SRCC @ Spring Student Showcase
Preliminary Program
May 6, 2026 (9:00 AM–12:00 PM)

Poster Session I 9:00–10:00 AM

The Relationship Between Excessive Internet use in Childhood and Digital Escapism in College Students

Hannah Alley, Psychology
Faculty mentor: Pamela Schuetze-Pizarro, Psychology

The purpose of this study was to determine if excessive screen use in childhood has an effect on internet usage of college students. It was hypothesized that students that engaged in excessive screen time in childhood are more likely to use the internet as a form of escapism and maladaptive coping as young adults. 129 college students participated in this study and were awarded extra credit by their professors for participating. A series of one-way ANOVAs were conducted with low and high screen usage (ScreenQ) as the independent variable and the subscale scores of the Internet Disorder Scale (IDS-15), Smartphone Addiction and Associated Consequences Scale (SAACS), and the Well-Being Instrument (WIX). To sort participants into high and low screen usage groups, a median split was conducted for the amount of time each participant reported using screens as a child (total score on the ScreenQ). Although, there were no group differences for digital escapism, participants who had higher screen time during childhood had higher scores on all of the smartphone addiction subscales, the self-regulation and self-control subscales of the IDS-15, and lower overall well-being scores.

Student Perceptions of a Child Abuse Simulation

Raj Arumugam, Psychology; Gianna Lewis, Psychology
Faculty mentor: Pamela Schuetze-Pizarro, Psychology

Childhood sexual abuse is prevalent across all demographics and has led to long lasting psychological and physical health concerns (Hornor, 2010). Research shows 19.7% of girls and 7.9% of boys undergo sexual abuse, although they are frequently underreported (Pereda et al., 2009). Therefore, proper training in recognition and reporting is essential. However, much existing training has been shown to be ineffective with research indicating when undergoing training, a lecture-based format is inefficient in identifying possible abuse and making a report (Han et al., 2024). Research indicates hands-on and simulation-based training is significantly more effective (Shih et al., 2024; Walsh et al., 2022). However, they require high cost and a surplus of resources including paid/trained actors, structured programs, and advanced technological platforms. These factors may not be accessible in all settings. Thus, the purpose of study is to evaluate student perceptions of the efficacy of a low-cost child abuse simulation used in an introductory level course on child abuse and neglect. All students enrolled in CAS 301 will be invited to participate in this study after they have concluded the simulation by completing a short Qualtrics survey evaluating their perceptions of the simulation and how it impacted their knowledge and confidence levels in

knowing how to respond appropriately to child abuse. Findings of the survey data will be presented.

Tlingit Weaving Techniques: The Chilkat Blanket and Woven Cultural Identity from the 19th Century to the Present

Brianna Bernas, Art & Design
Faculty mentor: Lisa Marie Anselmi, Anthropology

The Chilkat weaving traditions in the Chilkat River region in Alaska have shaped the cultural identity of the Tsimshian, Haida, and Tlingit peoples of the Northwest Coast for over two centuries on the Northwest Coast. Largely reserved for chiefs and noble men and women, the figural and geometric designs were first drawn on pattern boards, then woven by highly skilled female weavers, incorporating symbolic representations of their clan and abstracted natural forms, telling a story about their identity through images and textures that could be worn. The labor involved in the gathering and production of materials, as well as the weaving process, takes immense skill for a garment with equally complex meaning. Using two-ply spun mountain goat wool and a technique of wrapping cedar or spruce bark cord with the goat wool for the structural warp yarns, a weaving is created on an open frame, the warp tied to a top beam and hanging loosely, requiring precise handwork to keep an even tension as the curvilinear elements of the design is woven in columns. Natural dyes produced the colorway of black, yellow, and bluish green which would be combined with the undyed off-white of the mountain goat's natural wool color. For the Tsimshian, the Chilkat blanket is known as Gwis-halait, "dancing blanket," and for the Tlingit, it is known as Naaxiin, or "fringe about the body," referring to the long lengths of warp yarns and overlay fringe that dangles from the blanket's edges when worn over the shoulders, which sways along with the wearer during ceremonies and celebrations. The dancing blanket functions not just as a textile but as an outward representation of a story and one's sense of self, designed for motion, for life, in both the beauty of its artistry and the function of its materiality.An overview of the cultural significance and origins of the practice of Chilkat weaving, who designed and wove these blankets, and the symbolism and function of these blankets in Tlingit society will be presented alongside an in-depth examination of the process of the design, preparation of materials, and most importantly the structure and techniques of weaving these intricate textiles from the early 19th century to the present.

