Using a Gratitude Longitudinal Study to Assess Satisfaction with College***

Author(s): Katherine Cox, Reese Mendenhall

Advisor: Dr. Jennifer Hughes

**Abstract:** College students tend to experience heightened emotions of stress and anxiety, which can affect their mental health (Tolcher et. al., 2022). Gratitude interventions are easy to implement, can improve life satisfaction, can contribute to positive beliefs, and improve levels of self-esteem (Tolcher et. al., 2022). We predicted that participants who completed the college-specific gratitude journal would experience greater improvements in gratitude for being in college, seeing the value provided by the college, and satisfaction with academics at posttest compared to those who completed just the general-gratitude journal and the control group. Out of the 127 initial participants, 92 completed the pre- and post-surveys and four in-class gratitude interventions. From those that fully completed the assessments, most identified as women. A strength of our study is its specificity, as it focuses on attitudes toward college rather than general happiness and is relatively racially diverse. In the future, we would like to repeat the study, but with volunteers and also hope to gather a larger sample size consisting of more men from multiple colleges/universities.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***Color-Blind Racism and Psychological Well-Being in Racially Privileged Individuals: Psychological Implications***

Author(s): Kathryn Wise

Advisor: Dr. Peeper McDonald

**Abstract:** Color-blind racial ideology (CBRI) is a pervasive matter and is heavily connected to numerous social justice issues in our current sociopolitical sphere. Much of the existing literature examining relationships between CBRI and varying forms

of well-being focus on those in racially marginalized identities, leaving gaps in what we know about these relationships in those who live with more racial privilege and directly benefit from this ideology. The present study aims to determine the relationship between white, monoracial participants' scores on the Color-Blind Racial Attitudes Scale (CoBRAS; Neville et al., 2000) and Psychological Well-Being Scale (PWBS; Ryff & Keyes, 1995). Using survey data from 455 individuals, both Spearman correlation analyses and Pearson correlation analyses were utilized to investigate relationships between color-blind racial attitudes and psychological well-being. Considering the sociopolitical functions and psychological underpinnings of CBRI present in existing research, it was hypothesized that there would be a positive correlation between color-blind racial attitudes and psychological well-being in this sample. Interestingly, it was discovered that there were both significant negative and positive correlations between participants' scores on the three factors within CoBRAS and the Psychological Well-Being Scale, albeit low to moderate in strength, leaving our hypotheses with partial support. These findings carry significant implications in psychological research, training and education. Additionally, the results provide further insight into the role(s) of privilege and emotionality in the perpetuation and pervasiveness of CBRI.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***Barriers to Survival: Addressing Racial and Age-Related Disparities in Ovarian Cancer Treatment and Survival***

Author(s): Kenya Byrd

Advisor: Dr. Jennifer Hurst-Kennedy

**Abstract:** Ovarian cancer is one of the most lethal gynecologic cancers in the United States with disproportions in survival outcomes based on age and race. This study utilizes genomic sequencing data from the 2020 Pan-Cancer Atlas and cBioPortal analytical tools to examine how race and age influence patient survivability. Experimental groups were defined by comparing racial categories (Black, White, & Asian) and analyzing genomic alterations in these groups. Kaplan-Meier (KM) survival analyses were generated to obtain overall survival, prognosis-free survival, disease-free survival, and disease-specific survival. The analyses show significant differences in patient survivability by race. Emerging research suggests that factors exceeding genetic predisposition – such as quality of healthcare and access – played a critical role and old age demonstrated the worst survival outcome. The findings align with existing literature highlighting the need for early diagnosis, equitable access to care, and adherence to treatment guidelines that can mitigate survival disparities in ovarian cancer patients.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***Impact of Intermediate Aromatic Hydrocarbons on Methanol Diffusion in Zeolite Catalysts: Insights from Classical Molecular Dynamics Simulations***

Author(s): Kimberly Sanabria, George Dunkley, Claire-Louise Wooward

Advisors: Dr. Ruth Riter, Dr. Alexander O'Malley

**Abstract:** The conversion of methanol to hydrocarbons offers a promising, sustainable alternative to traditional crude oil-derived fuel and chemical production. This transformation occurs within microporous zeolite catalysts, where the diffusion of methanol to active sites—and the escape of products from those sites—is essential to the process. Classical molecular dynamics simulations provide valuable insights into methanol transport through these zeolite frameworks. This study builds upon previous work by investigating methanol diffusion in H-ZSM-5 zeolite in the presence of intermediate aromatic hydrocarbons formed during the methanol-to-hydrocarbons (MTH) reaction. Simulations were conducted at temperatures ranging from 373 K to 473 K, with methanol loadings of 3 wt% and 1.7 wt%, corresponding to 1 and 2 molecules per unit cell (MPUC), respectively. Benzene, a key intermediate in the MTH process, was introduced into the system at concentrations of 1 wt% and 1.3 wt% for the same methanol loadings. The impact of these aromatic species on methanol diffusion was assessed by calculating activation energies and analyzing radial distribution functions (RDFs). Four RDFs were generated: methanol within the framework, methanol–methanol interactions, and two configurations including benzene. These RDFs reveal how aromatic intermediates are spatially distributed within the zeolite pores and their potential

to hinder diffusion by blocking channels or limiting access to active sites. Understanding these interactions is critical to optimizing catalyst design and improving the efficiency of methanol-to-hydrocarbon conversion.

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**Poster Session A: 9:00-10:00 am (set up by 8:45) Bullock Lobby**

***Bridging to the Future: The YOLO System as a diagnostic Tool in Oncology and Medical Diagnostics***

Author(s): Kya Knox

Advisor: Dr. Srebrenka Robic

**Abstract:** Artificial Intelligence (AI) has been revolutionizing numerous fields, and the YOLO (You Only Look Once) system is an effective AI tool based on an algorithm for real-time detection and classification of multiple targets. YOLO is emerging as a pivotal tool in biomedical diagnostics, particularly in cancer detection. YOLO utilizes advanced deep learning techniques to analyze medical imaging rapidly and accurately, which enables healthcare professionals to identify lesions and tumors at earlier stages than traditional methods (blood sampling, genetic testing, etc.) This not only enhances patient outcomes but also streamlines the diagnostic process, reducing the burden on healthcare systems. Beyond biomedical and oncology approaches, the principles underlying YOLO technology hold significant potential for various industries, including kitchen safety and healthcare. YOLO has been proven to be used as a diagnostic tool to identify cancer lesions such as, liver, breast cancer, cervical, etc. Because of YOLO fast detection and capability to detect when cells are spreading helps providers get their patients care effectively and immediately.

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**Poster Session A: 9:00-10:00 am (set up by 8:45) Bullock Lobby**

***Social Media Distress and Psychological Well-Being in a Racially Color-Blind Context***

Author(s): Meleah N. Oliver

Advisor: Dr. Peeper McDonald

**Abstract:** This study examines the influence of color-blind racial attitudes on social media distress and psychological well-being, focusing on racial privilege awareness and identity acceptance within online spaces. Social media, while fostering connection, can reinforce societal biases, especially through color-blind racial ideology (CBRI), which downplays systemic racism. A sample of 804 participants, recruited via email, social media, and university networks, participated in this study. Key constructs were measured using the Color-Blind Racial Attitudes Scale, the Social Media Identity Distress Scale, and the Psychological Well-being Scale. Results revealed a significant negative correlation between CBRI and psychological well-being, indicating that those with color-blind views reported lower well-being. Additionally, participants with low awareness of racial privilege showed heightened social media identity distress. However, CBRI did not directly affect social media identity distress. These findings underscore the importance of challenging color-blind ideologies, which obscure the lived experiences of marginalized groups and hinder social belonging. By highlighting the mental health impact of CBRI, this study informs mental health practices and encourages critical consciousness about racial inequalities in digital spaces. Future research should further investigate racial group differences to develop inclusive online environments that promote racial awareness and well-being.

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**Poster Session A: 9:00-10:00 am (set up by 8:45) Bullock Lobby**

***Measuring Environmental Factors Effect on Honey Composition***

Author(s): Mykle Williams, Tenley Gallagher

Advisors: Dr. Jennifer Kovacs, Dr. Erika Harris

**Abstract:** Despite their smaller size, honey bees make an enormous impact on the ecosystems they inhabit as a pollinator species. However, the ecosystems themselves can be just as impactful on the honey bees' own health and behavioral



patterns. The changing weather patterns of the seasons and the industrialized, curated landscaping of urban areas, affects the abundance and diversity of plant species accessible to honey bees. This study examines the effect of urbanization and seasonal differences on the ecological patterns of honeybees by analyzing the content of their honey samples. The pollen in the honey samples can be identified using the DNA of the chloroplasts, an organelle responsible for photosynthesis in plants. The unique DNA of different pollen present can provide insight into the various plant species pollinated at each colony. By analyzing the plant species pollinated by honeybees across locality and season, we can gain a better understanding of the complex ecological interactions of Honeybee communities.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***Predicting students' long-term intentions for a relationship with their college***

Author(s): Reese Mendenhall, Evelyn Patricio, Amani Smith, Aigner, Muschette

Advisor: Dr. Jennifer Hughes

**Abstract:** Much of the prior research on retention of college students has focused on academic and financial difficulties (Mofidi et al., 2014). However, much less research has focused on psychological factors that affect retention of students (Mofidi et al., 2014). For this study we wanted to look at the psychological predictors of students' long-term intentions for a relationship with their college. We hypothesized that the following would be predictors: the perceived value of their education from the college, their commitment to their college, their satisfaction with their academics, and their school connectedness. After conducting our multiple regression, we found that three of our four predictors significantly predicted students' long-term intentions for a relationship with their college: the perceived value of their education from the college ( $\beta = .37, p < .001$ ), their commitment to their college ( $\beta = .30, p < .001$ ), and their school connectedness ( $\beta = .21, p = .015$ ). Their satisfaction with their academics was not a significant predictor. The model accounted for 65% of the variance,  $F(4, 114) = 55.49, p < .001$ . Colleges and universities might want to assess these variables when they are working on retention efforts.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***Effects on Anxiety and Depressive-like Behaviors in C57BL6 Mice With Burrowing Enrichment***

Author(s): Rowan Schneider, Sofia Barrett, Elliot Arp

Advisor: Dr. Jennifer Larimore

**Abstract:** Mice housing conditions are an important factor in ethical laboratory conditions for animals. Nest building and burrowing are naturally motivated behaviors in mice, providing food storage and shelter. We predicted that a greater access to burrowing would lead to decreased anxiety and depression. We housed one group with three paper towel rolls, and measured the effects on anxiety-like behaviors and depressive-like behaviors using the Forced Swim Test (FST) and Open Field Test (OFT) respectively. Our findings suggest that the addition of tunnel enrichment in this pilot study had no effect on depressive-like behavior, but the data suggests a trend in increased anxiety-like behavior in C56BL6 mice.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***How Does SHANK3B Affect Dysbindin Expression?***

Author(s): Shaky'ra Blades, Nia Bennett, Anise Harris, Finley Turner

Advisor: Dr. Jennifer Larimore

**Abstract:** This research examines the effect of SHANK3B on the expression of dysbindin in Mouse cortex cells. SHANK3B encodes scaffolding proteins, and its mutations impact dendritic spine morphology and function. Dendritic spines are small protrusions on the surface of neurons that receive excitatory signals and transmit them to the cell body. Spine alterations affect brain development, cognitive function, and behavior, contributing to neurodevelopmental disorders such as Autism Spectrum Disorder (ASD). Dysbindin is a protein involved in vesicle trafficking from the early endosome to the late endosome and plays a crucial role in the biogenesis of specialized lysosomes. It plays a role in the brain and muscles. Dysbindin is involved in synaptic transmission, protein trafficking, and the assembly of the postsynaptic apparatus. To assess changes in dysbindin expression, we analyzed protein levels using Western blotting. This research is significant because it advances our understanding of how SHANK3B mutations contribute to neurodevelopmental and psychiatric disorders, and it allows us to find future therapeutic avenues for Autism Spectrum Disorder.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***The Political Exploration of The Wiccan Religion***

Author(s): Shavonne Morris

Advisor: Dr. Enrique Quezada

**Abstract:** Wicca is classified as a pagan religion often practiced by smaller gatherings referred to as 'covens'. It remains a highly under-researched religion and is often presented as an "other" in discussions of religion within political science or the humanities. This research aims to bridge that gap by examining Wicca's place in political discourse, particularly where religion and politics intersect. Political conversations often occur in religious congregations—Christianity, for example, is deeply intertwined with the Western political climate. Exploring if and how political cues appear in Wiccan congregations offers new insight into the political nature of the religion. Using the classification framework from Brewer et al. (2003) and data from the Pew Research Center's 2014 Political Landscape Study, political references during a Wiccan service were analyzed. This framework categorizes mentions of sociopolitical topics into levels such as social justice (2SJ), personal morality (2PM), and political or social action (3P/3S), ensuring consistency in data comparison. During the congressional visit, two informal conversations were observed among members of the coven—one regarding the 2024 presidential election and the other centered on reproductive rights. Both were categorized as 2SJ (social justice) messages. Results confirmed expectations: if political conversations are present, the tone tends to be left-leaning. This suggests that Wiccan spaces may align with progressive or alternative political ideologies, reinforcing their outsider status in traditional religious-political narratives and offering a deeper understanding of how marginalized religions engage with socio-political discourse.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)     Bullock Lobby**

***The Dynamics Between Social Media, Social Desirability, and Well-Being: Being Minoritized Online***

Author(s): Sheriefa Braswell

Advisor: Dr. Pepper McDonald

**Abstract:** This study explores the experiences of Monoracial individuals with a minoritized status and Multiracial individuals with dual-minority status and their social desirability in social media. The goal is to understand how community support, social desirability in identity development, and well-being in group membership influence mental health and identity. This area of research is in its early stages, emphasizing the importance of this study in understanding the psychological implications of social media on identity in minoritized populations. Data were drawn from a pre-existing data set, where only 86 participants with a minoritized identity from ages 18 to 68 ( $M = 27.95$ ,  $SD = 7.11$ ) were included in this study. Participants were chosen based on whether they did not identify as White or not mixed with White. This study used mediation and correlation analyses to assess the relationship between psychological well-being, social media identity distress, and social desirability. Findings suggest significant, weak negative relationships between psychological well-being and identity distress and psychological well-being and social desirability. A significant, weak positive relationship was found between social desirability and identity distress. However, no significant indirect effect of identity distress on social desirability through psychological well-being was found. The findings of this study have the potential to shape counseling

methods by implementing new approaches to the impacts social media has on minoritized populations. A broader understanding of how creating online communities can impact mental health and social desirability also comes out of this study.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***Attitudes Towards Romantic Relationships on the Autism Spectrum Disorder***

Author(s): Valeria Osornio

Advisor: Dr. Stephanie Stern

**Abstract:** This presentation looks into the attitudes individuals have concerning romantic relationships within the Autism Spectrum Disorder (ASD). Participants completed a preliminary assessment about their initial thoughts on romantic relationships within the ASD community. Aspects about relationship satisfaction, relationship quality, and relationship challenges were asked in the questionnaire. To see if an individual's attitude can be influenced by a reality TV series, an experiment was conducted to see whether participants' initial thoughts concerning romantic relationships would change after seeing an episode from a series called Love on the Spectrum.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***The Impact of TP53 and ARID1A Mutations on the Survivability of Patients with Stomach Adenocarcinoma***

Author(s): Victoria McCrae

Advisor: Dr. Jennifer Hurst-Kennedy

**Abstract:** This study aimed to identify genetic predictors of survivability in stomach adenocarcinoma, focusing on TP53 and ARID1A mutations. Utilizing the 2020 Pan-Cancer Atlas dataset and the genomic analytic tool, cBioPortal, Kaplan-Meier (KM) survival graphs and Oncoprints were analyzed to assess the impact of these genes on patient outcomes. Experimental groups were defined by mutation status (mutated vs. wild-type) and co-occurrence of TP53 and ARID1A mutations. The findings revealed patients with both TP53 and ARID1A (double-mutated) mutations demonstrated significantly decreased survivability compared to other groups, including progression-free and disease-specific survival. The KM survival graphs visually support this observation, showing that the TP53+ARID1A group consistently exhibited lower survival rates than groups with TP53 mutations alone. Furthermore, the group without either TP53 or ARID1A mutations (Unaltered) demonstrated the highest survival rates. On the contrary, the Deng et al., 2021 study supported the idea that patients with wild-type (WT) TP53 mutations had decreased survivability than those with mutated TP53. This finding suggests a more complex role for TP53 in gastric cancer, as it challenges the current research supported. The presence of ARID1A mutations, often associated with microsatellite instability-high (MSI-H) tumors, and potential immunotherapy response, did not counteract the negative impact of concurrent TP53 mutations in this cohort. MSI-H tumors are known to respond favorably to immunotherapy. This study highlights the complexity of both TP53 and ARID1A in stomach adenocarcinoma and how more research can lead to positive clinical outcomes.

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**10:00 am-1:00 pm: SUMMIT SESSION, *Bullock Science Center, Teasley G-09***

**SUMMIT @ SpARC Session: Featuring selected presentations from Journeys Destinations and a Panel Discussion of SCALE**

10:00 <b>Germany, Barbara Drescher &amp; Navajo Nation, Lock Rogers</b>	<b>"Decolonizing Berlin"</b> Student Presenters: Annabelle Luth, Isa Duggan, Lily Rashidi-Yazd, Me-Ki Osafo
	<b>"<del>Yaateeh</del>, Navajo Nation"</b> Student Presenters: Phoenix Robertson, Sofia Waters
10:20 <b>Costa Rica, Atieno Samandari &amp; Italy, Tracey Laird</b>	<b>"Overconsumption"</b> Student Presenters: Darcy Anderson, Tamara Cime, Isabela Damian
	<b>"Sustainability in Comparison: Trentino and ATL"</b> Student Presenters: Hayley Peace, Braelyn-Skye Erves, Carly McLeod & Tay Hendley
10:45-11:30 <b>SCALE panel</b>	<p style="text-align: center;"><b>SCALE PANEL</b> Moderators: Mekdes Anile &amp; Rose Langley</p> <p style="text-align: center;">Panelists: Kieko Bellinger, Elise Brown, Kenya Brown, Anna Cover, Marley Crosby, Gia Curtis, Maria Freeman, Emma Macaluso, Elom Mulatu, Melissa Parker, Aylin Serrano</p>
11:40 <b>Sea Islands, Erica Harris &amp; Northern Ireland, Kristian Blaich</b>	<b>"Sankofa and Sumanguy: Framing Our Gullah Geechee Experience with West African Songs"</b> Student Presenters: Kamryn Hill, Trinity Strong, Anaya Harvey, Reneecia Bertrand & Alecia Brown
	<b>"Cross Cultural Communication: Finding Peace through Narratives in Northern Ireland"</b> Student Presenters: Sophia Baker, Zoe Karaberis, Leza Nadeem, Audrey Rich & Lissete Estrella
12:00 <b>Bulgaria, Mina Ivanova &amp; France, Philip Ojo</b>	<b>"Beyond the Iron Curtain: Rethinking Bulgaria and Eastern Europe"</b> Student Presenter: Catt Beyer
	<b>"Contemporary, Mosaic Identities in France"</b> Student Presenters: Ben Adams, Michelle Hernandez, Lideya Mullualem, Ellie Settle, Noor Stewart & Max Westbrook
12:20 <b>Benin, Doug Falen &amp; Grenada, Enkeshi El-Amin</b>	<b>"Intersecting Worlds: Experiencing Syncretism and Globalization in Benin"</b> Student Presenters: Zara Calloway, Sitota Rogal & Maria Roque
	<b>"Campaigning for Grenada: Culture, History and A New Way of Travel in The Caribbean"</b> Instructor: Talya Edery, Versailles Weigel, Alex Casey and Sarah Fedrick

**ORAL PRESENTATIONS, MORNING SESSIONS**

**10:00-10:15 am Bullock 103W**

***Exploring the Impact of Media on Perceptions and Attitudes Towards Borderline Personality Disorder in Mental Health Care***

Author(s): Kathryn Wise

Advisors: Dr. Stephanie Stern, Dr. Julia Gutiérrez

**Abstract:** This research explores the relationship between exposure to media depictions of borderline personality disorder (BPD) and attitudes towards individuals with this diagnosis in those working or interested in working within the mental healthcare field. While previous research has established connections between media consumption and cognitive attitudes, perceptions, and stigma towards groups of people (Dickens et al., 2018; Hoffner & Cohen, 2012; Maier et al., 2014; Pirkis et al., 2006; Riles et al., 2021; Snyder et al., 2024; Stern & Barnes, 2019), no such research was located that calls into question this relationship as it relates to BPD and mental healthcare workers. The present research utilizes mixed methods: first, a quantitative study was conducted with a group of undergraduate psychology students intending on working in mental healthcare at a small, liberal arts college, to assess attitudinal changes after watching a popular film depicting BPD. Additionally, a semi-structured interview was facilitated with a licensed and practicing mental health clinician regarding their

exposure to media depictions of BPD, their prior education, training, and experience with BPD, and their own attitudes and perceptions of BPD. Ultimately, research bridging the role of media and perpetuation of stigma as it pertains to clinical attitudes and perceptions towards BPD is timely, considering the large amount of stigma towards BPD within the field of mental healthcare and its concerning consequences for individuals diagnosed with BPD (Amestoy et al., 2024; Benbow, 2007; Dickens et al., 2018; Maier et al., 2014; Masland et al., 2022).

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**10:00-10:15 am Bullock 112W**

***Institutional Review: Visual Reflections on Agnes Scott College***

Author(s): Jasper Potts

Advisor: Dr. Toby Emert

**Abstract:** "Institutional Review" is a senior capstone exhibition of works framing scenes of Agnes Scott College, seeking to question the institution's investment in social hierarchies and systems of oppression. The pieces intervene on the idyllic, manicured brand image of the school and seek to complicate what is officially presented. I use various visual techniques to accomplish this, including physically obscuring views of campus, presenting new perspectives on typical images, and calling attention to overlooked details. I also combine archival materials with observed scenes to call attention to the history and present of the school's messaging about itself. These works mix mediums and techniques, including painting, printmaking, and drawing. Some of the themes explored are investments in the corporate surveillance state; constructions of inside versus outside and nature versus culture; hierarchies and exploitation in the past and present; and what it takes to maintain the school's image. The works look at the hypocrisies and contradictions in the school's messaging about itself and seek to show the disconnect between stated values and actual action. The goal of this exhibit is to inspire critical viewings of everyday spaces and reflection on our collective and individual understandings of the injustices that sustain the institution. I'm interested in what we allow and overlook in order to continue to invest in and claim this space. While my work is primarily observational, calling attention to these problems, some of my exploration is speculative and concerned with what we might build instead.

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**10:00-10:15 am Bullock 209W-A**

***"She Was of It, Yet Remained Herself": Continuity and Temporality in Woolf's Orlando: A Biography***

Author(s): Mary Shawhan

Advisor: Dr. Charlotte Artese

**Abstract:** The title character of Virginia Woolf's Modernist novel *Orlando: A Biography* (1928) begins the book as a teenage boy in Elizabethan-era England and ends as a thirty-six-year-old woman in the 1920s. Besides experiencing an unexpected and apparently supernatural sex change midway through the novel, Orlando also has an unusually long lifespan, causing her to witness centuries of societal change while aging very little. Throughout, however, Orlando almost always maintains a stable and continuous sense of self, allowing her to function in the face of external change. How she accomplishes this, I argue, can be attributed to her work on "The Oak Tree," a poem she is writing throughout almost the entire novel, through which she must similarly find a balance between changing due to external factors (e.g. literary trends, other authors' influences) and maintaining a consistent identity. The successful functionality that Orlando and her poem achieve when change and consistency are allowed to coexist refutes the idea that changing aspects of oneself is inherently disruptive to the integrity of one's identity, instead highlighting the benefits of such coexistence. Orlando posits that maintaining a stable sense of identity is both possible and vital in order to function in an ever-shifting world, but preserving this identity requires embracing some amount of change, even as some amount is also resisted. In particular, the novel promotes literature as a helpful tool for finding this balance and coming to terms with embracing change while preserving constancy.

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10:00-10:15 am Bullock 209W-B

***Supporting Trust: The History of the Snow Leopard Trust and Animals as Agents of Diplomacy in Conservation from 1981-2007***

Author(s): Eliza Anderson

Advisors: Dr. Mary Cain, Dr. Kristian Blaich

**Abstract:** This presentation explores the relationship between Helen Freeman's Snow Leopard Trust and the beginning of community-based conservation efforts. Placing the non-profit within the historiography of conservation historians and scholars, this project provides an understanding of the changing world of conservation in a setting of unprecedented global dynamics. The presentation first covers the life of Freeman, the founder of the Trust, who, in her 40s, returned to school to pursue a degree in animal behavior. She was inspired to do so by Nicholas and Alexandra, two snow leopards that were brought to the Woodland Park Zoo from the Soviet Republic of Kirghizia. The story continues through the development of the Trust throughout 1981-1996, when Freeman took a step back from her leadership role. Finally, the research examines the effectiveness of the organization's efforts through the case study of Kyrgyzstan, formerly known as Kirghizia, and programs implemented in the country to build a conservation community in the local population.

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10:00-10:15 am Bullock 210E

***The Cost of Survival- Rethinking Child Labor***

Author(s): Lizeth Flores, Amelia Lorenzo

Advisor: Dr. Doug Falen

**Abstract:** Child labor is widely debated in the West, with most condemning the practice under the notion of protecting childhood safety. However, this perspective overlooks economic necessity in many nations where all household members must contribute to make ends meet. Child labor in developing nations is rooted in colonial economic structures that continue to shape labor dynamics. In this presentation, we aim to define the different age ranges that constitute a child, different forms of child labor, and current economic standings that continue to facilitate the reasons for underage labor contribution. Additionally, it highlights themes of outsourcing, like fast fashion, and contesting child labor in the United States. According to UNICEF, the United Nations humanitarian agency that focuses on defending children's rights, child labor is defined as tasks that could be physically hazardous and compromise the mental, social, or educational development. This source indicates child labor as most prevalent in Southern Africa. There is a lack of data entirely for North America and most European countries. Furthermore, the World Bank, an international financial institution made up of 189 member countries, plays a significant role in this dynamic. By providing loans, grants, and technical assistance to developing nations, the World Bank deceives developing countries, causing them to fall into further debt. This debt dependency forces many countries into economic hardship, leaving families to rely on child labor for survival. Western discourse condemns child labor but often overlooks the economic challenges that lead children to contribute to household survival.

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10:00-10:15 am Bullock 304E

***Water Surface Temperature and Fish Body Size***

Author(s): Emma Rosenberger

Advisor: Dr. Jennifer Kovacs

**Abstract:** Fluctuations in water surface temperature affect how fish body length changes at different latitudes. This project looks at the relationship between fish body length and water surface temperature in lakes in Wisconsin, North Dakota, and Alaska. Bergmann's rule states that body size correlates positively with latitude and negatively with temperature. This project investigates this rule and uses publicly available data to predict that when water surface temperatures get colder

throughout the year, or stay comparatively colder in Alaska than in Wisconsin and North Dakota, fish body length in chosen lakes will become bigger, possibly affecting food webs and aquatic ecosystems. Data from the National Ecological Observatory Network (NEON), which has data collection sites all over the United States, including lakes in Alaska, North Dakota, and Wisconsin, is used together with the programming language R to organize and filter data. These data collection sites record water surface temperature data every 30 minutes, daily. At the same time, researchers look at fish body weight and length twice a year at each location and submit data to NEON. Using this collected data, this research also predicts that fish measured in Alaskan lakes will be larger than fish measured in Wisconsin and North Dakota lakes all year round, but fish body size will become smaller proportionally to the changes in the water surface temperature.

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**10:00-10:15 am Bullock 308**

***Out of the Lab and Into the Community: Data Accessibility and Advocacy in Georgia***

Author(s): Emmylou Christensen, Natalie Trimble

Advisor: Dr. Srebrenka Robic

**Abstract:** Our aim was to understand and improve the accessibility of data in Georgia with a focus on how the availability of data impacts communities in need. We began our research at the state level by creating a live dashboard communicating the environmental impact of data centers and crypto mines in Georgia. Our second project focused on local impact: environmental justice issues in South DeKalb County, emphasizing the importance of air and water quality monitoring. Our current initiative is synthesizing these results into an easily accessible data portal for South DeKalb residents to learn more about the environmental concerns in their area and advocate for themselves using data-driven research.

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**10:00-10:15 am Bullock 102W**

***Population Profile of Clarkston, Georgia to Contextualize Mosaic Health Center's Diabetes Education Program Evaluation***

Author(s): Sadie Boonin, Dani Roberts, Nora Fairbanks

Advisor: Dr. Erin Bradley

**Abstract:** Assessing context is a key first step in most program evaluation frameworks. A culturally specific approach supports the contextual validity of an evaluation. This presentation is part of a broader program evaluation for Mosaic, a community health center that provides services for uninsured residents in Clarkston, Georgia. Clarkston is a city in DeKalb County with a population of around 14,756 residents. Known for its large immigrant population and overall diversity, Clarkston has many resources available to residents who face unique challenges including poverty, adjusting to life in the United States, and chronic illnesses. Using federal census data, local data sources, and online information about various local community resources, a demographic, needs, and resource analysis of the Clarkston community was conducted with a special focus on health, and in particular diabetes. Presenters will discuss the local demographics, resources available in Clarkston and the issues residents deal with, particularly in regards to their health. Our analyses provided the basis for developing a program evaluation plan for Mosaic's diabetes education program.

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**10:20-10:35 am Bullock 103W**

***It Ends With Me: Exploring Intergenerational Trauma, Anxiety, and Creative Writing with Black Americans***

Author(s): Chandler Grant

Advisor: Dr. Peeper McDonald

**Abstract:** Black Americans have long endured racism, systemic violence, and intergenerational trauma, yet they are less likely to seek mental health care due to cultural stigma and justified mistrust in the medical system (Jackson, 2020; Petion et al., 2023). This study explores how creative writing—a culturally familiar and expressive medium—can serve as a therapeutic outlet for Black Americans coping with intergenerational trauma and anxiety. Drawing on research that critiques the Eurocentric foundations of Western therapy, this project examines the potential of fiction, poetry, and prose to foster healing through self-reflection and cultural storytelling (Deveny & Lawson, 2021; Levy et al., 2022). In addition to reviewing the relevant literature related to Black Americans and intergenerational trauma, anxiety, and creative writing, this presentation will explore ideas for future studies regarding these constructs. This research highlights the significance of culturally relevant, nontraditional therapeutic tools, emphasizing the need for broader, more inclusive conceptualizations of mental health care for Black communities. This reimagining creates room for accessible, relatable avenues for Black people to receive care. Creative writing offers both a mirror and a map—reflecting past pain while imagining liberated futures.

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**10:20-10:35 am Bullock 112W**

***Creativity and Collaboration in Architecture: Dana Fine Arts***

Author(s): Lydia Holland, Avery Best

Advisor: Dr. Katherine Smith

**Abstract:** Dana Fine Arts: Creativity and Collaboration in Architecture is a documentary short that explores the building's history, architectural philosophy, and enduring impact on campus life. Originating from the course VPS-395: Building with Dana, the film synthesizes key information from the class and was featured in the exhibition Building on Dana: Patterns in Space. Designed by John Portman in 1966, the Dana Fine Arts Building marked Agnes Scott College's bold commitment to the arts, with its flowing spaces fostering artistic and intellectual exchange. The cinematography highlights the Dana building, capturing how student life interacts with the architectural features. Through archival footage and historical insights, the documentary short film showcases how Dana was a symbol of Agnes Scott's evolving identity and connection to the wider world.

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**10:20-10:35 am Bullock 209W-A**

***Determined to Prove a Villain: Tudor Propaganda and Shakespeare's Richard III***

Author(s): Kaitlyn Fairbanks

Advisor: Dr. Charlotte Artese

**Abstract:** This presentation uses Shakespeare's Richard III as a microcosm of the Tudor Myth. It examines how Shakespeare's work functions as both an arbiter and a product of the Tudor propaganda machine, and how his work has continued the cycle of propaganda into the modern day. It argues that propaganda is cyclical in nature, and that popular media, such as Shakespeare, can have enormous influence on how we understand the world around us and what came before us by blurring the line between fact and fiction to such a degree that the myth will be accepted above evidence to the contrary.

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**11:20-11:35 am Bullock 209W-B**

***Exposing the Enclosed: The Influence of "The Myroure of Oure Ladye" on the Daily Lives of the Nuns of Syon Abbey***

Author(s): Leah Grace Roberts

Advisor: Dr. Yael Manes



**Abstract:** Nuns at Syon Abbey based their lives around Divine Service. They went to service at least seven times a day. Syon was a very unique monastery, the only Bridgettine house in England, the wealthiest, and the nuns were very observant. I used the prescriptive texts to discover how they used the devotional texts in the services, specifically The Myroure of Oure Ladye. This text was a guidebook for the nuns within Divine Service, translating and explaining the Latin texts they were to know. I used the book itself along with many other records and writings about the nuns to discover how they used The Myroure. The nuns and their specific texts have not been studied extensively as academic focus had been on the monks at the monastery. Syon Abbey was dissolved with the other monasteries, but the nuns moved to the continent and continued in their lives until 2011. The Myroure was used until the 1960's but has not been analyzed. Studying this book allows peeks into the lives of some of the most powerful women in England during the time and how the community at Syon Abbey lived and prayed throughout their lives.

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10:20-10:35 am Bullock 210E

***Civil Rights, Human Rights, and Protest in the United States***

Author(s): Jo Higgins, Kennedy Culver, Ninashca Saptou

Advisor: Dr. Douglas Falen

**Abstract:** This presentation will focus on the administrative response to the student-led protests around the country regarding police response to student protests, including the response to the Black Lives Matter protests after George Floyd's killing, and the response to campus protests regarding the Israeli- Palestinian conflict. We connect the processes of civil rights—those grounded in the U.S. Constitution and legal precedent—with the broader framework of human rights, which are globally recognized yet often lack enforceability within domestic contexts. By examining these two frameworks in tandem, we aim to engage with the challenges they address as parallel forces. These challenges reveal structural patterns yet are often dismissed as isolated civil matters within U.S. discourse. This research presents a conversation with interdisciplinary resources—legal case studies, international human rights treaties, historical accounts of protest movements, and sociological analyses. This approach emphasizes the right to protest as a cornerstone of democratic engagement. We call for a reframing of protest, not just as a constitutionally protected activity, but as an inalienable human right. By analyzing legal and sociopolitical frameworks side by side, this project encourages a more cohesive and rights-based approach to protest.

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10:20-10:35 am Bullock 304E

***Hurricane Magnitude and their Potential Implications to Eudocimus albus (White Ibis) In Georgia***

Author(s): Parker Carter

Advisor: Dr. Jennifer Kovacs

**Abstract:** Eudocimus albus (White Ibis) is a species known for long-distance migrations and has been observed to adjust their behavior due to environmental condition changes such as hurricanes. Hurricanes can be considered one of the most powerful natural phenomena, with significant ecological impacts, including potential effects on migratory patterns of wildlife. However, after browsing present literature for both hurricanes and White Ibis migration, there was little on the influence of hurricane magnitudes. White Ibis have predominantly been sighted within the east coast of the United States, Central America and parts of South America. This research aims to investigate the magnitude of hurricanes dictating how many White Ibis migrate to and from hurricane-affected regions. Utilizing R Code for statistical analysis and data from both the eBird database and HURDAT2 dataset from the NOAA National Hurricane Center (NHC), this research assesses the relationship between hurricane intensity and the migration of White Ibis after hurricane seasons in Georgia. The hypothesis for this project is how White Ibis migration would not be directly influenced by the hurricane's magnitude, but rather by their ability to sense the storm. Potential results would suggest that even if White Ibis exhibit a sensitivity to the presence of a hurricane, they may not necessarily respond based on the magnitude of the hurricane itself. The implications of this

research aims to shed light on the potential sensory capabilities of White Ibis in relation to hurricanes and could offer valuable insights into how migratory birds make decisions during extreme weather events.

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10:20-10:35 am Bullock 308

***Investigating the Antioxidant and Anti-inflammatory Effects of Melatonin at the Maternal-Fetal Interface***

Author(s): Anjali Sivadas Kunnatha, Tyana Joseph

Advisors: Dr. Jennifer Larimore, Dr. Erika Johnson

**Abstract:** Many pregnancy related complications, including pre-eclampsia, fetal growth restriction, miscarriage, and preterm labor are associated with an accumulation of reactive oxygen species (ROS) and an insufficient balance of antioxidant molecules, resulting in oxidative stress (Duhig et al., 2016). This oxidative stress may then result in activation, or over-activation, of certain inflammatory signal transduction pathways, including the NLRP3 inflammasome pathway, which causes further cellular dysfunction (Sun et al., 2020). Antioxidant molecule therapies are a viable option to prevent and treat pathologies associated with oxidative stress (Duhig et al., 2016). Melatonin, primarily known for its function as a circadian rhythm regulator, has recently been noted for its potential antioxidant and anti-inflammatory function (Joseph et al., 2024). This is particularly relevant for pregnancy related oxidative stress pathologies, as clinical studies have noted significant increases in serum melatonin levels of pregnant women compared to non-pregnant women, with serum levels peaking during the third semester and falling abruptly after delivery, suggesting that the placenta may be a site of melatonin synthesis (Ejaz et al., 2021). This research will provide an overview of placental immune function and melatonin's potential antioxidant activity at the Maternal-Fetal Interface. Additionally, experimental designs aimed at elucidating the mechanisms behind melatonin's antioxidant activity in placental cells will be discussed.