Bartók's Modernist Reimaging of the Solo Violin Sonata

Rhiannon Bogardus, Music Education
Faculty mentor: Carolyn Guzski, Music

Béla Bartók (1881-1945) was an ethnomusicologist and composer born in Hungary who combined his study of Eastern European folk music with his traditional Western European classical music studies to create a unique musical idiom. Bartók's music education began with lessons on the piano and drums from his mother until he later enrolled in Budapest Academy of Music to pursue both piano performance and composition. During his distinguished late period, which included compositions such as his Concerto for Orchestra (Sz. 116), he composed the Sonata for Solo Violin (Sz. 117), a genre that had only been

explored by a few other composers since Bach's great solo sonatas for solo violin (BVW 1001, 1003, and 1005). Bartók was directly influenced by Bach's lineage, especially his Sonata in C Major (BWV 1005); he combined the arpeggiated chords and double stops which made Bach's violin sonatas technically challenging with harmonic inflections inspired by Eastern European melodies to push the boundaries of Bach's day and create a sonata with a Modernist modern aesthetic. Although today the Sonata for Solo Violin is respected as a great contribution to the genre, when it was first revealed critics had mixed opinions at its debut. Some critics even regarded it as "noise", or disrespectful to Bach, but the Sonata for Solo Violin is a distinguished example of the crossing of musical cultures in response to the modernist aesthetic.

Not Too Hot, Not Too Cold: HVAC Design

Nick Brink, Mechanical Engineering Technology; Isaac Wozniak; Nate Docker, Mechanical Engineering Technology; Elijah Gehl, Mechanical Engineering Technology
Faculty mentor: Jikai Du, Engineering Technology

The 2026 ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) Design Competition challenges undergraduate engineering students to apply core HVAC principles to a mock real-world project. In this year's competition, students are tasked with performing detailed design calculations for a new 93,000 square foot, two-story educational facility located in Denver, Colorado. The building consists primarily of classrooms, teaching laboratories, and supporting spaces, each with distinct environmental and ventilation needs. This project focuses on the HVAC Design Calculations category, with the primary objective of properly sizing heating, ventilation, and air-conditioning systems to meet building demands. All design decisions were evaluated for compliance with the latest editions of applicable ASHRAE Standards and the Owner's Project Requirements; which lists expectations, assumptions, and project constraints vital to performing a detailed analysis of the building. Overall, the competition bridges academic theory and professional practice by requiring participants to apply engineering fundamentals, follow established standards, and justify their design decisions in a structured, professional context.

Do Stronger LGBTQ+ Legal Protections Improve National Healthcare Access?

Jelanie Butler, Political Science
Faculty mentor: Mehwish Sarwari, Government, Planning & Philosophy; Patrick McGovern, Government, Planning & Philosophy

Are stronger LGBTQ+ legal protections associated with better national healthcare access outcomes? Research shows that LGBTQ+ populations continue to face structural barriers within healthcare systems, and that policy inclusion is often inconsistent or incomplete. However, much of the existing literature focuses on documenting disparities rather than testing whether legal protections are reflected in measurable institutional outcomes. This study shifts the conversation from experience to performance. Theoretically, this project draws on policy feedback theory and institutional responsiveness. Policy feedback theory suggests that laws shape how institutions operate and how individuals engage with them. If

governments adopt stronger equality protections, those legal frameworks may influence administrative behavior, reduce structural barriers, and increase trust in health systems. Under this framework, inclusive legal environments should be associated with stronger access outcomes at the national level. To test this, I build a cross-national country-year dataset for the period 2000-2024. The independent variable is the strength of LGBTQ+ legal protections, measured using equality indicators from the Varieties of Democracy (V-Dem) project. The dependent variable is national healthcare access, measured using the WHO/World Bank Universal Health Coverage (UHC) Service Coverage Index. Control variables include GDP per capita, education, and urbanization to account for differences in national development. Overall, this project evaluates whether inclusive legal frameworks are associated with stronger healthcare access outcomes, contributing to discussions on governance, accountability, and health system performance.

Peer Influence on Youth Delinquency Among Individuals with Prenatal Substance Exposure

Charlotte Chamberlain, Psychology
Faculty mentor: Pamela Schuetze-Pizarro, Psychology

Children with a history of prenatal substance exposure have been found to have higher rates of delinquency. Substantial evidence has shown that there's a strong association between adolescent delinquent peer relationships and their own delinquency using community samples. However, it is not clear if this same association would be found among adolescents who were prenatal exposed to substances. Therefore, the purpose of this study is to examine association between adolescent's delinquency and delinquency of their peers among a sample of adolescents who were either prenatally exposed to tobacco, tobacco and marijuana or neither. 16-18 year old adolescents in the Growing Up Healthy study, a longitudinal study looking at the varying effects of maternal substance use were asked to complete delinquency scales and a scale measuring their perceptions of peer delinquency. A correlational analysis will be conducted with the aim of a better understanding the association between adolescent delinquency and peer delinquency in a sample of adolescents with a history of prenatal tobacco or tobacco/marijuana co-exposure.

The Long-Term Effects of Childhood Poverty in Buffalo, NY

Athena Chance, Criminal Justice
Faculty mentor: Amy Manning, Social Work

Childhood poverty remains a persistent issue in Buffalo, New York, where economic inequality continues to shape the lives of children and families. Research shows that poverty during early childhood can have long-term consequences for cognitive development, educational achievement, physical health, and future economic stability. Children experiencing prolonged poverty are more likely to face chronic stress, developmental delays, and limited access to quality education and social resources, which can contribute to lower academic performance, reduced employment opportunities, and increased risk of involvement in the criminal justice system later in life. However, studies also highlight that early intervention programs, stable home environments, and access to supportive services

can improve long-term outcomes and reduce intergenerational cycles of poverty. This project examines national research alongside Buffalo-specific data to better understand how childhood poverty impacts long-term life outcomes in the city. It also explores local and statewide initiatives, including the HOPE Initiative and efforts connected to New York's Child Poverty Reduction Act, which aim to strengthen workforce development, improve financial literacy, and expand access to affordable childcare. This presentation will summarize key research findings and evaluate how community and policy-based strategies may reduce structural barriers and promote long-term economic and social mobility for Buffalo's youth.

Ant Distribution and Spatial Heterogeneity in Western New York Forests

Maxwell Chiarella, Biology
Faculty mentor: Robert Warren II, Biology

This research investigates the spatial distribution of northeastern woodland macro invertebrates. Specifically looking at Aphaenogaster species. We looked into the relation between downed wood and soil conditions compared to the nesting habits of macro invertebrates. The goal of this study is to better understand how organisms respond to spatial distribution and limitations of resources. The reason we chose Aphaenogaster specifically is due to the dominance among wood nesting insects in northeastern forests. This study looks further into the idea of downed wood being a vital component in Ant and insect life, providing protection, transportation, and food. We hypothesize that due to the limited resources and space in downed wood we will primarily find Aphaenogaster ants in downed wood over 10 centimeters with remaining ant colonies taking refuge in small decaying wood or within leaf litter. Our preliminary finds suggest that ant colonies including ant eggs and multiple queens were discovered both in downed wood and leaf litter samples. What was discovered was that the majority of colonies found consisted of wetter and cooler environments, regardless of whether or not they are in downed wood or leaf litter. Multiple leaf litter samples that were found to contain ant colonies present more moisture and cooler temperatures. These soil conditions may play a direct role in the nest site selection and spatial heterogeneity.

Who Bears the Cost of Pollution in Buffalo, New York?

Camryn Coughlin, Social Work
Faculty mentor: Susan McCartney, Small Bussiness Development Center

Who bears the cost of pollution in Buffalo, New York? Pollution and environmental injustices have long been a significant concern for poverty-stricken citizens. This issue is especially prominent in Buffalo, NY, given its divergent socioeconomic groups and high poverty rates. Buffalo's manufacturing legacy and urban environment are also leading factors in the environmental degradation. My study will deploy mixed methods of data collection, including analysis of local assessments and interviews the relationship between pollution and impoverished communities was examined. Preliminary results suggest a strong correlation in increased pollution within Buffalo's equity-deserving communities. Residents of Buffalo's east and west side have seen firsthand discrepancies among communities. Articles have depicted soil contamination, air pollution, and urban heat islands negatively impacting Buffalo. Through the insights obtained during the interviews with Buffalo residents I can anticipate to

find a common experience correlating with the results of local assessments. Through this project, I aim for my audience to understand environmental injustices in Buffalo and raise awareness of Buffalo's underserved communities. I hope to further shed light on local initiatives combatting environmental injustice.

Resources Database: Multidisciplinary Approach to Services for Students

Canyon Damon, Psychology
Faculty mentor: Jill Norvilitis, Psychology

While there are a multitude of different resource based services and thus collections of said resources, this project set out to fully update and compile services offered by not just Buffalo State University and off campus resources for students to access. Information such as applicable locations, hours of operations, phone numbers, and detailed descriptions of services are thoroughly articulated for the purpose of lighting the load of finding accurate help during times of need. Hence the broken down structure of the resources, divided into categories that address common basic need related discrepancies in students' lives. Sections of resources are compiled into seven initial specific compartments, with another designated for multi-aid services that encompass more than one issue or topic. These categories are addressed as follows, "Food Based, Clothing Based, Sexual Health Based, Health Based, Mental Health Based, Assault Based, Substance Use Based, and Multisectioned Based Services". The goal of this project is not to disregard other resources collection databases, but rather re-verify information and appropriately check if it is applicable to any of our student population. The finalized collection is to be displayed within a section of the Buffalo State University Psychology department website that is open for all students to access as they need.