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10:40-10:55 am Bullock 102W

***The Culturally Responsive and Equitable Evaluation (CREE) of Mosaic Health Center's Diabetes Education Program***

Author(s): Kasira Nantah, Kennedi Malone, Mya Wilson, Molly McGrath

Advisor: Dr. Erin Bradley

**Abstract:** Public health practitioners are often tasked with assessing the value and quality of the interventions they implement, which is a process known as evaluation. To draw the most accurate and meaningful conclusions, it is imperative for evaluators to be culturally competent and responsive. Culturally responsive and equitable evaluation (CREE) is an evaluation approach that centers stakeholders and accounts for culture and context. Mosaic Health Center (MHC) is a local clinic that provides a variety of medical services and programs to uninsured and underinsured patients in Clarkston, Georgia. The city of Clarkston is one of the most culturally diverse communities in the state, with 35.7% of residents being born outside of the country. This semester, public health capstone students worked with MHC to evaluate their Diabetes Self-Management Education and Support (DSMES) program using the CREE approach, which is an ideal strategy for evaluating programs in such diverse communities. In this presentation, we will outline the steps our class took to implement CREE in developing an evaluation plan for MHC's DSMES program and highlight the value of a culturally responsive evaluation.

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10:40-10:55 am Bullock 103W

***Psychological Mechanisms Behind Successful Relationships***

Author(s): Isabel Ley

Advisor: Dr. Jennifer Hughes

**Abstract:** Why do some couples thrive while others, despite genuine love, grow apart? This presentation explores the psychological mechanisms behind successful relationships, grounded in over four decades of research conducted by Dr. John Gottman. Renowned for his work in the “Love Lab,” Gottman has identified key emotional patterns and interactional behaviors that can predict a couple’s long-term success or failure with over 90% accuracy. This talk will examine the core distinctions between couples who cultivate emotional safety and connection, and those who fall into patterns of criticism, defensiveness, and withdrawal. Participants will be introduced to Gottman’s “Seven Principles for Making Marriage Work,” the “Four Horsemen of the Apocalypse” (predictors of relationship breakdown), and practical strategies for strengthening relational resilience.

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**10:40-10:55 am Bullock 112W**

***A Celestial Body: Mapping the Constellation of My Identity***

Author(s): Kyla Adams

Advisor: Dr. Julia Gutiérrez

**Abstract:** This presentation explores the gravitational pull of identity, examining how race, gender, and sexuality intersect under the weight of societal expectations shaped by patriarchy, heteronormativity, and rigid gender norms. Through the method of autoethnography, the work engages personal narrative as a form of critical inquiry, mapping a journey as a black lesbian whose early experiences in predominantly white, heteronormative spaces gave rise to feelings of dissonance, shame, and invisibility. Drawing from foundational frameworks in Women’s, Gender, and Sexuality Studies, such as intersectionality, the social construction of gender, and compulsory heterosexuality, the presentation reframes these moments not as failures but as pivotal acts of resistance and self-definition. For example, college becomes a transformative space where authenticity is no longer punished but celebrated, allowing for deeper engagement with feminist and queer communities. The narrative also situates identity as a constellation: fluid, and shaped by both internal truths and external pressures. Through the reflective lens of lived experience, the presentation invites broader conversations about belonging, community, and the power of personal storytelling in academic and activist spaces. Ultimately, it lays a foundation for future inquiry into feminist thought, queer theory, and the politics of self-making, affirming that identity is not a fixed point, but an ongoing and necessary act of becoming.

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**10:40-10:55 am Bullock 209W-A**

***Examining Natural Beauty as Dark Wellness: Body Horror, White Supremacy, and Feminist of Color Criticism***

Author(s): Siena Simi

Advisor: Dr. Charlotte Artese

**Abstract:** *Natural Beauty* (2023) by Ling Ling Huang is an example of the societal pressures on Asian American women to fit into specific stereotypes and the internalization of forced assimilation into American and Westernized culture. This paper enacts an intersectional feminist analysis of the bodily horror aspect of this novel, illuminating how structurally white supremacy, classism, and sexism manifest at the individual bodily level. *Natural Beauty* utilizes transformation and degeneration as the focus of the body horror aspects of the novel. The novel also utilizes a mental component of body horror; the main character starts to lose all sense of self as her body transforms and as she is forcibly assimilated. This book shows the subjugation of women's bodies through forced insemination, how bigotry manifests in the "wellness" industry, and forcible assimilation by nationalist American "values." There is a lack of research on feminist body horror, specifically focusing on women of color in the horror genre, as *Dark Wellness* is an emerging genre. Furthermore, this paper utilizes feminist theory from women of color, Asian American literary studies, and monster theory to analyze the novel further. Huang is breaking through the bodily horror genre as an Asian American feminist author; she showcases how the female body is subjugated and how the beauty industry, which wealthy white people run, further perpetuates white supremacy and creates impossible beauty standards—exposing how femininity is constructed under the guise of patriarchal and white supremacist values and expectations.

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10:40-10:55 am Bullock 209W-B

***Paris-Lesbos: Community, Defiance, and Complicity in Sapphic Interwar Paris***

Author(s): MaryRose Schwier

Advisor: Dr. Mary Cain

**Abstract:** This presentation is an analysis of the sapphic community in interwar Paris, also known as Paris-Lesbos, in reference to the birthplace of Sappho. Between the World Wars, Paris became the capital of sapphic culture, welcoming those who were weary from the brutality of war. It provided a safe haven along the West Bank for sapphics to openly express queer desire and gender nonconformity through clubs, salons, and social groups. This was a unique period within Western history as queer women from diverse socio-economic backgrounds could live and work independently within a comparatively open environment made possible by social, economic, and political change from WWI. While interwar Paris as a whole was more progressive and less problematic at this time compared to during the Victorian era, it is overly romanticized within media, ignoring the perpetuation of racist and colonialist structures. Though marginalized, members of Paris-Lesbos were still complicit in the disempowerment of other oppressed people and many would later support fascist ideologies. Despite its failings, Paris-Lesbos made a distinct impact on sapphic culture and supported the safety of many people between the chaos of the World Wars and the rise of fascism. It supported artists, educators, and revolutionaries dedicated to anti-fascist and anti-colonialist education and outreach, such as through the work of the founders of Shakespeare and Co. By examining the complexities of LGBTQ+ communities and people, we can better understand and critique contemporary narratives to further inclusivity and intersectionality within modern queer spaces.

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10:40-10:55 am Bullock 210E

***Western Perception of Bangladeshi Women and Domestic Violence in Islam***

Author(s): Svenja Nickelson, Miranda Hodgson-Weed

Advisor: Dr. Doug Falen

**Abstract:** This presentation discusses the role that media portrayal plays in crafting the West's image of Bangladeshi women in relation to domestic violence and Islam. Through examining the relevant literature and historical context of the issue, we find that Western media often falsely homogenizes Islam and domestic violence together, painting an overly-simplified narrative. This homogenization results in the perpetuation of harmful and negative stereotypes. This stereotyping leads to a damaging shift in social perceptions, affecting policy, global relations, NGO presence, and racism. A proposed solution could be increasing global access to education regarding Islam, domestic violence, and shedding light on the reality that these women face, in an effort to undermine prevailing racist attitudes in the West. Through the telling of multifaceted, diverse narratives, these negative perceptions and stereotypes can be reformed to reflect an accurate portrayal of Islam, promoting global awareness.

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10:40-10:55 am Bullock 304E

***The Role of Soil Temperature and Moisture on Microbial Contribution to the Carbon Cycle***

Author(s): Rowan Christopher

Advisor: Dr. Jennifer Kovacs

**Abstract:** Understanding how temperature affects carbon cycling is important when examining the effects of global climate change. There are two parts of the carbon cycle: carbon sequestration (taking carbon out of the atmosphere) and carbon emission (releasing carbon into the atmosphere). The net exchange of carbon in an ecosystem is called carbon flux. Carbon sequestration is performed by photosynthetic organisms like plants, and carbon emission is facilitated by a process called cellular respiration, which uses organic carbon molecules to produce energy and carbon dioxide. Carbon flux is largely driven by soil bacteria feeding on decaying organic matter. Because of these microbes' small genomes, the genes they

express are largely functional genes, including the genes involved in cellular respiration. By looking at the abundance of functional genes in soil samples, we can examine microbial contributions to carbon cycles. This project combines soil temperature and moisture data with carbon flux data in 14 different ecological domains in the continental U.S. in order to understand whether soil temperature or moisture better explains carbon flux variation. This project also uses a computer program, METABOLIC, to estimate the microbial contributions to this carbon flux. In permafrost environments where organic matter is frozen and inaccessible for decomposition, I expect there to be less functional genes encoding carbon metabolism and instead see more genes encoding the metabolism of other, more accessible energy sources like sulfur. Cellular respiration is more temperature dependent than photosynthesis, so I anticipate increased carbon flux in warmer environments.

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**10:40-10:55 am Bullock 308**

***Wings on the Map: Monarch Migrations in Motion***

Author(s): Rachel Hill

Advisor: Dr. Jennifer Kovacs

**Abstract:** Monarch butterflies (*Danaus plexippus*) are a threatened migratory species that travel south for the winter and return north during the summer. This migration spans multiple generations, depending on the migratory group. Some monarchs reach maturity and live only 2–5 weeks, while others—particularly those involved in the overwintering generation—can live up to 8–9 months. This study examines how monarch butterfly populations change over time during their migration, with a focus on identifying regions where population declines occur. Potential causes of these declines include limited availability of milkweed, predation, and human activity. Data for this study were obtained from the Global Biodiversity Information Facility (GBIF), using two primary datasets focused on the eastern and western United States. Since these datasets do not fully cover the entire migratory route, additional observations from iNaturalist were incorporated to expand the geographic scope. All data were combined and analyzed in RStudio to provide a more comprehensive view of the migration. ArcGIS was then used to create a time-lapse map visualizing monarch population change over time. These findings may offer valuable insights into where and why monarch populations fluctuate along their migratory path, helping to identify critical areas for conservation efforts.

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**11:00-11:15 am Bullock 102W**

***Designing a Process Evaluation for a Diabetes Self-Management Education Support Program***

Author(s): Aniya Dallis, Jessica Rodriguez-Angeles, Mayra Martinez, Talina Trujillo

Advisor: Dr. Erin Bradley

**Abstract:** Mosaic Health Center (MHC), a nonprofit organization that provides vital clinical care in the Clarkston community, developed a Diabetes Self-Management Education and Support (DSMES) program to assess lifestyle changes and health-related improvements among their patients living with diabetes. A process evaluation was designed to measure how well the program is being delivered, focusing on its reach, patient satisfaction, and implementation as designed. We will discuss the methods used to develop a questionnaire to assess participants' experiences in the program overall, as well as their engagement with resources provided, and perspectives of participant and staff interactions. In addition to the questionnaire that gauges participant satisfaction, we also determined ways to assess the program's reach and fidelity.

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**11:00-11:15 am Bullock 103W**

***Investigating Metacognitive Processing Across Languages: Bilingualism and Inner Speech***

Author(s): Aarti Kakkad, Nyokabi Kimani, Natalie Trimble

Advisor: Dr. Bonnie Perdue

**Abstract:** Vygotsky proposed that verbally mediated thought evolves from social to private speech, then internalizes as inner speech to regulate cognitive processes. Research has found no differences in rates of inner speech between monolinguals and bilinguals. Studies suggest second language proficiency is correlated with second language inner speech use, with bilinguals favoring one language for self-regulation. This project addresses the need for further research on bilingual inner speech, particularly how metacognitive thought takes place. We explored patterns of inner speech with participants who ranged from low/no proficiency in a second language to high proficiency. We used a survey with items from revised Varieties of Inner Speech Questionnaire (VISQ-R) to gauge inner speech levels and functions. The survey evaluates five functions of inner speech, two of which are metacognitive in nature. Follow-up questions assess the language these metacognitive reflections occur in, based on self-report. We predicted that participants, regardless of proficiency, would report the majority of inner speech in their primary language, and findings supported this hypothesis. Regarding metacognitive processing, we predicted that participants with lower proficiency in their secondary language would indicate a preference for their primary language in their inner speech. Findings partially supported this hypothesis, as participants with lower proficiency reported self-regulatory inner speech occurring significantly more in their primary language than participants with advanced proficiency. Exploring inner speech in those with proficiency in more than one language can add to existing knowledge of how language and contextual information plays a role in determining patterns of covert speech.

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**11:00-11:15 am Bullock 112W**

***The Politics of Parenthood: Queer Parenting and the Shifting Political Landscape of Family in the American South***

Author(s): Olivia Yanes

Advisor: Dr. Julia Gutierrez

**Abstract:** The nuclear family ideal—a heterosexual, cisgender couple raising biological children—remains a powerful norm in Western societies, exerting particular influence within the American South. This model marginalizes queer individuals seeking to build families by reinforcing cisnormativity and heteronormativity, often underpinning restrictive legal and political frameworks governing kinship and care. This preliminary research project critically analyzes the specific strategies and challenges faced by queer individuals building families within the unique socio-political landscape of the South. It focuses on navigating state-level political policies surrounding adoption and foster care, access to and utilization of assisted reproductive technologies (ART), and the impact of regional religious and cultural ideologies that privilege traditional gender roles. Drawing from the fields of sociology, law, and gender studies, this analysis examines how queer family building experiences in the South actively challenge the nuclear ideal and expose gaps or biases in existing family policy and ART regulations. By exploring the intersections of queer identity, chosen family-building pathways (including ART), and the specific legal context of the South, this presentation aims to bring to light the necessity of dismantling restrictive notions of parenthood to achieve greater inclusivity and reproductive justice in both policy and practice.

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**11:00-11:15 am Bullock 209W-A**

***Graphic Malleability: Reading Cultural Identity Construction in Essex County***

Author(s): Jasper Potts

Advisor: Dr. Charlotte Artese

**Abstract:** This presentation evaluates the extent to which Jeff Lemire's graphic novel *Essex County* resists the idea of essential identity through parody, arguing that he offers a complex and meaningful but incomplete critique of essentialism. I use postmodern feminist theory, especially Judith Butler's idea of gender performativity and suspicion of innate categories, to understand Lemire's complex depiction of identity. I also use comic theory to evaluate the role of the graphic format in creating meaning and destabilizing norms. Lemire subverts essentialism through his depiction of gender performativity, regional identity, and construction of reality. By showing gendered responsibilities and how masculinity is enforced onto a young boy, Lemire denaturalizes and parodies these roles in the tradition of Butler. Through the construction of regional

identity, the text asks us to question our assumptions about the rural but simultaneously invests in the mythologies and colonial boundaries of the pastoral. Lemire's most complete parody is that of reality itself: through the graphic format, he is able to show characters' agency in constructing their own circumstances, thus asking readers to consider how they perceive the world. The graphic form is uniquely suited to this representation because of the role of reader response and experience of a text. I conclude that Lemire's subversions, while incomplete, help us to understand our relationships to each other outside the bounds of fixed identities and give us a sense of agency in how the world is constructed.

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**11:00-11:15am Bullock 209W-B**

***Θεός Forbid Women Do Anything: Perceptions of Female Authority in Byzantine Sources (6th-9th C.)***

Author(s): Artemis Johnson

Advisor: Dr. Yael Manes

**Abstract:** This study examines perceptions of female political authority in the Greco-Roman world, with emphasis on two flashpoints of female authority within the Byzantine Empire. The first is the reign of Justinian (527-565), when three women played major roles within the empire and its periphery: Queen Amalasuntha of the Ostrogoths, Empress Theodora, and Antonina, wife of general Belisarius. Amalasuntha earned the contemporary historian Procopius' praise, while the latter two received his scathing condemnations, but his accounts of all three women permeated with misogynistic rhetoric. The second is the reign of Irene as regent (780-790), co-empress (792-797), and empress regnant (797-802), as recorded by the chronicler Theophanes the Confessor, who offered a less incendiary account of a politically powerful woman than Procopius, but one still colored by misogyny. The study employs as its analytical framework the myth of matriarchy, an anthropological concept describing narratives about a mythical past when women held power tyrannically and their subsequent fall, leading to the prevailing status quo of patriarchy. Using this framework and grounding itself in accounts espousing similar rhetoric dating to Greek antiquity, this study assesses the rule of women as described by Theophanes and Procopius as a lingering threat, thus tracing a line of anxiety about the political empowerment of women from ancient Greece to medieval Byzantium.

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**11:00-11:15am Bullock 210E**

***Statelessness and the Perpetuation of Human Rights Violations Against Asylum Seekers in Goma, Democratic Republic of Congo***

Author(s): Janae Rabess, Jules Skowronek

Advisor: Dr. Doug Falen

**Abstract:** The ongoing conflict in the Great Lakes region of Africa, particularly between Rwanda and the Democratic Republic of the Congo (DRC), has worsened the plight of asylum seekers in Goma, leading to the systematic perpetuation of statelessness and lack of resources. Statelessness, defined by international law as a status in which a person is "not considered as a national by any State under the operation of its law," can happen when a state fails to "accommodate people after war" (Beyer 2022:458). The failure of both Rwanda and Congo to protect the asylum seekers residing in Goma categorizes those individuals as stateless, a fundamental human rights violation on the basis of the UN Declaration of Universal Human Rights (1948). This presentation explores the human rights concerns arising from the lack of legal recognition for displaced individuals caught between geopolitical tensions and restrictive asylum policies. Statelessness deprives these individuals of fundamental rights, including access to education, healthcare, employment, and legal protection, contributing to their vulnerability and impoverishment. Through a review of existing scholarly literature, this presentation will examine the role of both Rwandan and Congolese policies in rendering asylum seekers stateless, highlighting the exclusionary practices that prevent their legal integration and protection. It also considers the failure of international agencies in effectively addressing this crisis. We will conclude by making policy recommendations that would begin to lessen the burden placed on asylum seekers in Goma.

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**11:00-11:15am Bullock 304E**

***Analyzing the Correlation Between Plant and Microbe Biodiversity***

Author(s): Claire McKlin

Advisor: Dr. Jennifer Kovacs

**Abstract:** Plant-microbe relationships play an important role in maintaining plant health and ecosystem resilience, but global climate change threatens to disrupt these vital ecosystem interactions. This study examines how soil microbial biodiversity affects plant biodiversity using R to visualize data from the National Ecological Observatory Network (NEON). Based on existing literature, I predict that plant biodiversity will increase as soil microbe biodiversity increases. I will measure biodiversity using the Shannon Diversity Index and species richness values. The Soil Microbe Community Composition, Plant Presence and Percent Cover, and Soil Physical and Chemical Properties datasets from NEON will be used to investigate the relationship between plant and microbe biodiversity. Soil temperature from nineteen sites across different climate zones in the United States will be compared to the plant and microbe biodiversity data to show differences in diversity and species richness among different climates and habitat types. Plant and microbe species reliant on interspecies symbiotic relationships may be under harm by rising global temperatures; differences in climate niches between interdependent species may cause increased rates of extinction as global temperatures increase. However, the relationship between plants and soil microbes may also be harnessed to restore ecosystems degraded by natural or anthropogenic disasters through sustainable agricultural practices.