Identification of a Fluorescent Ligand for OATP3A1 Using 4-Cyano-L-Tryptophan

Nicole Delli, Chemistry
Faculty mentor: Drew Barber, Chemistry

Membrane proteins account for more than 60% of druggable targets, with transporters comprising the largest share. Within this family, Organic Anion Transporting Polypeptides (OATPs) are essential for the transport of nutrients, hormones, and drugs. While OATP1B1 and OATP1B3 are well characterized, OATP3A1 primarily expressed in the brain and blood-brain barrier (BBB) remains poorly understood despite its relevance to neurodegenerative disease and cancer. A key limitation in studying OATP3A1 is the absence of commercially available fluorescent ligands, which restricts efficient functional and structural analysis. The objective of this project is to address this gap by identifying a fluorescent ligand for OATP3A1. Here, the commercially available fluorescent tryptophan analog 4-Cyano-L-Tryptophan (4CN-TRP) is identified as a novel ligand for OATP3A1. Using HEK293T cells overexpressing OATP3A1, the transport kinetics of 4CN-TRP were characterized. These findings establish 4CN-TRP as a robust and accessible tool for studying OATP3A1, enabling future work on BBB permeability and targeted drug delivery.

Comparison of Acetaminophen Concentrations in Various Brand-Name and Generic OTC Pain Relief Medications via Chromatographic Techniques

Elise Donofrio, Forensic Chemistry; Sophia Dominicis, Forensic Chemistry
Faculty mentor: Jamie Kim, Chemistry

Over-the-counter (OTC) pain relief medications containing acetaminophen are commonly used in the United States to treat symptoms such as headaches and minor aches. These products are widely available at pharmacies and supermarkets, where consumers often choose between brand-name and generic options. Although the names differ, both types contain the same active ingredient, acetaminophen, and work in the same way. The Food and Drug Administration (FDA) states that generic medications are just as effective as their brand-name counterparts but typically cost less. However, some consumers still prefer brand-name products, believing they are more effective despite having the same ingredients. To test this, we evaluated the concentrations of acetaminophen in pain relief medications such as Tylenol, CVS Health, ValuHealth Headache PM, and ValuHealth Pain Relief. All four medications were analyzed using gas chromatography-flame ionization detector (GC-FID), high performance liquid chromatography (HPLC), and gas chromatography-mass spectroscopy (GM-MS). Preliminary results showed little to no difference in acetaminophen levels between the brand-name and generic medications tested. This presentation outlines the sample preparation process and the results of the chemical analysis.

Stepping on the Bus

Niyla Douglas, Social Work
Faculty mentor: Amy Manning, Social Work

It’s pretty hard to get around in a large city, from point A to point B…. especially if you don't have a car. Another thing, not everyone can afford to uber back and forth from where they have to go all the time. So, what option does that normally leave for people? The answer is catching public transportation. The two main options available for people are normally the subway or catching the bus. In the city of Buffalo, using the NFTA-Metro in buffalo, is something that half the population uses. It’s very beneficial because it goes out to far distances such as North Tonawanda, Hamburg, Amherst which are all areas that are typically suburban and not many places for individuals there that people are able to walk to. Who are individuals that aren’t easily able to get to these destinations? People who live in poverty do struggle with having access to stable transportation. This can be for a many of reasons, a main reason is due to financial issues. Getting a car may not be as easy for some, because of the expenses which people aren't able to afford. Expenses such as car and finding something reliable and suitable. So, this normally leave these populations of people only able to rely on public transportation which is the bus system. The bus system may have its benefits to some, but it’s not always something people are easily able to depend on. What are some factors that people who live in poverty face while using public transportation in Buffalo. Are these factors already beneficial or is it something that can be improved for those who depend on it? There can be many factors that

can affect someone's experience while taking public transportation in Buffalo. A great example can be the areas in which an individual lives to have to catch public transportation. Is safety something people should be concerned with, or the weather and if there are shelters around for people who have to stand outside and catch the bus. There are many different experiences that people can have and with them having no choice but to rely on the only access they have to help them, how helpful is it really?

Black Dandyism: The Quiet Power of Being Seen

Anthony Eatmon, Fashion, Textile & Technology; Jarei Evans, Fashion, Textile & Technology
Faculty mentor: Arlesa Shephard, Fashion & Textile Technology

Black Dandyism works as both a visual and cultural strategy where style becomes a form of resistance built on intention, control, and presence to push back against racialized narratives and take ownership over identity. Rooted in histories of colonialism and social limitation, it moves fashion past appearance into something more deliberate, a language of power and quiet defiance. Transforming from its early presence in 18th-century Europe, the Black dandy shifts from simply being seen to directing how they're perceived, turning everyday clothing into something expressive, calculated, and almost protective like armor. This research pulls from academic writing, archives, visual media, and cultural commentary to look at how that idea develops over time. The work of Charles Baudelaire helps set the foundation, describing the dandy as someone who builds identity through appearance with discipline and intention. But Black dandyism doesn't just follow that idea, it reworks it. What started as a European concept gets pushed into something more charged, where style becomes a way to claim visibility in spaces that historically denied it. That shift becomes real clear with Dapper Dan, coming out of 1980s Harlem, flipping luxury branding into bold custom pieces for Black clients who weren't meant to have access to it. The logos, the excess, wasn't random, it was a response. At the end of it, Black Dandyism isn't just about looking good. Ita's about the power of self definition using style to take up space, tell your own story, and be seen on your own terms.

Site-Directed Mutagenesis as a Tool to Study Mutations Associated with Skin Disease

Desmond Eboigbe, Biology
Faculty mentor: I. Martha Skerrett, Biology

Site-directed mutagenesis is a tool for intentionally altering a DNA sequence at a precise location. It helps researchers understand how gene alterations impact the structure and function of proteins and is particularly helpful for understanding genetic diseases. Researchers can observe how sequence alterations affect function by inducing mutations in the lab and then expressing proteins in controlled environments such as cultured cells or animal models. The goal of our class project was to create disease-associated mutations in the gap junction protein connexin 30.3 (Cx30.3). The mutations are associated with a rare form of skin disease known as erythrokeratodermia variabilis (EKV) and inlcude single amino

acid substitutions at six different locations in the protein (G12D, R22H, S26Y, V37M, C86S and F189Y). These changes could cause disease for a variety of reasons. For instance, they could impact protein folding, trafficking, or function. In a simple functional analysis our proteins will be compared to wild type Cx30.3 after expression in Xenopus oocytes. Oocytes are a common system for analysis of membrane proteins, and are often used for screening functonal disruptions associated with disease.

A Multivariate Analysis of Economic Indicators 1980–2024

Chandler Edwards, Applied Mathematics
Faculty mentor: Bruce Swan, Mathematics

This project uses Multivariate Time Series Analysis to help construct a model to represent actual American data of economic indicators which are the Gross Domestics Product, Unemployment rate, Consumer Price Index and Producer Price Index. We use the model to forecast future values for each variable. Time series analysis is the stochastic process of recording, collecting and analyzing the past values or historical data of a specific variable over time with every value spaced with equal time intervals. Multivariate Time Series Analysis is a specific category of Time Series Analysis that considers the co-movements and interactions that different variables have over time. Time series analysis has different types of models for each type of time series, and here we will use the Vector Autoregressive model as a baseline model to help predict future values for each economic indicator. With the help of supporting concepts like Granger causality test, Unit Root Test, Roots of Characteristics Polynomial and the Covariance matrix, we can measure the predictability of our models, gain information on if past values of one variable help to predict another variable and whether or not we will need to use a more advanced or better model. The result of this investigation shows that the historical data of Gross Domestic Product is a significant predictor for future values of the other economic indicators, and the prediction model for Consumer Price index predicts the actual values with better accuracy.

The Evolution of LGBTQ+ Character Portrayals in Video Game

Jack Evers, Media Production
Faculty mentor: Ann Liao, Communication

This paper will investigate the history and portrayal of LGBTQ+ characters in video games through the lens of framing theory to see how their portrayals have evolved over time. It will examine the dramatic change in portrayals of LGBTQ+ characters around the year 2010, and how this shift changed the commonplace tropes present in pre-2010 games. This study will examine the top ten best-selling games worldwide for every year since 1980 to determine the ratio of games with and without LGBTQ+ characters to see how many games featured LGBTQ+ characters and how demographics and their portrayals have shifted over time. This paper aims to define the major tropes present in video game portrayals of LGBTQ+ characters, as well as how those tropes have evolved over time from early arcade gaming to the ninth generation of video game consoles. It will categorize the portrayal of LGBTQ+ characters into several visible groups and examine how these groups started, which ones died off, and which ones evolved into the modern day. Statistical findings will be presented.

Exploring Modesty and Identity Through Muslim Women's Fashion

Noor Faraj, Fashion, Textile & Technology; Julia Erbacher, Fashion, Textile & Technology; Tshaye Bell, Fashion, Textile & Technology; Grace Villanueva, Fashion, Textile & Technology
Faculty mentor: Arlesa Shephard, Fashion & Textile Technology

To have a better understanding of Muslim women's fashion through modest designer's lenses, we examined ideas of modesty and explored how Muslim women navigate personal style while balancing religion, culture, and their own personal identity. Fashion designers Hana Tajima and Ghada Al Subaey celebrate women by creating beautiful, modest clothing in contemporary styles rooted in femininity. Designer Manual Al Dawood specializes in modest Islamic garments by combining contemporary and traditional silhouettes for Saudi labels. Lastly, Saeedah Haque is a designer whose work connects identity and representation in fashion, proving that modest fashion can still be modern, stylish, and creative. We explored sources including articles, social media, and the arts to inform ourselves of designers and people that challenge the status quo. Different interpretations of modesty are found among the designers through varying styles, silhouettes, and fit, depending on the designer and their target consumer, background, and values. These designers are helping to inform the public of modest fashion today. What we have learned through exploring these designers that focus on modest clothing is that there is no limitation to style and personal aesthetic within modesty as typically depicted in western media. This topic is important because fashion is not only about clothing but also about identity, representation, and autonomy.