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**11:00-11:15 am Bullock 308**

***Exploring the Impact of Nontraditional Education***

Author(s): Kayla Quincy

Advisor: Dr. Carmen Carrion

**Abstract:** This study investigates the impact of nontraditional science education, specifically summer camp programs, on students' scientific knowledge, connection to nature, and scientific identity. Conducted with 39 participants, the camp focused on tree identification, biodiversity, ecological importance, and scientists' roles in environmental sustainability. Pre- and post-test surveys assessed participants' knowledge retention, critical thinking, and environmental awareness. Quantitative analysis using t-tests revealed significant improvements in most assessed areas, including scientific reasoning and knowledge retention (e.g., Question 1,  $p = 0.012$ ; Question 3,  $p < 0.0001$ ; Question 4,  $p < 0.0001$ ). However, Question 2 ( $p = 0.075$ ) showed no significant change, suggesting some curriculum areas require refinement. Thematic analysis indicated a shift from general themes to focused engagement with topics such as environmental stewardship, leadership, and collaborative problem-solving. Notably, Question 10 showed significant growth in environmental responsibility themes, with participants increasingly emphasizing "caring for the planet" and "collaboration." Despite limitations, such as variability in participant attendance and prior knowledge, the findings demonstrate the value of nontraditional educational settings in fostering curiosity, critical thinking, and environmental awareness. Future improvements could focus on addressing attendance challenges, refining curriculum delivery for less improved areas, and scaling the program to larger participant groups. Overall, the study highlights summer camps as effective informal learning environments that cultivate scientific knowledge, environmental responsibility, and a stronger scientific identity among participants.

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**11:20-11:35 am Bullock 102W**

***Exploring Barriers to Accessing Postpartum Mental Health Services for Black Women***

Author(s): Leyoncè Latus

Advisor: Dr. Erin Bradley



**Abstract:** Georgia faces a maternal mortality crisis, with rates nearly double the national average and Black women experiencing disproportionately higher risks. Although much of the discourse on maternal mortality centers on labor and delivery, the postpartum period is a critically vulnerable time that receives far less attention. Over half of pregnancy-related deaths occur after childbirth, yet the mental health of mothers and birthing people during this time is frequently overlooked in both clinical care and public health policy. This study investigates the barriers Black women face in accessing postpartum mental health services. Following semi-structured interviews with doulas, mental health practitioners, nurses, and maternal health researchers, the researcher used thematic analysis to identify key obstacles such as economic hardship, geographic inaccessibility, systemic racism, cultural stigma, and fragmented care systems. Findings from this research may help provide insight to inform the development of community-engaged, culturally responsive, and interdisciplinary strategies that enhance postpartum mental health care.

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**11:20-11:35 am Bullock 103W**

***Confusion of a Chronic Illness: An Examination of ME/CFS Knowledge, Attitudes and Beliefs in Healthcare Providers***

Author(s): Amelia Enete

Advisor: Dr. Amy Patterson

**Abstract:** Background: ME/CFS is a condition that is often misunderstood by the general public and, unfortunately, by healthcare providers as well. This study examines change in knowledge, attitudes, and beliefs (KABs) in healthcare providers between the years of 2014 and 2018, with a focus on whether an individual's practice had adopted the official ME/CFS diagnostic criteria established by the Institute of Health. We hypothesize that there would be an increase in knowledge and improvement of attitudes and beliefs in 2018 and in those who had incorporated the report into their practice.

Method: We used data from 2014 and 2018 surveys that included questions about ME/CFS KABs. RStudio was used to clean and analyze data, using cross-tabulations and chi-square analyses. 2018 survey participants reported significantly lower awareness of ME/CFS and were less sure of symptoms and treatments. They also reported statistically significantly lower confidence in diagnosing and treating ME/CFS than 2014 participants. While those who had incorporated the 2015 IOM report into practice reported higher levels of confidence, they could not identify symptoms more accurately than those who hadn't incorporated the report. Only those with previous experience diagnosing and treating ME/CFS showed more knowledge and positive attitudes. Misunderstandings of ME/CFS appear to be worsening over time and practices lack awareness of the proper diagnostic criteria. Experience with the condition seems to be the strongest predictor of positive KABs. We recommend future studies to compare this work with data from more recent years.

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**11:20-11:35am Bullock 112W**

***Remembering to Forget: Memory Loss in Pedro Almodóvar's Cinema as a Representation of the Spanish National Subconscious***

Author(s): Sadie Boonin

Advisor: Dr. Michael Schlig

**Abstract:** Much of Spanish film director Pedro Almodóvar's work is influenced by his experience with the aftermath of Francisco Franco's dictatorship. Spain's struggle to redefine itself during the transition to democracy following Franco's death can be seen through his characters' struggle to understand and share their memories. This lack of access to memory is best exemplified by characters with dementia. Sister Rosa's father in *All About My Mother* (1999) and the titular character's mother in *Julieta* (2016) both suffer from Alzheimer's disease and have become unable to recognize their own children. *Parallel Mothers* (2021) explores this national identity crisis directly, showing the impact of the 2007 Historical Memory Law and a town finally excavating its mass grave. To explore the use of dementia as a symbol for Spanish national identity loss during censorship, and the impact of historical memory loss on the nation of Spain, I will review the aforementioned movies with a focus on the theme of memory loss, explore literature analyzing Almodóvar's work especially in terms of themes of illness and memory, and research Spanish history during the time since Franco's death. With a better understanding of

Spanish history, the recurrent theme of memory loss in Almodóvar's work can be clearly understood. National memory loss is a struggle for many individuals within and beyond Spain, and understanding the emotional impact and artistic outcomes of Spain's attempts to leave their authoritarian past behind allows for broader understanding of similar cases.

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**11:20-11:35 am Bullock 209W-B**

***Exposing the Enclosed: The Influence of Prescriptive Texts on the Daily Lives of the Nuns of Syon Abbey***

Author(s): Leah Grace Roberts

Advisor: Dr. Yael Manes

**Abstract:** The daily lives of the nuns of Syon Abbey were based on prescriptive texts. Syon Abbey was one of the most unique monasteries, the only house of its kind in England, the wealthiest monastery, and extremely observant. In order to discover how they used the prescriptive texts I analyzed the texts themselves, The Orders and Constitutions of the Nuns of Syon Abbey, The Rule of Saint Bridget, and The Rule of Saint Augustine. These texts give instruction for every bit of life and how to use the books. Along with these books I analyzed several other books and records that show that the nuns did in fact follow these prescriptive texts and based their entire lives on them. These nuns have not been studied extensively as the monks at the Abbey had more surviving records, but the nuns were much more important during Syon's survival. Syon Abbey nuns continued in various places until 2011 and these prescriptive texts were adapted over the years but continued to be used. Studying these texts allowed glimpses into the lives of some of the most powerful women in England during the time and how the community at Syon Abbey lived throughout their lives.

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**11:20-11:35 am Bullock 210E**

***(Counter)Curating Atlanta: Rethinking Place at a Local Black Bookstore***

Author(s): Kennedi Malone

Advisor: Dr. Enkeshi El-Amin

**Abstract:** The city of Atlanta has often benefited from its reputation as The City Too Busy To Hate and a place of prosperity for Black Americans; however, this reality has become increasingly more difficult as prices and policies push out poor Black people from the city. For Keeps Books, a Black rare bookstore and archive in the heart of Atlanta's historically Black "Sweet Auburn" neighborhood, strategically curates community events and a selection of Black radical texts to complicate this ongoing trend of exclusion. Examining the significance of For Keeps Books in city life, the present research draws from Black placemaking, urban sociology, and Black New South scholarship to interrogate how the bookstore functions as a site of placemaking for young Black Atlantans. Through a preliminary analysis of 5 semi-structured interviews and 20 hours of participant observation, this research has found that For Keeps Books shapes how patrons understand the city in two ways. First, the curation of texts at For Keeps Books invites visitors to develop a more complex understanding of Black political life in the city. Second, the politicization that can occur at For Keeps Books encourages patrons to challenge alarming discrepancies in the city's historic preservation practices. These findings position For Keeps Books as much more than a commercial enterprise but an agent in the process of contesting larger constructions of place and belonging. For Keeps Books brings to reckoning the irony of Atlanta's larger policy priorities that leverage Black bodies while simultaneously effacing Black presence.

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**11:20-11:35 am Bullock 304E**

***Salamander Population Response to Climate Change in The Mohonk Nature Preserve***

Author(s): Ceci Mayhan

Advisor: Dr. Jennifer Kovacs

**Abstract:** Salamanders, along with other amphibians, are known for being highly sensitive to their environments, often being an indicator of harmful ecological disturbances. Salamanders are dependent on vernal pools, temporary bodies of water created from seasonal rainfall and snow melt, which provide a place for the eggs to develop into adults without the disturbance of predators such as fish. This project aims to look at the impact of climate change on salamander populations in hopes of drawing broader predictions on the ecological impact of climate change. It is suspected that due to changes in environmental conditions(i.e., fluctuations in temperature and precipitation) over time, certain species will thrive more than others, leading to higher occurrences of these more successful species. Extensive population data published in the Environment Data Initiative (EDI) data portal from New York's Mohonk Nature Preserve, including a 90 year record of yearly recordings of live species and egg mass observations for five salamander species in 11 vernal pools was used with temperature and precipitation recordings from National Oceanic and Atmospheric Administration (NOAA). Using the R coding language, salamander species and egg mass observations were paired with the average annual maximum and minimum temperature and total precipitation(including rain, snow, and hail) of the area to determine if there are any patterns between the quantity of live salamander or egg mass observations and climate.

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**11:20-11:35 am Bullock 308**

***A Case for Alternative Protein in the Southeast: Why We Should Embrace Meat Alternatives Instead of Banning Them***

Author(s): Rebecca Harshman

Advisor: Dr. Jennifer Kovacs

**Abstract:** In the face of "lab-grown" meat bans in the Southeast, this presentation will make a case for developing alternative protein infrastructure in our region. It will outline current challenges posed by industrial livestock production, including environmental impact, public health risks, and economic inefficiencies. Alternative protein as a solution to these challenges involves three main areas of innovation: plant-based meat, precision fermentation-derived ingredients, and cultivated proteins from animal cells. This presentation will define these three emerging technologies and their potential to improve sustainability in the meat industry, offering a data-driven argument for how alternative protein development could improve climate resilience, specifically focusing on the Southeastern United States. Lastly, this presentation will provide a plan for implementing policy that will promote the collaborative development of alternative proteins between industry and academia, using Massachusetts Technology Collaborative (MassTech) as a case study.

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**11:40-11:55 am Bullock 102W**

***Mosaic's Diabetes Self-Management Education and Support Program: Outcome Evaluation Process***

Author(s): Mekdes Aniley, Kathy Araujo Hernandez, Samantha Canela, Claire Dempsey

Advisor: Dr. Erin Bradley

**Abstract:** Mosaic Health Center is a community health clinic in Clarkston, Georgia, that provides primary and preventive healthcare to a diverse population of uninsured individuals. Students in the public health capstone course developed an evaluation plan for Mosaic's Diabetes Self-Management Education and Support (DSMES) program. This program aims to improve patients' clinical health outcomes, diabetes knowledge, and self-management behaviors. To evaluate the effectiveness of the program, the Agnes Scott team collaborated with Mosaic to create outcome evaluation questions that assess the extent to which the DSMES program improves key indicators of change. Measures from the public health literature and clinical knowledge informed the development of the outcome evaluation survey, which consisted of quantitative and qualitative items to assess improvements in diabetes knowledge, symptoms, and self-management behaviors following participation in the DSMES program.

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11:40-11:55 am Bullock 112W

***The Post-Colonial Reclamation of Language and Philosophy in the case of Black Americans and South Africans***

Author(s): Kelsey Houston

Advisor: Dr. Lu Hao

**Abstract:** This presentation examines the way in which the reclamation of language and philosophy impacts marginalized groups today through a comparison analysis of South Africa and Black Americans. Apartheid in South Africa ended May 10th, 1990, and Coloured is still used as a racial distinction and a marker in the social hierarchy. This was used during the apartheid era to separate people of mixed descent from native and white South Africans. It was used in a way that gave mixed South Africans a step above native South Africans and therefore, gave them a sense of pride when being addressed as such. This word was also used to describe Black Americans during the Jim Crow era in the United States, and as a result, is seen as a derogatory term for black americans. This term being used as a source of pride even today has caused many conversations on the reclamation of words and how minority groups should go about reclaiming them.

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11:40-11:55 am Bullock 209W-B

***Who They Are Not What They Do***

Author(s): Mia Garner, Abby Bracewell, Qurban Mahary, Madisyn Porcena

Advisor: Neeraja Panchapakesan

**Abstract:** Every Person By Name is a project designed to explore the history of the Agnes Scott community through underrepresented stories. The purpose of this presentation is to compare and contrast the value that Agnes has placed upon certain people's experiences through an investigation of both written and oral history. While the archival materials available often frame staff solely in relation to their work or student interactions, interviews help to reveal personal stories, family life, community involvement, and interests beyond the College. By examining the contrast between these sources, this presentation highlights how various factors can flatten individual identities, and how intentional storytelling can restore dimension and dignity to those who help make Agnes what it is today. Themes of invisible labor, emotional care, and campus memory are explored through a combination of visual and audio materials, including side by side comparisons of archival texts and interview excerpts. Ultimately, this work raises questions about whose stories are preserved, how they are told, and what it means to remember a person fully not only by their job title, but by their name, their life, and their impact. The presentation ends with a call to action, inviting students and faculty to engage in more inclusive, community centered practices of remembrance.

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11:40-11:55 am Bullock 304E

***Biodiversity and Biomarkers: How biotic and Biotic Factors of an Ecosystem Change***

Author(s): Malaysia Hodge

Advisor: Dr. Jennifer Kovacs

**Abstract:** Ecosystems change all throughout the year. Plants die, chemical properties rise and diminish, and animals come and go. The National Ecological Observatory Network (NEON) is a collection of field sites that are routinely examined for ecological data. For this study, I will be using three of the aquatic sites in North America. On top of the instantaneous data provided by the temperature and environmental sensors, observational and species count data were collected. I will be looking at the chemical properties in the water at the different sites and using them as biomarkers to mark the fluctuations of the ecosystem. Next, I will be looking at the aquatic plant collection data for the sites. This will give a look into the diversity of the plant life at the site. With the data collected over the years, I looked at how the dissolved oxygen, pH, and chlorophyll levels changed. Next, I looked at the observational data to look at the change in biodiversity throughout the years. With a combination of both, I want to see if the change in the chemical composition of fresh water is correlated with

the biodiversity of plants at the sites. Similar to diagnosing someone with an illness, knowing what a normal ecosystem looks like teaches you what to look for and what to measure.

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## **SCOTTIE MATH BOWL, 12:00-1:30pm, Lower Evans Dining Hall**

Exponential hilarity abounds in this game-show style math competition hosted by the wittiest department on campus. Count on the math professors for countless laughs! Grab your lunch and join us in Lower Evans- unquantifiable fun for participants and spectators!

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## **1:30-2:30 pm: POSTER SESSION B (with refreshments), Bullock Science Center, 1st floor atrium** **Poster set up by 1:00 pm**

### **2<sup>nd</sup> POSTER SESSION (in alphabetical order of first name):**

**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

#### ***The Effectiveness of Culturelle Kids Probiotics in Promoting Beneficial Gut Bacteria at a Gut pH Level of 2***

Author(s): Aaliyah Frederique, Kya Knox

Advisor: Dr. Srebrenka Robic

**Abstract:** Probiotics are tiny living organisms, like friendly bacteria, that help keep our digestive tracts healthy. In this experiment we tested the probiotic bacteria found in Culturelle Kids, a popular probiotics product. The stomach has strong acids to help digest food, while these acids are important, they can sometimes make it hard for probiotics to survive and kill off the bad bacteria. Luckily, many probiotics are claiming to withstand the strong acidic nature of the stomach. We report our results on testing the survival of Culturelle Kids probiotic cultures acidic conditions, similar to the ones found in the stomach.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

#### ***Effects of Smelling Sugar Water on Depressive-Like Behaviors in a Mice Model***

Author(s): Aamyah Nadeem, Malaysia Hodge, Lyndee Hollifield, Danni Nguyen

Advisor: Dr. Jennifer Lairmore

**Abstract:** Mice rely heavily on smell in order to avoid predators, identify food sources, and communicate with other mice. Previous studies showed that olfactory deficiencies resulted in anxiolytic symptoms in mice. Female C57 mice will be exposed to conditions where a concentrated sugar cotton ball is placed in an unreachable location in order to see if the presence of desirable food smells may impact depressive-like and anxiolytic-like behaviors. The behavior of mice exposed to the smell will be compared to mice exposed to a water-soaked cotton ball to determine differences in behavior. This behavioral reaction may be indicative of internal behavior that causes certain food smells to be desirable or undesirable. It may also be indicative of other behavioral controls when mice determine the food source is unattainable. Experimental results show that there was only significance in the number of fecal boli between experimental and control mice. Otherwise, there was no significant difference in Forced Swim Test or Open Field Test results.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Investigating How SHANK3B Heterozygote Impacts LAMP1 Protein Expression in Mouse Brain***

Author(s): Aamylah Nadeem, Elliot Arp, Emelia Delgado, Reaghan Pierre

Advisor: Dr. Jennifer Lairmore

**Abstract:** Autism is a neurodevelopmental disorder that can affect behavior, social interactions, and speech. The current causal theory of autism is a multi-genetic impact combined with environmental factors. One contributing factor can be abnormal elevations of LAMP1 mRNA and protein in blood cells. It is possible that it can influence the development of ASD through its involvement in immune cell activity regulation. LAMP1 is a protein in the lysosomes where it maintains the integrity of lysosomes, pH stability and the function of proteases which are the enzymes that initially break down the protein. They also protect membranes of lysosomes from the degradation of the lysosomal hydrolases that can preserve the function of the lysosomes, keeping the protection intact for the membrane. LAMP1 has also been found within the protein mRNA of the blood of children diagnosed with ASD and this has also helped researchers with an early detection of ASD due to the involvement in immune cell activity regulation. Shank3b is a gene necessary for proper neuronal development. It interacts with approximately 30 synaptic proteins including cell adhesion proteins, cytoskeletal proteins, and ionotropic/metabotropic glutamate receptors (mGluRs). It has an important role in excitatory synaptic connections, usually decreasing the excitation because of Shank3b's derogatory effect on dendritic spine density. For this experiment, we focused on the impact of Shank3b on our protein of interest, LAMP1, and noted any changes within the endosomal pathway post-manipulation. WB was used to compare and identify the protein levels within Shank3b and LAMP1 and look at their protein density to figure out the alteration in autism.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Climate Variability and Its Impact on Primary Productivity in U.S. West Coast Ecosystems***