Are Future Teachers Prepared? A Study of Trauma-Informed Training and Classroom Practice

Lily Fisher, Childhood Education
Faculty mentor: Jane Sullivan, College Writing Program

Trauma-informed education practices ask future educators to look at pedagogical approaches to educating modern-day students who have experienced traumas. Current classroom needs, as indicated by research, recognize that an increasing number of children over the age of 10 or 11 today are entering school with some type of trauma from a) the Covid-19 pandemic, b) divorce or parental loss, c) homelessness or economic struggles, or d) language barriers and cultural differences. Students graduating from education programs at colleges across the nation may not be adequately prepared to answer a call for greater emphasis on social-emotional learning (SEL) and mental health. Trauma-informed education is an essential skill for all educators, but there are serious gaps in education training programs, including a) lack of training in teacher prep programs, b) misalignment between theory and practice, and c) lack of consistency across State University of New York (SUNY) programs. This study will investigate the gaps in training versus practice, using a survey, to understand the preparedness level of future teachers. The survey will determine a) the extent to which trauma-informed practices are taught in SUNY teacher prep programs and b) how aligned teacher prep programs are with real classroom needs. The study will a) take a baseline survey at a four-year urban SUNY school with a well-known teacher training

program to determine what trauma-informed practices are already taught and b) take a survey to compare practicing elementary teachers who graduated from the same college on their perceptions in their classroom.

An Aural Fingerprint: Melding of Baroque Tradition and Romantic Aesthetics in Tchaikovsky's Six Morceaux (1882)

Molly Fleming, Music Education
Faculty mentor: Carolyn Guzski, Music

My project examines the musical style and the historical influences present in the collection Six Morceaux, Op. 5 (1882) by the celebrated Russian composer Pyotr Ilyich Tchaikovsky (1840-1893). My study focuses on how Tchaikovsky took inspiration from the structure of Baroque dance suites while he reshaped them through the expressive language of the Russian Romantic aesthetic. He used the structural movements and the formal clarity typical of the Baroque suite and melded them with Romantic harmony and lyrical melodies, expanding the emotional depth of the composition. Through this combination, Tchaikovsky creates a unique musical voice which is basically an aural fingerprint that merged historical tradition with Romantic expressive ideas. My research also dives into Tchaikovsky's musical education at the Saint Petersburg Conservatory, where he received formal training in harmony, counterpoint, and Western compositional techniques. This education set him apart from the nationalist group known as The Mighty Five: Mily Balakirev, Cesar Cui, Modest Mussorgsky, Nikolai Rimsky-Korsakov, and Alexander Borodin. Even though Tchaikovsky was not directly associated with this group, his work does demonstrate a balance between Western formal structures and Russian expressiveness. Finally, the project explores Tchaikovsky's melodic style; his need for lyrical expression has shaped the character of many collections like this. This composition was written during a period when short character pieces were well known and published for both concert and domestic performances. Op. 51 reflects Tchaikovsky's ability to combine historical lineage, Romantic aesthetics, and unique personal expression.

Nipah Virus Disease: A Mathematical Model Perspective

Corey Fragale, Applied Mathematics
Faculty mentor: Saziye Bayram, Mathematics; Jeffrey Morton, Mathematics

The Nipah virus is a viral disease that causes severe respiratory and neurological illness in humans. First discovered in 1998 in Southeast Asia during a pig farming outbreak, the disease is transmitted through fruit bats and is most commonly transmitted from fruit bats to pigs, and subsequently to humans. Because transmission rates and interactions differ across species, the ecological dynamics of the Nipah virus are complex. The purpose of this research is to develop a three-species SIRS model that captures the dynamics of the disease in humans, bats, and pigs, and to compare the results with those of prior research by Barua & Denes (2023). The model consists of nine differential equations with parameter values that represent realistic biological transmission, recovery, and virulence patterns. The dynamics of the model were analyzed using Mathematica to simulate plots for each species and to compare these results with those of the author. Results show that humans have the lowest

recovery rate, signifying a high virulence in this species. The bat population dynamics differ significantly compared to pigs and humans since it is the host reservoir. The pig population has a higher recovery period than the infected period, indicating that the disease is less severe in this species. While parameter values differ from those used by Barua & Denes (2023), the trends were consistent and representative of real-world Nipah virus behavior. These findings highlight the prevalence of multi-species Nipah virus transmission and which species pose a greater risk.