Author(s): Amelia Lorenzo

Advisor: Dr. Jennifer Kovacs

**Abstract:** Primary productivity forms the foundation of all food webs and ecosystems, and autotrophic success reflects ecosystem health. However, rapid and dramatic changes in meteorological conditions due to climate change can disrupt the seasonal cycles of plants or reduce growth rates. This study utilizes public ecological datasets available on the National Ecological Observatory Network (NEON), specifically plant productivity data on non-herbaceous perennial vegetation and meteorological data on average annual precipitation and soil temperature from the past eight years (2016-2024). NEON's standardized, long-term monitoring enables comprehensive site comparisons and facilitates the analysis of ecological trends across various time scales. The data will be narrowed to shrub groups and non-woody perennial vegetation in two sites, one in California and one in Washington, selected based on regional data availability, aiming to identify a correlation between changes in plant size and weather conditions. The predicted correlation is that locations experiencing frequent meteorological changes uncharacteristic to the region, such as soil temperature variations and altered precipitation patterns, will display a reduction in primary productivity success, specifically reduced size and density of plant species. Coastal climates are particularly vulnerable to climate change due to their oceanic proximity, increasing their susceptibility to natural disasters that alter precipitation patterns. Changes in primary productivity can also disrupt food chains; linking these shifts to climate change may help predict future trophic trends and guide ecosystem management strategies to mitigate biodiversity loss.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Watching Sadness: The Effects of Depressed Characters on Viewers' Moods***

Author(s): Bella Leonardi

Advisor: Dr. Stephanie Stern

**Abstract:** Major Depressive Disorder (MDD) is one of the most common mental health disorders in the United States (National Institute of Mental Health [NIMH], 2023), with research suggesting that depression can spread through social contagion (Bastiampillai et al., 2013; Lee et al., 2024). Given that individuals with MDD are more likely to engage in sedentary behaviors such as watching television (Bayraktaroglu et al., 2019; Gadino et al., 2024; de Wit et al., 2010), it is necessary to investigate how exposure to television depicting characters with depression impacts viewers' moods. Furthermore, fiction serves as a social simulation, immersing viewers in narratives that reflect reality, which can potentially lead to increased depressive symptoms when viewers are exposed to depressive content (Hong et al., 2019; Mar & Oatley, 2008). This study hypothesized that participants would score higher on the Beck Depression Inventory (Beck et al., 1996) after watching television clips that depict characters with MDD than prior to being shown the clips. To test this hypothesis, the study utilized a pretest and post-test design where participants, from a small all-women's liberal arts college in the South, completed the BDI before and after being shown television clips that depicted characters with depression. Participants were given the option to participate in a brief mood-boosting activity following the study.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***The Heart of the Hive: A Clinical Journey in Team-Based Care***

Author(s): Brooke Jones

Advisor: Dr. Shoshana Katzman

**Abstract:** As a Master of Sciences in Medical Sciences student at Agnes Scott College, I was able to participate in a clinical internship at Piedmont Henry Hospital during the spring semester. The primary objective of this internship was to gain first hand exposure to patient care and the multidisciplinary teamwork that supports clinical operations. My experience was centered in the development of key professional or "core competencies" that are important for medical school admissions and future practitioners. I focused on empathy & compassion and teamwork & collaboration, which stood out as the most transformative aspects of my training. Throughout my rotation, I worked closely with patient care technicians to observe and assist in essential duties such as taking vital signs, administering oxygen treatments, and supporting patient hygiene. I engaged with patients from diverse backgrounds, including individuals with language barriers and limited mobility, which strengthened my ability to respond with empathy and sensitivity. his internship allowed me to collaborate with a diverse clinical team, including nurses, patient care technicians, surgeons, and CRNAs. I was able to support clinical tasks by retrieving supplies, passing gloves, and helping reposition patients, all of which highlighted the importance of trust and communication in effective team-based care. These hands-on interactions gave me valuable insight into the dynamics of healthcare delivery and the profound impact of small, empathetic actions. These experiences have laid a strong foundation for the kind of healthcare provider I aspire to be-one who leads with empathy and values the power of collaboration.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Searching for Binary Pulsar Candidates in Gaia DR3***

Author(s): Carey Felius, Shami Chatterjee, James Cordes, Thankful Cromartie

**Abstract:** Rapidly rotating neutron stars called pulsars have become an invaluable part of the search for low frequency gravitational waves using pulsar timing arrays, such as the North American Nanohertz Observatory for Gravitational Waves (NANOGrav). Here we utilize the Gaia Data Release 3 to search for potential binary pulsars that might be detectable with the Green Bank Telescope. Using the data provided in Gaia DR3's Binary Sources catalog, we used radial velocity measurements to constrain companion star masses, and created a list of sources with plausible neutron star companions. For each of the 12 candidate sources, upper flux density limits were collected using VLASS and NVSS. We have identified a sample of candidate neutron star binaries and have proposed to use the Green Bank Telescope to search for radio pulsations from them, with the ultimate goal of identifying millisecond-pulsars to be added to the NANOGrav roster.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***All About Composting***

Author(s): Carrie Anderson

Advisor: Dr. Jennifer Kovacs

**Abstract:** Composting is an easy way to sustainably enrich your garden. During my internship at the Wylde Center, I turned compost bins weekly at three different garden sites. I learned how to balance green (wet) and brown (dry) materials to support effective decomposition. I also kept notes on temperature, moisture, volume, and pest activity, which helped me better understand the stages of decomposition and how compost changes over time. This educational poster will showcase what I've learned, using photos of the compost bins I worked with to illustrate each stage of decomposition—from fresh food scraps to rich, soil-like humus. I'll explain how microbial and chemical processes break down organic material and how aeration plays a key role in keeping compost healthy. I will also outline common issues (such as foul smells or unwanted pests such as ants, roaches, and rats) and how to correct them. Additionally, I will provide guidance for people who want to start composting at home, with tips on choosing a bin or tumbler, balancing inputs, and knowing what to compost (fruit and vegetable scraps, leaves, cardboard) and what to avoid (meat, dairy, plastic, and metal). I'll also highlight how compost supports soil health and plant growth while reducing landfill waste and greenhouse gas emissions. The poster will close with information on how to get involved with the Wylde Center's Composting Club, along with a Q&A session to engage visitors and answer any questions about starting or maintaining a compost system.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***The Effects of Jazz Music on Anxiety and Depression Symptoms in C57/B6 Mice***

Author(s): Casey Rice, Lil Gehner, Kenzie Beaudoin, Dani Khan

Advisor: Dr. Stacey Dutton

**Abstract:** Depression and anxiety pose significant mental health challenges, requiring a thorough understanding of its prevalence, symptomatology, treatment efficacy, and influences. Anxiety and depression are highly comorbid. The etiology of anxiety and depression is multifactorial, including biological, genetic, environmental, and psychosocial factors. Recently, the incidence of depression has been increasing annually and its common clinical manifestations include anxiety, anhedonia, and pessimism. Music therapy is increasingly being utilized as an intervention for stress reduction, as it may be helpful in modulating moods, emotions, and stress responses. This research aims to investigate the role of jazz music therapy on male C57/B6 mice anxious and depressive symptoms. We hypothesize that music therapy will improve the anxious and depressive symptoms of mice. To examine the potential benefits of music therapy, we split our 6 C57/B6 mice into a control and experimental group. One hour before both the Open Field Test (OFT) and Forced Swim Test (FST), we brought our experimental group into a quiet room and let them acclimatize for 30 minutes. Then, we played jazz music from a speaker for the next 30 minutes. Next, we performed either the OFT or FST paradigms and used a digital video camera to record their behavioral responses. We then repeated this, with no jazz music, for the control group. Finally, we analyzed and quantified the video recordings using ANOVA virtual software. We found that listening to jazz music 30 minutes prior to the OFT and FST did not have a significant effect on the anxious and depressive behaviors of the experimental group compared to the control group.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Relationship Between AP3 Protein and SHANK3B Gene***

Author(s): Claire Dempsey, Beck Littlehale, Bria Mabry, Grace Phillips

Advisor: Dr. Jennifer Larimore



**Abstract:** The SHANK3B gene is known to play a role in scaffolding of dendritic spines, structures that are heavily involved in learning and memory. The AP3 protein is involved in the endosomal trafficking pathway and synthesis of dopamine-releasing synaptic vesicles. Dendritic spines serve as the primary sites of excitatory synaptic input in the brain, where they receive signals from presynaptic neurons. Damages to these spines disrupts functions that are altered in individuals with ASD, including dopamine signaling, potentially through dysregulation of the endosomal pathway. We hypothesize that SHANK3B heterozygotes will also exhibit lower levels of AP3 due to both these proteins' associations with learning, memory, and neurodevelopment. We performed Western blotting to analyze levels of protein in both control cells and SHANK3B knockdown cells.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Understanding K Dwarf Evolution: Linking the H $\alpha$  Spectral Feature to UV and X-Ray Activity***

Author(s): Daniela Garcia-Lara, Jacinda Byam, Sebastian Gaxiola, Leonardo Paredes, Todd Henry

Advisor: Dr. Hodari-Sadiki Hubbard-James

**Abstract:** Our project focuses on the spectral analysis of K dwarf stars using optical, ultraviolet (UV), and X-ray data to better understand the differences between younger and older stars and assess their potential for hosting life. K dwarfs are of particular interest in habitability studies due to their stable, long lifespans. To evaluate which K dwarfs may support life, we first needed to determine their age. We initially hypothesized that UV data would be most effective, but its correlation with temperature posed challenges. Instead, X-ray data allowed us to distinguish between young, active stars and older, less active ones. We used the NASA Exoplanet Archive to identify K dwarfs with confirmed exoplanets, totaling 44 systems, and cross-referenced this list with the Hinkel 2017 catalog, which includes near-UV (NUV), far-UV (FUV), and X-ray activity data. We also examined whether optical indicators, such as the equivalent width of H $\alpha$ , could be used to infer stellar activity in place of more resource-intensive observations. We found a possible relationship between H $\alpha$  and X-ray activity and plan to further investigate this connection. Future work includes cross-matching with additional UV and X-ray catalogs and testing correlations with other optical spectral lines.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***The Effects of Blue Light on Anxiety-like and Depression-like Symptoms in Mouse Models***

Author(s): Emelia Delgado, Cass Delvira Vendevoore, Jardyn Robinson

Advisor: Dr. Stacey Dutton

**Abstract:** Specific wavelengths of light are associated with different disruptions in circadian rhythm. Specifically, blue light has been shown to delay sleep onset. The purpose of this experiment was to observe the effects of anxiety-like and depression-like symptoms in mice. It was hypothesized that the blue light would increase anxiety-like and depression-like symptoms in experimental light. To complete this experiment, experimental mice were placed in blacked-out cages and exposed only to blue LED lights. The experimental mice were exposed to blue light 12 hours daily for one week before the forced swim and open field paradigms. It is predicted that the experimental mice will spend more time in the perimeter in the open field paradigm and less time mobile in the forced swim paradigm, indicating that blue light increases anxiety-like and depression-like symptoms.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Does Watching Mexican Telenovelas Relate to Latines' Expectation for Intimate Partner Violence and Cheating?***

Author(s): Evelyn Patricio

Advisor: Dr. Stephanie Stern

**Abstract:** Numerous studies have found results supporting that media has the ability to shape and reinforce behaviors and beliefs (Escobar-Chaves et al., 2007; Haferkamp, 1999; Holmes & Johnson, 2009; Kim, 2016; Rodenhizer & Edwards, 2019). The means by which media can influence people's beliefs can be explained by two theories, social learning and cultivation theory (Escobar-Chaves et al., 2007; Holmes & Johnson, 2009; Rodenhizer & Edwards, 2019). One of the findings from telenovela's influence is that college students who regularly watched telenovelas had an increased perception of the number of people that have affairs, divorces, and illegitimate children (Kim, 2016). In order to further investigate the relationship between exposure to Mexican telenovelas, expectations for intimate partner violence, and cheating the following hypotheses were formed: Participants with higher exposure to Mexican telenovelas will show a significantly higher expectation for maladaptive beliefs about intimate partner violence than those who have a lower exposure to Mexican telenovelas. Participants with higher exposure to Mexican telenovelas will show a significantly higher expectation for cheating in a relationship such that participants will believe that cheating is normal in relationships. Participants took an online survey on Qualtrics, where they completed the Attitudes Toward Infidelity Scale (ATIS) (Whately, 2008), Intimate Partner Violence Attitude Scale (IPVAS)—Revised (Fincham et al., 2008), and the Mexican Telenovela Exposure Inventory. The participants were recruited via convenience snowball sampling.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Altered Gut Microbiota Diversity in Heterozygote Shank3b Mice***

Author(s): Finley Turner

Advisors: Dr. Jennifer Larimore, Dr. Jennifer Kovacs, Dr. Stacey Dutton

**Abstract:** The gut-brain axis is a dynamic interface that has been implicated in the pathogenesis and severity of various neurodevelopmental disorders like, schizophrenia (SZ) and autism spectrum disorders (ASD). Implicated in ASD and SZ, Shank3 is a critical gene for postsynaptic protein scaffolding protein at excitatory synapses. Shank3B knockout mice not only exhibit ASD-like behaviors but demonstrate altered gastrointestinal epithelium morphology and fecal microbiota composition. Utilizing the Shank3B heterozygous model to better reflect the clinical presentation of ASD, we investigate the gut microbiome of 12-week-old Shank3B<sup>+/+</sup> or Shank3B<sup>+/-</sup> mice in a sex-dependent manner, analyzing bacterial phyla, classes, orders, families, genera, and species isolated from small intestinal samples using whole-bacterial population sequencing. Firmicutes emerged as the dominant phylum in Shank3B<sup>+/-</sup> mice and Bacilli predominated, with Lactobacillales as the dominant order. Shank3B<sup>+/-</sup> males exhibited significant increases in Staphylococcales, Haloplasmatales\_A, and Erysipelotricales. Our results indicate increased biodiversity in Shank3B<sup>+/-</sup> males and reduced biodiversity in females compared to wild-type controls. Altogether this data reveals sex-specific microbial signatures that may contribute to the pathogenesis of ASD and unlocking potential therapeutics that target gut microbiota in neurodevelopmental disorders.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***From Classroom to Clinicals: Enhancing Pre-Medical Competencies Through Hospital Immersion***

Author(s): Ivey Johnson

Advisor: Dr. Shoshana Katzman

**Abstract:** As a graduate student in Agnes Scott College's Master of Science in Medical Sciences program, I participated in the MDS 650 Clinical Internship course, completing a semester-long placement at Piedmont Henry Hospital to gain professional experience and deepen my understanding of clinical care. This on-the-job training provided exposure to multiple departments including pharmacy, cardiovascular catheterization, surgery, and imaging. I also engaged in direct patient care as a Patient Care Technician (PCT), supporting patients who were unable to fully care for themselves during treatment. Throughout the internship, I observed how nurses, technologists, pharmacists, and physicians contribute to patient outcomes through coordinated teamwork. While I did not directly shadow physicians, I gained meaningful glimpses into their decision-making processes, leadership, and collaboration during procedures. My learning was guided by structured reflection using the AAMC Core Competencies for Entering Medical Students. After each experience, I composed targeted reflections focused on competencies such as Interpersonal and Interprofessional Skills, Critical Thinking, and Commitment to Learning and Growth. These reflections allowed me to connect academic knowledge with real-world clinical practice while evaluating my own development as a future healthcare provider. As a result, I developed a deeper understanding of the

clinical processes that support high-quality patient care. I learned how healthcare teams communicate, adapt, and rely on one another in fast-paced environments to ensure effective treatment. This experience gave me valuable insight into the complexity of modern healthcare and strengthened my desire to pursue a career in medicine grounded in patient-centered care, collaboration, and lifelong learning.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Comparing Racial Identities: Psychological Well-Being, Social Desirability, and Multiracial Identity Integration***

Author(s): Jaelyn Romans

Advisor: Dr. Peeper McDonald

**Abstract:** The growing Multiracial population in the United States poses a unique opportunity for researchers to explore the population. The present study compares the psychological well-being and social desirability of Multiracial individuals who have a dual-minority Multiracial identity to those who have a minority-White Multiracial identity. To address this gap, we administered an online survey to a large sample of participants, some of whom were excluded due to not fitting the criteria for the study. The final sample of Multiracial participants (N = 179) answered survey questions about social desirability, Multiracial identity integration (MII), and psychological well-being. We observed the potential differences between the dual-minority (n = 66) individuals and the minority-White (n = 113) individuals and differences between those who scored high and those who scored low in MII through paired-samples t-tests and observed potential relationships between psychological well-being. There was a significant difference between the MII of dual-minority and minority-White participants, and a significant difference in social desirability between those scoring high and low on the MII scale. These results have implications for more specific research in the Multiracial population.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Predicting Seismic Impact Zones: Enhancing Earthquake Predictions for Critical Infrastructure***

Author(s): Jahve Hawkins

Advisor: Dr. Hodari-Sadiki Hubbard-James

**Abstract:** This research proposal aims to enhance earthquake prediction models by leveraging seismic data from UC Berkeley's Pacific Earthquake Engineering Research (PEER) Center, WGEP and the USGS Earthquake Program. There is a pressing need to adapt existing predictive models using comprehensive seismic data analysis and satellite monitoring techniques to enhance earthquake preparedness and mitigate risks in areas outside of high-seismic zones. This study will examine the last 5 earthquakes with a magnitude of 1.7-4.8 and the last five earthquakes with magnitudes of 4.9-7.9 in the last 5 years. By analyzing primary (P) and secondary (S) wave patterns and their propagation times, this study seeks to develop an advanced early warning system capable of predicting when and where an earthquake will strike, allowing critical infrastructure, such as power plants in Georgia, to shut down preemptively. Although California has established earthquake early warning systems, this research intends to adapt, apply, and improve upon these methods in Georgia, a region with less frequent but potentially damaging seismic activity. The ultimate goal is to provide a more reliable framework for mitigating earthquake impacts on critical facilities, ensuring timely responses to reduce damage and disruption.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***How do learning technologies impact human anatomy and physiology laboratories?***

Author(s): Jazmynne Massey

Advisor: Dr. Carmen Carrion

**Abstract:** This presentation discusses how modern learning technologies, such as virtual reality (VR) and digital apps (Complete Anatomy), are changing the way students learn human anatomy and physiology (A&P) in a laboratory setting. While traditional cadaver-based labs have been considered essential, they are often expensive and difficult to access. This study discusses whether tools like VR headsets and 3D anatomy apps can provide a viable alternative to traditional cadaver labs. The data was collected by comparing undergraduate and graduate students' experiences with VR and an iPad-based app in A & P lab classes. The results demonstrated that many students responded differently depending on their learning styles and their comfort with modern technology. The undergraduate students were more engaged, and they believed that VR helped them visualize and understand different types of organ systems. However, graduate students preferred simpler tools like the iPad app (Complete Anatomy) and were frustrated by VR's complexity. These findings indicate that, while VR can potentially improve student learning in spatially complicated topics such as anatomy, it should be combined with other digital tools to meet the needs of different students' learning styles. As digital learning and technology evolve, these insights can help shape more effective and inclusive lab experiences for students learning in the healthcare field and other science classes.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Psychological Well-being Related to Color-Blind Racial Attitudes and Social Desirability***