Antimicrobial Activity of Novel Heterocyclic Dipeptide Isosteres Against Gram-positive Bacteria

Keisha Ginin, Chemistry, Biology
Faculty mentor: Olga Novikova, Biology; Sujit Suwal, Chemistry

The rise of antimicrobial resistance among bacterial pathogens has become one of the most pressing challenges in modern medicine, threatening the efficacy of existing antibiotic treatments worldwide. Gram-positive bacteria are responsible for a wide range of clinically significant infections, from skin and soft tissue disease to life-threatening endocarditis and sepsis. Increasing prevalence of multidrug-resistant strains highlights the urgent need for antimicrobial agents with novel chemical scaffolds and mechanisms of action. This study assesses the antibacterial activity of newly synthesized heterocyclic dipeptide isosteres against Gram-positive bacteria, Staphylococcus aureus and Enterococcus faecalis, using broth microdilution-based Minimum Inhibitory Concentration (MIC) assays. Compounds are tested in serial two-fold dilutions in 96-well microtiter plates, and bacterial growth is quantified by measuring optical density after incubation. A clinically relevant reference antibiotic is included as a positive control. We expect to identify compounds demonstrating MIC values at low micromolar concentrations. Compounds with promising MIC values will be prioritized for further investigation, including expanded susceptibility testing and structure-activity relationship analysis. Overall, this study aims to contribute preliminary data toward the development of novel antibacterial agents capable of addressing drug-resistant Gram-positive infections.

Feel The Rhythm

Sarafina Girukwishaka, Social Work; Raheim Oates, Social Work; Susana Loyola, Social work; Arshdeep Singh, Social Work
Faculty mentor: Jessica Fitzpatrick, Social Work

This project examines the use of dance and rhythm-based gaming as a strategy to support self-care and stress reduction among college students. Activities such as Just Dance Beat Saber and other movement-based games combine music body movement and interactive play to create a fun and accessible experience for students of all skill levels. These activities encourage physical movement improve coordination and allow opportunities for self-expression in a low-pressure environment. At the same time, they provide students with a mental break from academic demands and help alleviate stress. Rhythm-based activities offer an inviting entry point for students who may feel shy, unconfident, or uncomfortable participating in traditional forms of exercise or dance because the focus is on enjoyment

rather than mastery. In addition to digital games, non-digital options such as guided dance sessions and freestyle movement can be incorporated to promote inclusivity for students without access to gaming technology. Overall engagement in rhythm-based movement activities is expected to enhance emotional wellbeing reduce stress and increase interest in physical activity. These activities represent a simple inclusive and effective approach to promoting self-care within campus programs and community settings for college student wellness.

Effect of Aflatoxin B1 on SUMOylation-Inhibited Human Hep G2 and HeLa Cancer Cells

Daniel Gray, Biology
Faculty mentor: Xiang-Dong "David" Zhang, Biology

SUMOylation is a reversible post-translational modification critical for regulating protein interactions, activity, and localization, and plays an essential role in regulation of DNA damage repair, chromosome segregation, and cell-cycle progression. Inhibition of SUMOylation in human cancer cells by the SUMO-activating enzyme (SAE) inhibitor TAK981 has been shown to inhibit cancer cell proliferation and induces multiple nuclear defects including chromatin bridges, micronuclei, and polyploidy. This study is focused on testing whether a combined treatment of human Hep G2 hepatocarcinoma cells with the SAE inhibitor TAK981 and one of the DNA-damaging agents, aflatoxin B1 (AFB1) and hydroxyurea, further increases levels of the nuclear defects compared to treatment of the cancer cells with TAK981 alone. Given that AFB1 requires hepatic metabolism to convert it into a DNA damaging agent, we used huma HeLa cervical cancer cells, which lack the metabolic capability, as a negative control for Hep G2 cells. Our results indicate that SUMOylation-inhibited Hep G2 cells exhibit fewer nuclear defects than HeLa cells under identical treatments, suggesting hepatocytes may metabolize AFB1 without accumulating extensive DNA damage. Notably, Hep G2 cells displayed increased micronuclei formation without corresponding chromatin bridges, implying potential mechanisms for resolving such aberrations more efficiently than HeLa cells. Additionally, no significant difference was observed between low and high doses of TAK-981, indicating that even minimal inhibition may suffice to disrupt SUMOylation. In contrast, HeLa cells showed no significant increase in aberrations with AFB1 treatment, supporting the hypothesis that AFB1 is not effectively metabolized into its DNA-damaging form in non-hepatic cells. These findings highlight the resistance of Hep G2 cells to AFB1-induced DNA damage under SUMOylation inhibition and suggest that AFB1's carcinogenicity may be cell-type dependent. Future studies will explore alternative DNA-damaging agents for SUMOylation-inhibition-based liver cancer therapies.