Author(s): Jessica Pinsker

Advisor: Dr. Peeper McDonald

**Abstract:** This study aimed to investigate the correlation between social desirability and color-blind racial attitudes within a contemporary context and to address gaps in the literature regarding their combined effects on psychological well-being. Examining these aspects would contribute to understanding how responding in a socially desirable manner with regards to racial attitudes may influence mental health. After recruiting 805 participants through social media and emails within universities, we found there was no relationship between social desirability and psychological well-being, a weak negative relationship between color-blind racial attitudes and psychological well-being, and a moderate negative relationship between color-blind racial attitudes and social desirability. Psychological well-being had different relationships with the variables than expected, likely due to the study's scale measuring different aspects of well-being than previous literature. Interestingly, the findings indicate that it may be more socially desirable to have less color-blind racial attitudes within the United States. Additionally, social desirability and color-blind racial attitudes predicted psychological well-being by explaining 15.8% of the variance. This suggests that the interaction between socially desirable responding and color-blind racial attitudes may influence mental health.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Examination of a White Female's Survivability in Metastatic Breast Cancer Patients***

Author(s): Julia Jozefowicz

Advisor: Dr. Jennifer Hurst-Kennedy

**Abstract:** Although white women have a slightly higher incidence rate of being diagnosed with breast cancer, African American women and other minorities are more likely to die from breast cancer, develop triple-negative breast cancer, and have worse overall survival rates for each stage of breast cancer. This research aims to understand the impact of being a white female on the overall survivability of metastatic breast cancer. The genomic data sets on breast cancer patients were taken from the 2020 Pan-Cancer Atlas and analyzed with cBioPortal. Experimental groups were defined as white, Black or African American, and Asian. The overall survivability Kaplan-Meier (KM) plot, disease-free KM plot, and genetics alterations graph identified genes that were commonly mutated across these different racial groups. Overall survivability among white women was slightly higher than African American women but lower than Asians across 280 months. The disease-free KM plot shows again that white women had a higher disease-free state than African Americans but lower than Asians across 280 months. The genetic alterations plot showed that the majority of genes mutated African American women

and Asians had a higher alteration frequency than whites except for the gene PIK3CA, where whites had a higher frequency rate than African American women. These findings provide insights into why different demographic groups may survive breast cancer better.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Medical Dramas Influence on College Students' Attitudes on Health Professionals and Willingness to Seek Medical Assistance***

Author(s): Katherine Cox, AK Griffin

Advisor: Dr. Stephanie Stern

**Abstract:** Watching television has been shown to influence the attitudes of individuals towards the healthcare system (Zago et al., 2024). Furthermore, medical dramas tend to portray the more thrilling sides of working in the medical field like curing rare diseases rather than the repetitive nature of meeting with patients that skews the perceptions viewers have of the field (Tedeschi, 2024). The purpose of this research was to investigate the relationship between exposure to popular medical dramas and participants attitudes towards different health professions. The survey incorporated questions measuring the exposure to medical dramas, as well as participants' beliefs about the competence of different healthcare professionals and their willingness to seek care. Participants were recruited by asking psychology faculty members to share survey information flyers with their students. In addition to sharing online information about the survey, lab members advertised the survey by speaking in different psychology courses and were given a QR code to fill out. Results will be discussed during the poster presentation.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Nurtured to Flourish: My Journey from Aspiring Student to Future Physician***

Author(s): Laila Sampson

Advisor: Dr. Shoshana Katzman

**Abstract:** I am currently in the Master of Medical Sciences graduate program at Agnes Scott College. Before entering this program, I saw myself as a young sprout, full of potential but in need of fertile ground, direction, and light to grow. I have always had a strong desire to become a physician, but I knew that dream would require nurturing, support, and guidance. Agnes Scott has given me this foundation by providing me the opportunity to intern at Piedmont Henry Hospital. This internship became the soil where I could plant roots and begin to flourish. At Piedmont Henry, I have been immersed in a clinical environment that has allowed me to apply the knowledge I gained in the classroom to real-world scenarios. My internship experience has furthered my understanding of healthcare and also provided me another perspective on patient care, empathy, communication, and the responsibilities of all medical professionals. I have observed the inner workings of the collaborative efforts of physicians, nurses, and staff and I am inspired by their compassion for all patients. These opportunities have enhanced specific core competencies that medical schools look for when evaluating applications. As I continue to reach toward my goal of becoming a physician, I carry with me the lessons, experiences, and encouragement that have helped me flourish in my professional competencies and grow into a strong, purpose driven plant that is ready to pour into and nurture others.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Mutations in PIK3CA and TP53 contribute to tumorigenesis in patients with invasive breast carcinoma***

Author(s): Lindsey Cohen

Advisor: Dr. Jennifer Hurst-Kennedy

**Abstract:** According to the American Cancer Society, 1 in 8 women in the United States will receive a diagnosis of invasive breast cancer, and 1 in 43 will die from it, making it a serious health concern. Many common genes have been implicated in the development of breast cancers, such as PIK3CA and TP53. This bioinformatics study aims to determine the impact of mutations in these genes on tumorigenesis and, consequently, the survivability of patients by analyzing the 2020 PanCancer Atlas breast invasive carcinoma study. Oncoprints were generated for PIK3CA and TP53, showing the common mutations found in each gene. In PIK3CA, missense mutations were the most frequent form of mutation, followed by amplification. In TP53, missense mutations were most frequent, as well as truncating mutations. Experimental research groups were defined to compare survival: the control group (unaltered), mutated PIK3CA only, mutated TP53 only, and both mutated PIK3CA and TP53. KM survivability graphs were collected for overall, disease-specific, disease-free, and progression-free survival. After log-rank tests to assess the null hypothesis, it was found that there were no significant differences between the groups and survival types. However, when hazard ratios were calculated, there was a higher risk associated with having mutated TP53 with disease-free and progression-free survival, and a higher risk associated with having both mutated PIK3CA and TP53 and overall and disease-specific survival. The results indicate that TP53 and PIK3CA mutations indeed play a role in tumorigenesis and thus can serve as potential therapeutic targets for treatment.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Investigating Sleep Quality and Sleep Behaviors***

Author(s): Louis Sarris, Zeba Syeda

Advisor: Dr. Carmen Carrion

**Abstract:** Insufficient sleep has been linked to concerning issues in healthcare students. These side effects from lack of sleep affect academic performance, well-being, and risk of medical errors. This study aimed to incorporate a five-week educational intervention created to enhance sleep knowledge and behaviors among premedical, post-baccalaureate, and master's students. Participants completed a pretest which quantitatively assessed sleep knowledge (ASKME scale), daytime drowsiness potential (Epworth Sleepiness Scale), and dysfunctional beliefs of sleep (DBAS-16). The intervention consisted of five video modules post pretest covering different sleep deprivation disorders, cognitive therapies, diet and exercise effects on sleep, and evidence-based sleep hygiene techniques. A posttest was taken in August which aimed to evaluate changes in sleep knowledge and behavior post intervention. Results indicated a significant increase in sleep knowledge, particularly regarding weight loss for sleep apnea, sleep normalization in alcohol recovery, and the role of slow-wave sleep. Despite these gains, no substantial improvements were seen in the self-reported sleep quality, this underscored the difficulty of translating new knowledge into lasting behavior changes. Limitations include reliance on self-report data, possible social desirability bias, a small sample size, and a brief intervention time frame. Future research could investigate longer or more intensive interventions and include control groups for comparison.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***The Regulation of EEA1 in Endosomal Trafficking of SHANK3B cells***

Author(s): Lynley Wheeler, Rachel Hill, Mykle Williams, Sofia Barrett, Miski Aress

Advisor: Dr. Jennifer Larimore

**Abstract:** Proper cellular functioning is reliant on intercellular communication through signaling pathways. Disruptions in these pathways are implicated in neurological disorders such as Autism Spectrum Disorder (ASD) and Schizophrenia. ASD is a neurodevelopmental disorder characterized by challenges in social communication, interaction, and repetitive behaviors. SHANK 3B is a critical scaffolding protein involved in synaptic signaling, shown to impact the endosomal trafficking pathway, a process regulated by the protein EEA1. To explore how disruptions in SHANK 3B affect this pathway, we will examine EEA1 protein levels in a SHANK 3B-deficient model using mouse cortex cells. These findings may provide insights into how disturbances in scaffolding proteins like SHANK 3B impact the regulation of endosomal trafficking and contribute to neurodevelopmental disorders.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Interrelated Biodiversity in Aquatic Communities and Effects on Fish Populations***

Author(s): Mack Phillips

Advisor: Dr. Jennifer Kovacs

**Abstract:** Biodiversity is widely recognized as an indicator of ecosystem health and productivity. Shifts within the metric are reflective of changes in the composition of communities; communities are groups of populations within ecosystems that interact whether it be through predation or competition. Using data from five NEON sites across the country, I calculated the average biodiversity per year in aquatic ecosystems with the aim of determining if changes in biodiversity within one population cause changes in others. Using R, I will compare fluctuations within the metric between each site to determine if they are related. As several populations in the community serve as food sources for fish, I intend to compare variations in biodiversity among those groups to average yearly fish weight and length in addition to the frequency of mortality, deformations, and other abnormalities in the samples collected. I anticipate that declines in biodiversity within certain populations will result in declines in those adjacent. Additionally, I expect falls in biodiversity in non-fish populations to correlate with decreased yearly average weight and length as well as increased mortality and mutation rates among sampled fish populations.

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**Poster Session A: 9:00-10:00 am (set up by 8:45)      Bullock Lobby**

***The Impact of Alterations in FLT3 and NPM1 Genes on the Survivability of Patients with Acute Myeloid Leukemia***

Author(s): Maryam Muhammad

Advisor: Dr. Jennifer Hurst-Kennedy

**Abstract:** Acute Myeloid/Myelogenous Leukemia (AML) is an aggressive hematologic malignancy characterized by the accumulation of immature myeloid cells in the bone marrow. Among the genetic alterations implicated in AML pathogenesis, FLT3 and NPM1 mutations are particularly prevalent and have significant prognostic implications. Data from the 2020 Pan-Cancer atlas was analyzed using cBioPortal in this study. To assess the clinical relevance of these mutations, patients were categorized into three groups: those with FLT3 mutations only, NPM1 mutations only, and co-occurring FLT3 and NPM1 mutations. Kaplan-Meier (KM) survival analysis was obtained to evaluate the impact of these genetic alterations on patient outcomes. Oncoprints were analyzed to characterize mutation types and frequency. NPM1 mutations predominantly consisted of truncation mutations, while FLT3 mutations were primarily inframe and missense alterations. These findings suggest that FLT3 mutations, which lead to constitutive kinase activation, and NPM1 truncation mutations, which disrupt normal transcriptional regulation, contribute to distinct leukemogenic pathways. The co-occurrence of these mutations may indicate a more aggressive disease phenotype, highlighting the importance of mutation-specific therapeutic strategies.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Stepping Into the Scrubs: A Pre-Med Journey Through Clinical Rotations***

Author(s): Niataya Palmer

Advisor: Dr. Shoshana Katzman

**Abstract:** As a master's student desiring to be a future physician, I participated in a clinical internship at Piedmont Henry Hospital, where I was able to gain observational exposure to an array of specialties including outpatient surgery, cardiology, respiratory, wound care and pharmacy fields. The objective of this internship was to observe and compare the roles and

diagnostic approaches of different specialties. Reflection pieces were written about my experiences, which connected them to core competencies needed for success as a future physician including, empathy and compassion, teamwork, and resilience and adaptability. As a result of this experience, I was able to enhance my understanding of workflow and responsibilities within each specialty, improve my communication skills, and gain insight on the challenges and rewards associated with each field. This exposure to real-world healthcare situations has given me a foundation in clinical medicine and has helped reinforce my commitment to becoming a physician, providing patient-centered healthcare.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Exploring Ligand-Binding Sites in Estrogen Receptor Alpha through Schrödinger Computational Modeling***

Author(s): Nicole Felix-Tovar, Dominic Brooks, Raven Forrest, Isha Reddy  
Advisor: Dr. Mi-Sun Kim

**Abstract:** Estrogen Receptor Alpha (ER $\alpha$ ) is a primary pharmaceutical target in breast cancer drug development and treatment due to its role as an intracellular transcription factor that regulates gene expression. One therapeutic approach for treating breast cancer involves the deactivation of ER $\alpha$  through the use of antagonists. This research aimed to perform a structural analysis of ER $\alpha$  to identify key structural features including amino acid residues, functional groups, and intermolecular interactions. 13 ER $\alpha$ -ligand X-ray structures acting as antagonists were obtained from the RCSB Protein Data Bank and imported into Schrödinger Maestro to analyze the ligand-receptor interactions and binding amino acids. A comparative, structural computational analysis was performed to compare the natural ligand estradiol to 12 additional ligands functioning as ER $\alpha$  antagonists. A structural evaluation between the antagonists Raloxifene and Lasofoxifene and the natural ligand Estradiol revealed notable differences. Both Raloxifene and Lasofoxifene formed salt bridge interactions absent in Estradiol, while Lasofoxifene exhibited one fewer interaction overall than the other two ligands. These structural distinctions suggest that the presence of stronger and additional binding interactions, such as salt bridges, may contribute to the enhanced binding affinity of these antagonists to ER $\alpha$  compared to Estradiol. Expanding the analysis to include a broader range of ER $\alpha$ -ligand complexes, beyond the 13 examined in this project, may help identify additional binding interaction differences, supporting the development of a potential new pharmacophore for targeted therapy.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Inside Voices: The Experiences of Transgender Youth on Psychological Safety***

Author(s): Rachel Arwood, Zoe Heath, MaryRose Schwier  
Advisor: Dr. Jennifer Fulling-Smith

**Abstract:** This qualitative study was conducted to build upon existing research on the psychological experiences of trans and gender expansive youth, or TGEY. There is an abundance of literature focusing on discrimination and adverse experiences of TGEY, so this study aimed to shed light on how TGEY experience psychological safety. Researchers conducted semi-structured interviews using photo-elicitation. Data was analyzed using Relational Content Analysis through constructionist epistemology with symbolic interactionism. From a sample of nine TGEY ranging from 13-17 years old, four themes emerged from the data. 1) Descriptions of psychological safety. 2) Adverse experiences including mental health difficulties, and discrimination. 3) External support, including close relationships with parents or romantic partners and LGBTQ+ community. 4) Internal resilience, such as self-advocacy and coping strategies. Future research should include participants who are trans women or MTF, male to female, as none of the participants in this study identified as such. Though data was analyzed in 2025, data collection took place in 2016, so the study should be replicated to observe any



changes that have occurred in the past decade. Our findings convey the negative impact of marginalization on TGEY wellbeing and highlight ways in which the community can support them in both public and private spheres.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Cordyceps Militaris as a Potential Anxiolytic Agent in Peri-Menopausal Mice: Behavioral Outcomes and Implications for Stress Regulation***

Author(s): Rebecca Littlehale, Lila McMaster, Casey Rice

Advisor: Dr. Stacey Dutton

**Abstract:** Perimenopause is a hormonally transitional phase associated with increased vulnerability to mood disorders, particularly anxiety and depression, due to declines in estrogen and progesterone that disrupt hippocampal function. *Cordyceps militaris*, an adaptogenic mushroom with emerging neuroprotective and mood-stabilizing properties, has shown promise in preclinical models for modulating stress-related behaviors. This study investigated the behavioral effects of dietary *Cordyceps militaris* supplementation in peri-menopausal C57BL/6 mice. Behavioral assessments were conducted using the Open Field Test (OFT) and Forced Swim Test (FST) before and after supplementation. To evaluate the compound's stress-buffering potential, mice were subjected to a 24-hour restraint stress protocol mid-intervention. Post-intervention behavioral data indicated a reduction in anxiety-like behaviors, suggesting that *Cordyceps militaris* may confer resilience to stress in hormonally vulnerable populations. No substantial changes were observed in depression-like behaviors, pointing to a possible dissociation between the anxiolytic and antidepressant mechanisms of action. These findings support the potential of *Cordyceps militaris* as a sex hormone-sensitive intervention for anxiety during perimenopause. Ongoing research aims to elucidate its underlying mechanisms, including its impact on hippocampal plasticity, estrogen receptor modulation, and stress hormone regulation.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***The Effects of Omega 3 Enriched Almonds on Anxiety and Depressive-Like Behaviors On C57/Black 6 Male Mice***

Author(s): Raelyn Mornay, Kya Knox

Advisor: Dr. Stacey Dutton

**Abstract:** In this study two different cages with three mice in each cage: one control group and one experimental group. The experimental group will receive almonds and the control group will be given pallet food. Enriching the standard pallet with almonds for a week with omega fatty almonds and watching the effects of their anxiety based behaviors. In this experiment we are expecting the mice to have positive feedback once the almonds are enriched into their diet for a week. Using these rich omega - 3 nuts will help the mice anxiety levels, gut health, and depression levels become improved.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Skewing Scholars: Anchoring Effects in an Academic Setting***

Author(s): Sheriefa Braswell, Thai Johnson, Amelia Enete

Advisor: Dr. Brielle James

**Abstract:** Anchoring effects occur when a presented value influences the judgement of the true value of an object. This project explored anchoring effects in a person-based context, in which judgements were made about the characteristics of a person. Participants (N = 172), largely consisting of Agnes Scott undergraduate students, completed an online survey. Participants read a short vignette about the creation of a revised professor evaluation system for a fictional university. A

summary was provided of a fictional professor, including professional background, teaching experience, courses taught, and involvement in campus activities. The vignette included high, low, and no anchor conditions in the format of a fictional average professor rating that was either high, low, or absent. Participants then completed a Likert scale, giving their own rating of the fictional professor. Analysis showed no significant differences in student-given ratings between the three conditions. The results of this study suggest that further research is needed to best understand the nature and effectiveness of anchors in person-based scenarios. Future studies should examine the attention paid to the anchor, the source of the survey, and the types of response tools.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Impacts of Tree Cover Loss on Bat Biodiversity in the U.S. Since 2000***

Author(s): Sophia Edelman

Advisor: Dr. Jennifer Kovacs

**Abstract:** Bats reside in many different habitats and environments, from trees and caves to underpasses and roofs. In more rural areas, they are known to roost in dead trees. In urban areas, they can often be found in drainage tunnels and attics. Their natural habitats are rapidly decreasing in size and availability due to human interference. This loss of habitat also contributes to spread of disease and parasites within colonies. This study will look at the decrease in tree cover compared to the biodiversity of various bat species in the United States over the past 20 years. I will use a combination of GBIF data and satellite forest cover tracking. I predict that the biodiversity of bats in forest cover loss areas will decrease significantly due to the loss of habitat and some species being unable to adapt to the change in environment from. Some species may show population growth or no change due to having less specific habitat needs. This study will provide valuable information about how different habitats affect various species and the overall diversity of bats. It will give conservationists a better understanding of which habitats are inconsistent with bat survival and which species are unable to adapt to a change in environment.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***The Role of Endosomal Trafficking in the Shank3B Mouse Model of Autism***

Author(s): Sophie Gregoretti, Anjali Kunnatha, Rebecca Harshman

Advisor: Dr. Jennifer Larimore

**Abstract:** Aberrant connectivity is one molecular mechanism that impacts autism phenotypes, and that altered connectivity is a result of altered dendritic spine volume and density. Postsynaptic densities (PSD) composition is regulated by endosomal trafficking proteins such as AGAP1 and scaffolding proteins, such as the SHANK proteins. SHANK3B is a PSD protein that is part of the glutamate receptor protein complex that physically links ionotropic NMDA receptors to metabotropic mGlu5 receptors, a linkage necessary for induction of plasticity. Using immunohistochemistry we describe how AGAP1-dependent endosomal trafficking protein levels are altered in SHANK3B +/- mice. Understanding how AGAP1-dependent endosomal pathways may contribute to neurodevelopment will further elucidate how proper neuronal connections are formed.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Crossing Medical Borders: A Comparative Analysis of Healthcare Delivery in Ghana vs. America***

Author(s): Zahria Spencer

Advisor: Dr. Shoshana Katzman

**Abstract:** This project compares and contrasts the differences between healthcare in the United States and Ghana through a comparative review of my shadowing experiences in both countries. The review is based on direct observational/qualitative data collected during my clinical experience at a major hospital in a large city in both countries. During these experiences, I observed patient care workflows, communication styles, medical team collaborations, the use of technology (or the lack thereof), and provider-patient interactions in both a resource-rich and resource-limited environment. Key differences prevailed in multiple aspects, such as access to basic medical tools, patient volume, and the roles of healthcare professionals within teams. Despite the unique strengths and flaws in both Ghana and the US, both settings emphasized compassionate care and teamwork. This comparison highlights how cultural competency, resource availability, systemic issues, and infrastructure all factor into the quality of patient care. The significance of this project reflects how healthcare disparities affect patient outcomes and healthcare delivery, and it emphasizes the importance of cultural competence in medical training. This project provides valuable insights for pre-med students, educators, and healthcare professionals seeking to improve healthcare systems globally by providing a direct perspective of strengths & weaknesses from both systems.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Behind The White Coat: Clinical Exposure and Professional Growth at Piedmont Henry***

Author(s): Zenaya Williams

Advisor: Dr. Shoshana Katzman

**Abstract:** As a student in the Master's in Medical Science program at Agnes Scott and an aspiring physician, I participated in a clinical internship course designed to promote professional development and exposure in a healthcare setting. Exposure to different healthcare specialties is essential to providing insight into direct patient care and the collaborative environment that shapes healthcare. Throughout my journey, I have encountered significant challenges securing such opportunities, as many spaces remain inaccessible without personal connections. The internship experience at Piedmont Henry Hospital provided clinical exposure, allowing me to shadow physicians and other healthcare professionals in different departments. Through observational learning and reflective journaling, I focused on core competencies demonstrated in each unit, including teamwork and collaboration, empathy and compassion, and strong interpersonal skills. These qualities help shape the patient experience and serve as the foundation for providing high-quality, equitable care. This experience reaffirmed my commitment to medicine and taught me the importance of becoming a well-rounded healthcare provider who integrates clinical skills with indelible qualities rooted in compassion and humility.

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**Poster Session B: 1:30-2:30 pm (set up by 1:00)      Bullock Lobby**

***Microwave Oven and How it Works***

Author(s): Zhanna Shorokhova, Oralyn Murchison

Advisor: Dr. Hodari-Sadiki Hubbard-James

**Abstract:** This is a visual presentation about the function, science, and technology behind the microwave. The poster is a summary of a podcast done by me, Zhanna Shorokhova, and my partner, Oralyn Murchison, which was recorded as part of a course, Phy 341 - Electromagnetism, with the Agnes Scott College. The podcast was a collaborative work, but the visual aid (poster) is done by me, Zhanna. I plan to bring a pair of headphones for others to be able to listen to the podcast which Oralyn and I have recorded. The podcast is recorded for educational and entertainment purposes, and it discusses "things that bring us job from a scientific perspective." Some of the questions answered are "what is a magnetron and how does it work within the microwave," "what are electromagnetic waves and how do they cook food," "what are nodes and antinodes, and how do they cause uneven heat distribution," "is the microwave radiation dangerous," and "why can't you put metal in the microwave." At the end, the podcast includes a microwavable chocolate mug cake recipe. All sources listed and all rights reserved.

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## ORAL PRESENTATIONS, AFTERNOON SESSIONS

2:30-2:45 pm     Bullock 102W

### ***Do students find utility when using virtual reality in an anatomy & physiology lab?***

Author(s): Koman Yapi, Jazymne Massey

Advisor: Dr. Carmen Carrion

**Abstract:** This presentation looks at how virtual reality (VR) is changing the way students learn human anatomy and physiology in laboratories. Even though dissections and textbook learning have been essential, traditional lab methods have disadvantages such as high costs, ethical issues, and limited accessibility. This study discusses how virtual reality (VR) offers a modern substitute for traditional teaching approaches. The data collected was across pretests and posttests, using both qualitative questions and quantitative Likert scales. These results were analyzed across both methods, with the qualitative results being categorized into themes due to student quotes. While many students find VR to be engaging and useful for visualizing bodily systems, it also presents some new challenges, including discomfort and software defects. Students' use of VR now reflects the growing need for science education to balance equity, usability, and technological innovation.

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2:30-2:45 pm     Bullock 103W

### ***War, Wealth, and Water: How wealth and education shape water access in Jordan***

Author(s): Emily Araujo

Advisor: Dr. Ruth Uwaifo Oyelere

**Abstract:** Jordan is susceptible to being a water-scarce country because of its climate, infrastructure, and population growth. This has contributed to extended disparity among communities. This presentation examines how a household's wealth index and education correlate with their water shortage in Jordan while controlling for geographic factors. Using data from the Demographic Health Survey and IPUMS for the years 2007 to 2023, I compare correlates over two time periods pre-Syrian and post-Syrian war.

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2:30-2:45 pm     Bullock 112W

### ***Perverting G-d: The Transgression of Esther and Purim***

Author(s): Lucy Sackin

Advisor: Dr. Tina Pippin

**Abstract:** My research topic concerns the "perverting of G-d" within the Book of Esther and the Jewish holiday of Purim. Using the works of Georges Bataille and Mikhail Bakhtin, which examine transgression, excess, and the carnivalesque, I am examining the ritual of inversion on Purim, and the comedic and horrific inversions in the book. Looking at the phenomenology of Purim and its place in the lineage of springtime festivals of reversal and gaiety, I seek to peel back the layers of the narrative to understand how this holiday has endured, and why it is as sacred as it is. In peeling back these layers I will also draw attention to them, and display the ways that the Book of Esther and the holiday of Purim have been used to justify violent acts done by Jewish people against perceived "enemies of the Jews." Living in the violent times that we do, it is more important now than ever before to critically examine the aspects of holy texts which have been cited as inspiration for religious extremist violence. "Perverting G-d" includes both the necessary carnivalesque reversals and transgressions which allow for the shadow of a folk to come into the light and feel empowered, and also for the blind misreading of texts, removing them from their place in history and genre, and using them to empower the darkest urges of an oppressed people.

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**2:30-2:45 pm     Bullock 209W-A**

***Weapon to Woman to Wolverine: Trans-ing Marvel Comics' Laura Kinney***

Author(s): Joy Thomas

Advisor: Dr. Bobby Meyer-Lee

**Abstract:** X-Men comics have been examined through the lenses of marginalized groups for decades: from their historical roots as Civil Rights Movement commentary to their queer allegorical stories written during the AIDS crisis (Grimsted et al. 2). James "Logan" Howlett, better known as Wolverine, has been read through these racial and queer perspectives, including intersections involving his identity as a Canadian immigrant (Deman 89). However, his successor, Laura Kinney, has been excluded from these analyses since her first appearance twenty years ago. Created in a lab, raised as an assassin, and stripped of any personal autonomy—even a name—Laura was first known as X-23. Being forced into the parameters of hypermasculine violence as X-23 and her later adoption of the name Laura establish the framework for reading her as a transgender woman. Later being pressured into prostitution out of fetishistic exploitation of her mutation, she relates to the prevalent forcing of trans women into sex work out of desperation. On the streets and within the X-Men, Laura also builds connections and relationships with other outcasts and societally perceived queers. This queer theoretical reader response to Kinney contributes to a larger examination of the X-Men franchise's conversation of marginalized identities, along with the current US culture war that attacks transgender-identifying people. While American politicians and talking heads demonize gender nonconformity ("Florida GOP"), trans folks can look to Kinney as a coded representation of someone who understands their struggles and has become a hero and a representation of trans joy, success, and chosen family.

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**2:30-2:45 pm     Bullock 209W-B**

***Inclusive History: Research and Reflections from the "Every Person By Name" Project***

Author(s): Cadie Cooper, Mary Shawhan, Nyokabi Kimani

Advisor: Neeraja Panchapakesan

**Abstract:** This presentation explores the methodology, purpose, and student reflections of the "Every Person By Name" inclusive history project at Agnes Scott College. The project, funded by a three-year Mellon Foundation grant awarded to the college in 2022, strives to share the unknown and untold stories of the institution's past, particularly through highlighting the stories of workers of color throughout the decades. The presenters illustrate that the practice of highlighting inclusive history has a positive impact on the current campus community and on the future of our institution, as it paints a nuanced, truthful portrait of the college's past. Obtaining details about underrepresented individuals in the past brings a humanity-centric understanding of how the college has evolved and creates a thoughtful conversation between past and present. Throughout this presentation, student researchers share their own reflections on the "Every Person By Name" project's impact on themselves. These personal accounts support the idea that inclusive history projects are beneficial to the institution and its students. Lastly, the presentation will also detail our methodology—a combination of oral history interviews and exploration of archival materials—to provide a glimpse into the process of conducting inclusive history research and hopefully inspire other institutions to engage in similar work. Ultimately, the project seeks to provide an accurate, insightful, and diverse look at how present day student researchers document the college's past, bolstering the message that inclusive history research is an essential part of understanding the college's past, present, and future.

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**2:30-2:45 pm     Bullock 210E**

***Evolving Perspective: A Historical Journey of Diversity at Agnes Scott***

Author(s): Rocelynn Olivares-Parga, Zariyah Allen, Kennedy McNeal, Kalina Coleman

Advisor: Dr. Enkeshi El-Amin

**Abstract:** This public sociology project explores the evolving history of race, diversity, and inclusion at Agnes Scott College by creating a digital archive and oral history collection titled A Historical Journey of Diversity at Agnes Scott College. Designed to engage both the Agnes Scott and broader communities, the project emphasizes accessibility, collective memory, and the integration of both literal and virtual spaces. It seeks to document how racial experiences on campus have transformed over time, especially through the voices of alumni and former Black students, including firsthand accounts like that of Gay McDougall, the College's first Black student. Using a multi-method approach—archival research and oral histories,—the project will engage yearbooks, student newspapers, and administrative records alongside interviews to capture a more complete picture of campus life. Central research themes include the overlooked contributions of Black custodial and service workers, student activism surrounding racial justice, and the role of cultural organizations in fostering inclusion. By fostering dialogue, memory, and accountability, this project aims to contribute to institutional reflection and invites ongoing conversations around equity and justice in higher education.

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**2:30-2:45 pm      Bullock 304E**

***Investigating the Criteria for Ethical Artificial Intelligence***

Author(s): Wambũi Gitahi

Advisor: Dr. Hal Thorsrud

**Abstract:** With the growing increase in the development, access and usage of Artificial Intelligence (AI), there is a need to develop AI systems that possess ethical reasoning. Given the surge in the emergence of AI therapy chatbots and Large Language Models (LLMs) like ChatGPT, YouGov and Elon University conducted research into AI usage and reported that nearly 34% of Americans are comfortable with seeking mental health advice from AI therapy chatbots and that 25% of LLM users believe that LLMs can make moral judgements. This research study maintains that for AI to serve as moral agents in place of, or in collaboration with, humans, AI needs to have ethical reasoning. By leveraging on literature by existentialists such as Dreyfus, Heidegger and Merleau-Ponty, this research study investigates and presents the practical criteria for the development of AI systems that possess ethical reasoning. This research presentation shows that AI needs to have experienced suffering in order to be considered as capable of ethical judgment. Given this requirement, this presentation will discuss the ethical implications of requiring AI systems to suffer in order to meet the threshold to effectively support humans.

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**2:30-2:45 pm      Bullock 308**

***Boldness and Aggression as Personality Factors in Crayfish (Procambarus Clarkii)***

Author(s): El Metler

Advisor: Dr. Jennifer Kovacs

**Abstract:** This project examines boldness and aggression as "personality traits" in crayfish (*Procambarus clarkii*). Personality in ethology refers to consistent behavioral responses that vary between individuals of the same species. Aggression towards conspecifics or new stimuli and boldness in exploring novel environments are typically correlated within individuals across taxa. Two aggression and two boldness trials were conducted for each of 10 crayfish. Aggression was measured with crayfish's responses to a new stimulus: aggressive posturing in response to being touched was counted as an aggressive response. Backing away or not responding was counted as non-aggressive. Boldness was measured with the amount of exploration in a novel open container. The prediction was that if boldness and aggression are "personality traits" in *P. clarkii* consistent with other taxa, individual crayfish would display consistent levels of aggressive response and exploration between trials. Aggression and boldness would be correlated, with crayfish more likely to respond aggressively to new stimuli displaying more exploration in novel environments. Levels of aggressive response and exploration would be different between individuals. Boldness was consistent within individuals across trials but different between them, suggesting a personality-like factor ( $p = 0.036$ ). Aggression differed between individuals but not significantly and there was a slight, but

statistically insignificant correlation between higher aggression and higher boldness in trials. Generally, individuals that were aggressive in one trial were aggressive in the other and displayed somewhat higher levels of exploration.

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2:50-3:05 pm     Bullock 102W

***Expressive Differences in Tumor Associated and Non-Tumor Associated Microglia***

Author(s): Caidyn Ellis

Advisor: Dr. Jennifer Hurst-Kennedy

**Abstract:** Glioblastoma Multiforme (GBM) is an aggressive type of glioma and is the most common adult primary brain tumor. Its ubiquity and deadliness have led to abundant research, but due to GBM's heterogeneity and the unique tumor microenvironment, much is still misunderstood about the functional roles of tumor associated (TAMG) and non-tumor associated microglia (NTAMG) in GBM's proliferation and malignancy. Microglia are the primary immune cells of the central nervous system. Approximately 40% of the GBM tumor mass is comprised of tumor associated macrophages, which are a diverse category including TAMG and bone-derived macrophages (BDMPs). The present study examined the differential gene expression of NTAMGs and TAMGs in the C57BL/6J mouse model of GBM by performing RNA-sequencing analysis. It was found that twenty-one genes were expressed significantly ( $p < 0.001$ ) differently between the two microglia populations. An additional 293 genes were expressed significantly ( $p < 0.05$ ) differently. Many of these twenty-one genes are protein coding genes, but significant pseudogenes, long non-coding RNAs, and small nuclear RNAs were also found. Collectively, these RNAs have functions in cell cycle regulation, programmed cell death, immune cell function, and cellular respiration. Elucidating expressive differences in TAMGs and NTAMGs may provide insight into how GBM utilizes microglia to further its malignancy and may lead to treatment insights. Future research will focus on elucidating differences between other tumor associated and non-tumor associated immune cells, such as BDMPs.

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2:50-3:05 pm     Bullock 103W

***Factors Correlated With Asylum Approval Rates***

Author(s): Aurelia Marie Vanderwilde

Advisor: Dr. Ruth Uwaifo Oyelere

**Abstract:** Many factors may influence asylum decisions, including race, nationality, religion and more. This presentation examines the primary factors which influence asylum grant rates by country. Using Executive Office of Immigration Review data from 2012-2024, this presentation discusses the paper which finds that race, Spanish language, being from a country with a high undocumented population and a group's use of government services are negatively correlated with asylum approval rates, while being from a country that speaks Arabic language, higher employment share of immigrants from a country, and higher average age are positively correlated to asylum decisions.

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2:50-3:05 pm     Bullock 112W

***The Story of Tamar: Victimization and Language Usage***

Author(s): Megan Serfontein

Advisor: Dr. Tina Pippin

**Abstract:** This presentation explores the role of language in framing the rape of Tamar in 2 Samuel 13, focusing on how narrative structure and verb usage prime the audience to expect and accept Tamar's victimization. Drawing on a close textual analysis informed by literary and theological scholarship, the study reveals how the biblical narrative systematically dehumanizes Tamar through impersonal references and action-centered verbs that position her as an object rather than a

subject. Notional literary structure and analysis of verb choice guide this examination. Particular attention is given to the ways in which Tamar's familial identity is erased or minimized; she is consistently referred to in relation to the male figures around her, rather than as an autonomous individual. Despite a brief moment of agency when Tamar resists Amnon, the story ultimately silences her, culminating in her being labeled a "desolate woman." This linguistic and structural treatment reflects and reinforces patriarchal power dynamics and familial betrayal. The findings highlight the importance of paying attention to language in biblical texts, not only for theological interpretation but also for understanding how narratives can contribute to the normalization of gender-based violence. This analysis has broader implications for how scripture is taught and interpreted in contemporary religious contexts, especially regarding issues of justice, gender, and power.

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**2:50-3:05 pm     Bullock 209W-A**

***Changes in Detectives: Sherlock Holmes vs. Annie McIntyre***

Author(s): Jaliyah Parish

Advisor: Dr. James Stamant

**Abstract:** This presentation examines differences in the Detective Fiction genre. This presentation uses Arthur Conan Doyle's Sherlock Holmes and Samantha Jayne Allen's Annie McIntyre as examples of these differences. It argues that detectives in Detective Fiction are similar because they investigate alone and have a small group of friends, but later versions of detectives are involved in more danger and display more human abilities.

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**2:50-3:05 pm     Bullock 209W-B**

***Spring Lobby Weekend 2025: A Lesson in Lobbying, Leadership, and Healthcare Legislation***

Author(s): Cadie Cooper, Melissa Sanchez, Stephania Covarrubias-Gachuz, Hayley Peace, Jo Higgins

Advisor: Blayne McDonald

**Abstract:** This presentation reports on Agnes Scott students' experiences with the 2025 Spring Lobby Weekend trip to Washington, D.C. in collaboration with the Friends Committee on National Legislation. The trip, overseen by the Center for Leadership, Engagement, and Service, gave a group of 14 students and two staff members the opportunity to lobby the congressional offices of Georgia representatives on the topic of SNAP and Medicaid protections. This presentation will detail what students learned on the topic of healthcare, including current legislation and the personal impact that cuts to Medicaid and SNAP programs would have on thousands of Georgians. Then, students will share some pointers they received on how to lobby at various levels and the importance of young voices in democratic engagement. Finally, students who attended the trip will share personal reflections on the significance of the Spring Lobby Weekend experience as it relates to the Agnes Scott mission of engaging with the challenges of our times. Viewers will walk away from this presentation informed about current legislative threats to welfare programs, and cognizant of some specific ways in which citizens can make their voices heard through multi-levelled lobbying!

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**2:50-3:05 pm     Bullock 210E**

***Archiving Latines Unides***

Author(s): Ashley Garza, Feli Zuttion, Lindsay Moore

Advisor: Dr. Enkeshi El-Amin



**Abstract:** This presentation details an effort to archive the student organization, Latines Unides (LU), after its resurgence on campus post-COVID-19. It begins to fill the silences existing within the Agnes Scott College archive surrounding student organizations, specifically relating to affinity groups. The project draws on the official history of LU, and its many iterations, utilizing advertisements found throughout student handbooks. However, the project largely draws upon oral histories and interviews conducted with the organization's advisors, in addition to current and past members. The effort to build an archive for LU comes with a commitment to collaborating with and listening to current members as to what they believe will best represent their organization. By collecting materials, like flyers and photographs, shared by current members and alumni, the archive works to achieve its goal of being for the community it represents.

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**2:50-3:05 pm     Bullock 304E**

***Mai's NASA Experience***

Author(s): Mai Le

Advisor: Dr. Hodari-Sadiki Hubbard-James

**Abstract:** This presentation is an overview of the NASA OSTEM internship experience at the Marshall Space Flight Center in Huntsville, Alabama. Personally working on special mission projects for Artemis specifically FROSTE (Frozen Return of Samples to Earth) and data collection of archived NASA missions. Researched low temperature resistant polymers and plastics for FROSTE, attended weekly meetings on said projects. Analyze, and interpret past mission data to form a cohesive collection for the PSI website. Introduced and hosted weekly AI meetings to the PSI team as a learning and reading aid. Occasionally toured, explored, and acquainted with other NASA employees on-site and off-site. Communicated and directed the FROSTE team with a possible plastic that would hold moon rock and materials effectively and safely back to Earth. Successfully archived assigned Thermal microgravity experiments. Made longtime connections with the NASA community and created long-term relationships. Further improves the FROSTE project to be able to advance in further testing of materials. PSI being a collection website where any professor or principal investigator can thoroughly understand past microgravity experiments to improve spacecraft safety and endurance.

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**2:50-3:05 pm     Bullock 308**

***Investigating Phytoplankton Population Changes and Algae Bloom Occurrences with NEON Data***

Author(s): Wanvimol "Aom" Juneau

Advisor: Dr. Jennifer Kovacs

**Abstract:** Algae blooms happen across bodies of water, fresh and marine alike. In this wide range of environments, they can significantly harm the various surrounding organisms. Harmful algae blooms (HAB) cause oxygen depletion underneath the water surface, leading many aquatic organisms to suffocate. Understanding the causes of HABs will help conservation efforts of many aquatic species and lead to lower rates of oxygen depletion. My study uses two NEON (National Ecological Observatory Network) datasets. NEON is a network of field research sites where ecologists can submit data for public research. Specifically, the "Periphyton, Seston, and Phytoplankton" collection and the "Temperature at Specific Depth in Surface Water" database were used to match the phytoplankton growth and water surface temperature of their respective collection sites. I hypothesize that exposure to both constant and high heat has a positive correlation with increased levels of algae growth. Amounts of ash free dry mass are instead used to determine algae population count. Ash free dry mass is the measurement of organic algal biomass from a sample. This study uses ANOVA testing and General Linear Modeling to look into the effects of high temperatures. Additionally, the study observes the possibility of constant temperature effects on increased algae populations and attempts to find a threshold temperature duration. Finally, the effects of the two factors together to create high algae populations that lead to algae blooms are statistically investigated. This study will help

determine whether algae blooms require consistently high temperatures to develop or if temperature fluctuations can suppress algal population growth.

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**3:10-3:25 pm     Bullock 102W**

***Impact of mRNA-Loaded Dendritic Cells on Gene Expression in Glioblastoma Immunotherapy***

Author(s): Michael Campbell

Advisor: Dr. Jennifer Hurst-Kennedy

**Abstract:** Glioblastoma (GBM) remains a highly aggressive malignancy with relatively bleak survival chances and limited therapeutic options. Dendritic cell (DC) vaccines offer a possible treatment for GBM by priming a patient's T-cells to identify and destroy GBM cells expressing specific tumor antigens. Genomics data was analyzed from a phase I clinical trial investigating a DC vaccine, wherein newly-diagnosed GBM patients who received a DC vaccine (GBM antigen mRNA-loaded DCs) to promote an effective anti-tumor response. We analyzed transcriptome data from three patient-matched pairs of vaccine (mRNA and lysate) and control (mRNA only) samples to assess the impact of the vaccine on gene expression. Bioinformatic software Galaxy was utilized for FASTQ grooming, adapter removal, genome alignment, gene counting, and differential expression analysis (DESeq2). This process allowed for the identification of notable gene expression alterations in the vaccine-treated DCs samples compared to controls. Principal Component Analysis (PCA) revealed a clear separation between vaccine and control samples, indicating a potential transcriptional shift induced by the vaccine. DESeq2 analysis showed the potential dysregulation of MT-CO2 pseudogene, which has a potential role in mitochondrial function and immunomodulation. This study provides valuable insights into the molecular mechanisms underlying the efficacy of homologous antigenic loading in DC-based GBM immunotherapy. These findings highlight the potential of this vaccine strategy to elicit a clinical anti-tumor response in GBM patients. Further research and incorporation of more paired samples should be warranted to validate findings and translate them into improved therapeutic outcomes.

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**3:10-3:25 pm     Bullock 103W**

***Commute Time and Its Effect on Health and Wellbeing***

Author(s): Ashari Battle

Advisor: Dr. Ruth Uwaifo Oyelre

**Abstract:** This study examines the correlation between commuting time and an individual's reported health status before and after the Covid-19 Pandemic. Commuting is a daily activity for the majority of Americans and is known to cause stress and negative effects to health status. During the pandemic, working from home became a new normal, decreasing the amount of commuting. After the pandemic, hybrid models were frequently integrated into the workplace, continuing to contribute to a decrease in weekly commute time. To assess this relationship, data was gathered from IPUMS American Time Use Survey from the years 2007 to 2023. The variables time use, health status, and wellbeing were measured through ... and ran through an OLS regression to test the relationship between them. Results revealed a significant negative relationship between commute time and health status as well as commute time and wellbeing. During and beyond the pandemic years, there was a significant increase in both relationships. These results highlight the fact that increased commute time negatively affects health status and wellbeing. These relationships were amplified by the pandemic. These results can have implications for Labor and Urban Economics.

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**3:10-3:25 pm     Bullock 112W**

### ***The History of Jews and Comic Books***

Author(s): Clarke Brenowitz

Advisor: Dr. Lorrie King

**Abstract:** This presentation explores the history of Jews and comic books. It shows the impact Jewish writers and artists have had on the comic book industry since its creation. Without American Jews, the comic book industry as we know it would not exist. This is because, during the 1930s and 1940s, there were very few jobs available for Jewish people in the United States. So the Jews themselves created the comic book industry and decided to hire other Jewish people. This allowed them to share their creativity and their passion for storytelling. Storytelling is an important part of the Jewish culture. Jewish stories and folktales have also heavily inspired the comic book superheroes that we know and love today.

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**3:10-3:25pm      Bullock 209W-A**

### ***A Conversation Without Nuance: Gertrude Stein, Fascism, and the Vichy Dilemma***

Author(s): Katy Rice

Advisor: Dr. James Stamant

**Abstract:** Gertrude Stein's involvement with the collaborationist Vichy Regime during WWII is an involvement that is oft misinterpreted and approached with a lack of nuance. While it is certainly true that she had a significant relationship with Bernard Faÿ, who was an integral member of the Vichy regime, and translated many of Phillipe Pétain's speeches to English, it is not fair to label her as a fascist— especially when so much of her work is antithetical to this assumption. In my essay, I will analyze the ways in which her ties to the Vichy regime have been approached by modern scholars with a lack of nuance and proper historical understanding, as well as explore common misconceptions regarding Stein's politics (such as her "endorsement" of Hitler for the Nobel Peace Prize). Additionally, I will center Stein's work *Brewsie and Willie* (1946), as well as conduct an examination of her other works, to demonstrate the oftentimes anti-war, anti-fascist, and anti-authoritarian beliefs that she espoused in her writing.

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**3:10-3:25 pm      Bullock 209W-B**

### ***Comfort with Confidence: Leadership through Adaptation in the Writing Center***

Author(s): Anjali David, Svenja Nickelson, Mary Shawhan, Sam Snyder

Advisor: Imani Young Bey

**Abstract:** This presentation discusses the impact of training student tutors to become adaptive leaders in order to create a welcoming and widely accessible writing center that prioritizes tutee comfort. The adaptive leadership style prioritizes adapting to individual tutees' needs throughout their entire writing center experience; from the creation of the appointment to the appointment itself and engaging with the center beyond the appointment, adaptive leadership allows tutors to empower tutees as confident writers and speakers. We examine literature describing the assets of adaptive leadership in spaces similar to our Center for Writing and Speaking (CWS), then discuss how similar adaptive leadership strategies can be applied in the CWS. To assess how productively the CWS is already engaging with adaptive leadership, we then highlight several new policies implemented this year with the goal of improving the CWS's accessibility and analyze these policies' effectiveness through the lens of adaptive leadership via qualitative data describing student reactions to the new policies.

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3:10-3:25 pm      Bullock 210E

***Mni Wiconi: The Effects of The Dakota Access Pipeline on the Great Sioux Nation***

Author(s): Ny'Asia Bell

Advisor: Dr. Enkeshi El-Amin

**Abstract:** Public and academic discourse about the Dakota Access Pipeline (DAPL), has mainly focused on economic and environmental matters, with gaps ignoring the potential for adverse effects taking a toll on members of the Great Sioux Nation. I will uncover how pipeline construction has affected the Sioux people's local, traditional, and political affairs. This literature review will explore current research on ways in which large-scale, land-altering construction projects interact with and directly affect political and spiritual status in marginalized, indigenous communities. The themes span across two overarching categories: political and legal perspectives on religious and land sovereignty; and the interaction between Sioux spiritual values and environmental justice. The Sioux people, like many other nations, see water as not only a resource but a sacred essence, a crucial part of their spiritual practices. By gaining a deeper understanding of the effects of the pipeline on the local tribal residents, the future could hold the possibility of being able to provide necessary resources and support. Some key factors to be considered in the relevant literature are: altered/destroyed sacred sites, the potential undermining of important spiritual practices and tribal sovereignty, and intergenerational cultural erosion. Moreover, this review incorporates the theoretical frameworks and concepts: Environmental Justice Theory, Place Attachment Theory, and Postcolonial Theory.

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3:10-3:25 pm      Bullock 304E

***Can Simple Interventions Impact Sleep Knowledge and Behaviors?***

Author(s): Zeba Syeda, Maryam Muhammad

Advisor: Dr. Carmen Carrion

**Abstract:** Sleep is vital for cognitive function, academic performance, and overall well-being. This study aimed to determine whether a sleep education intervention could improve sleep knowledge and behaviors among the premedical, post-baccalaureate, and master's students. Our study was designed to ask the simple question: can simple interventions impact sleep knowledge and behaviors? This study investigated the effects of a sleep education intervention on premedical, post-baccalaureate, and master's students at a southeastern U.S. liberal arts college. Data was collected on Qualtrics, an online survey tool, and analyzed using the statistical software program SPSS. In August 2024, participants completed a pretest assessing sleep knowledge (ASKME), behaviors (Epworth Scale), and beliefs (DBAS-16). The intervention included four educational videos on sleep deprivation, lifestyle impacts on sleep, and evidence-based sleep strategies. A posttest in November 2024 evaluated any changes. Posttest data showed improved knowledge in areas like sleep normalization in alcohol recovery and narcolepsy symptoms. 31 of 38 participants reported increased awareness of sleep habits. However, no significant changes were seen in sleep quality ratings or dysfunctional beliefs (DBAS-16), suggesting that behavior change may require longer or more intensive interventions. The intervention effectively improved sleep knowledge but had a minimal effect on sleep behaviors. Short educational tools may enhance awareness but are limited in changing habits.

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3:10-3:25 pm      Bullock 308

***Behavioral and Morphological Insights into Water-Associated Ecological Classification of Pteroptyx Fireflies***

Author(s): Wanvimol "Aom" Juneau

Advisor: Dr. Jennifer Kovacs

**Abstract:** Beetles (Coleoptera) are often difficult to designate as aquatic, semi-aquatic, or terrestrial due to unclear parameters for these classifications, as well as diversity within the order. Our study investigates behavioral diving patterns and morphologies of *Pteroptyx valida*, *Pteroptyx malaccae*, and *Pteroptyx tener* to assess their current terrestrial

classification. We hypothesized that if Pteroptyx larvae show behavioral patterns, it may suggest statistical inclination towards breaching water in an intertidal zone and opened eversible respiratory organs during submersion, providing strong evidence for reclassifying Pteroptyx fireflies as semi-aquatic. The behavioral diving experiments reflect the natural environments during firefly larval stages, including aquatic, sloped, and terrestrial zones. Larvae were placed in a dry aquatic zone, which was gradually flooded to mimic the tide. Behaviors and total time spent in water was recorded for analysis. Our results show statistical significance of diving times between day and night, potentially suggesting that Pteroptyx larvae stay in the water at high tide during the daytime but often attempt to escape high tide during the night time. SEM imaging was conducted, with a focus on observing opened or closed eversible respiratory organs when the larvae are submerged in water. Future SEM images may reveal whether functional eversible organs during submersion are a morphological adaptation to water, a characteristic commonly found in semi-aquatic beetles. Overall, our study seeks to clarify ecological classifications of Pteroptyx fireflies contributing to a more precise understanding of larval Pteroptyx firefly behavior and morphology in water-associated environments.

## 1:40-2:20 pm: MUSIC PERFORMANCES, Maclean Auditorium, Presser Hall

### ***Syon Abbey Music***

Author(s): Leah Grace Roberts

Advisor: Professor Rebecca Duren

**Abstract:** Syon Abbey was one of the most unique monasteries, the only house of its kind in England, the wealthiest monastery, and extremely observant. The Abbey had many books, but the nuns inside had to flee in 1539 to escape the dissolution of the monasteries, leaving their many books behind. Many found their way into the British Library where they sat until I checked them out. Within these books included books of hours, or service books, with hymns included. These hymns have now been transcribed by myself, and this performance would be the first example of people having sung them in 476 years. There are three untitled pieces that would have been used in their seven services throughout the day. These pieces were sung in unison by the nuns at Syon and I aim to preserve as much of this style as possible. This allows the audience to experience the pieces as they were meant to be sung and heard. This means straight toned voices and classical techniques. It is not often that historians are able to use sound to create the experience of history and study it. This project allows for sound to become a medium for research. Syon Abbey survived until 2011 in a variety of homes and today there are two remaining Syon nuns and singing this will allow them to hear their heritage.

### **Chamber Ensemble Performances**

***Duo in C Major for Violin and Viola op.18***

***Carl Stamitz (1746-1801)***

***Maestoso***

Sitota Rogal, Violin

Ed House, Viola

***Lullaby***

***Rebecca Clarke (1886-1979)***

***Meditazione***

***Riccardo Drigo (1846-1930)***

Ansley Franklin, Viola

Aarti Kakkad, Cello

Dr. Wooyoung Kwon, Piano

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## 2:30-2:45 pm: THEATRE PERFORMANCES Winter Theatre, Dana Fine Arts Building

### ***The Art of Keeping Up Appearances***

Author(s): Oliver Fahlen

Advisor: Dr. Toby Emert

**Abstract:** For my final project in my Dramatic Writing class, I wrote a two-person, one-act ten minute play based around the fictionalized lives of two Baroque painters. I had the idea to place them in a grad school scenario, and craft a short romance story through the foil of art critiques. The two artists I focused on were Artemisia Gentileschi, inspired by the performance of the Lauren Gunderson play about her, and her painting adversary, Michelangelo Caravaggio. The painting I chose to center the play around is the Beheading of Holofernes, a real painting that both painters were famous for. The setting is a liberal arts school, with the idea of other classmates around them but focusing only on the two of them. Artemisia is a 25 year old, a painting prodigy, hot-headed, with a huge ego. Michelangelo is a 25 year old, another painting prodigy, used to getting what he wants, with something to prove. I worked to create a true fleshed out beginning, middle, and end with the 10 minutes that I had to play with, bringing the audience through a true enemies to lovers romantic arc. There are three different settings through the six acts. The play will be presented in a staged reading format, with minimal staging, focusing on the script and the interactions between my two actors, Sarah Angstadt '26 and Brynn Johnson '26.

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## 2:45-3:35: DANCE PERFORMANCES, Winter Theatre, Dana Fine Arts Building

### ***You Have Been Told To Be Silent***

Author(s): Leah Lipshutz

Advisors: Dr. Toby Emert, Dr. Tracey Laird

**Abstract:** “You Have Been Told To Be Silent” is a solo choreographic study on modern-day censorship and governmental control. The piece casts a cautionary tale of a future ruled by fear-mongering and heightened oppression. Music by Berlinist, Dominic Muldowny, James Newton Howard & Yuja Wang, and Critical Role & Colm R. McGuinness will be featured in this live performance.

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### ***Tulle Through Time: Identity, Innovation, and the Importance of Ballet Tutu Evolution***

Author(s): Maggie Harrison

Advisor: Dr. Toby Emert

**Abstract:** This presentation explores the creation of the ballet tutu and how its evolution has shaped not only the ballet world, but the general world around it. This presentation intends to teach a curious audience not only about the evolution of tutus, but also to showcase the different styles, aesthetics, and technology of five different tutus. It will also discuss hard topics surrounding ballet costuming, such as gender and body politics. The full presentation combines aspects of research and performance surrounding the costumes, including a brief history about the tutu, along with the showing of five variations representative of each tutu type.

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### ***Take The Chance To Dare***

Author(s): Sofia Tovar

Advisor: Professor Bridget Roosa

**Abstract:** This original dance work explores the emotional journey of burnout, self-discovery, and the quiet bravery it takes to start again. Through contemporary movement, the piece captures the raw and often conflicting feelings that emerge when one is stretched too thin—exhaustion, doubt, longing, and the slow rediscovery of purpose. Told entirely through

choreography, this piece uses the body as a vessel for storytelling. Moments of stillness contrast with bursts of energy, mirroring the highs and lows of personal transformation. The dancers' movements reflect inner turmoil and resilience, offering an honest, physical expression of what it means to hit a breaking point—and choose to move forward anyway. While deeply personal, the work is also universally relatable. It speaks to anyone who has felt overwhelmed, lost, or stuck, and honors the emotional labor involved in reclaiming one's identity and joy. There is no set, no dialogue—just the visceral language of the body in motion. This live performance invites audiences into a shared space of reflection and connection. By stripping away spectacle and focusing on movement, it highlights the vulnerability and strength inherent in the human experience. Above all, this piece is a tribute to the power of dance as a means of healing, release, and personal truth.

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**3:30-4:00 PM: CLOSING RECEPTION & ART EXHIBITION, Dalton Gallery, Dana Fine Arts Building**

***Building on Dana | Patterns in Space*** explores the building's past, present, and future through the voices of artists, activists, students, and scholars examining its built environment. This exhibition establishes the significance of the Dana Fine Arts Building in John Portman's early career and in shifts in the college's curriculum in the 1960s; it highlights the challenge of access and inclusion in historical design and an evolving cultural context.

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<https://www.buildingondana.design/>

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