"Advice, Counsel, Deliberation": Editing a Literary Work

Safa Hafeez, English
Faculty mentor: Lisa Berglund, English

Hester Lynch Thrale Piozzi was a socialite and writer in 18th-century Europe. Although her work consists of multiple diverse publications—most notably, Anecdotes of the Late Samuel Johnson and Observations and Reflections—she was still of a gender that was consistently

devalued by the male population. British Synonymy, published by Piozzi in 1794, consists of linguistic essays about "terms so closely allied though never synonymous, so truly beautiful, though never approaching to redundancy." Her predominant reasoning for this type of text was to teach everyday conversational usage of the English language to a foreigner. Furthermore, many of the essays are commentaries on the society Piozzi was living in, with a feminine view that was not as explicitly expressed in literature. British Synonymy had a total of three editions, the third edition in 1804 stifling the voice of Piozzi in favor of a masculine world. Additionally, whilst combing through her essays, I have accumulated various degrees of information on Piozzi's personal life's a woman who observes because she is not given the acknowledgement she deserves, and an underappreciated author who isn't given the same attention her male counterparts were at the time. Dr. Berglund is editing British Synonymy for the college student and conveying the work as it was originally intended. I am assisting by bringing the perspective of an outsider's knowledge to how any other student can accurately understand an unfamiliar language, as well as Piozzi's bias of the reader possessing a comparable amount of information to her.

Digital Pattern Design with CLO3D: Revolutionizing Fashion Creation in the 3D Era

Mayleen Hernandez, Fashion, Textile & Technology
Faculty mentor: Mamta Saharan, Fashion & Textile Technology

Pattern making and sample sewing have traditionally been among the most time- and resource-intensive processes in the fashion industry. Creating a garment begins with drafting a pattern—the blueprint of the piece—which was historically done with pattern paper, pencils, and rulers. This manual process required significant skill, precision, and time. After the pattern is drafted, the garment cannot immediately enter production; a sample must first be sewn to test fit and functionality. Often, multiple iterations of patterns and samples are needed before the final design is production ready. Recent advancements in digital technology have revolutionized this process. CLO3D, a 3D pattern making and rendering software, allows designers to create and modify patterns digitally with precision up to a hundredth of an inch. These digital patterns can be draped onto virtual avatars and simulated in real time, providing immediate feedback on fit, fabric behavior, and overall design interaction. The focus of this project was to explore the functionalities of CLO3D and leverage its capabilities to develop a distinct and innovative design look. By integrating digital pattern design with 3D visualization, this study demonstrates how emerging technologies can streamline the design process, enhance creative flexibility, and improve accuracy in garment development.

Examination of the Relationship Between Substance Use and Psychological Distress in College Students

Amanda Humel, Psychology; Cecilia LaFever, Psychology
Faculty mentor: Howard Reid, Psychology; Kimberly Kamper-DeMarco, Psychology

Substance use among college students remains widespread and is consistently associated with psychological distress (Welsh et al., 2019). Academic, relational, and financial stress, as well as anxiety and depression symptoms are often found to be predictive factors in

substance use: alcohol being the most common form. Additionally, recent research shows evidence of an increasing trend in polysubstance use (Kava et al., 2024). Polysubstance use, as well as e-cigarette use, is linked to higher rates of psychological distress in comparison to single substance use. Our study aims to further investigate the relationship between substance use and psychological distress in college students. The substances that we are measuring include alcohol, cannabis, and nicotine. Forms of psychological distress that we are measuring include financial and relationship stress, as well as anxiety, and depression symptoms. To carry out this study, we are utilizing online scales including the Alcohol Use Disorders Identification Test (AUDIT), the Cannabis Use Disorder Identification Test Revised (CUDIT-R), the Fagerström Test for Nicotine Dependence (FTND), the Penn State Electronic Cigarette Dependence Index, and the Kessler Psychological Distress Scale (K10). In addition, we are using the Generalized Anxiety Disorder Assessment (GAD-7), and the Patient Health Questionnaire (PHQ-8). Finally, we are also examining how polysubstance and single substance use are related to psychological distress.

The Lasting Effects of Red Lines in Buffalo and the Surrounding Areas.

Alicia Inocencio, Social Work
Faculty mentor: Amy Manning, Social Work

How does redlining still have a lasting effect on Poverty? Poverty and Redlining in Buffalo is seen with the largely segregated neighborhoods that are seen within the cities. The United States government created a housing police that mandated segregation by refusing to sell and insure mortgages near and in African American neighborhoods (Gross, 2017). Redlining is still seen in America because the affected communities of redlining in the 1930's-1964 are still affected by lower economic status. I did research on articles written by members of the Buffalo community and government websites, these resources allowed me to gain insight and the information from people who have first-handedly seen the effects. Results that I have found of communities and neighborhoods that were affected still show higher signs of poverty and disparities. Meanwhile, the communities that were not affected are showing signs of being majorly white and of higher economic status. Therefore, I expect to find data that connects redlining still effects and oppresses communities and minorities. I hope to bring more awareness to the communities that redlining has affected and to engage the community in an event to give back to the community living in these impoverished neighborhoods due to redlines.

ExPOSÉ: A Closer Look at Exoplanets!

Mikayla James, Computer Information Systems
Faculty mentor: Kevin Williams, Geosciences

Exoplanets are planets that orbit stars outside of our solar system, similar to how Earth and other planets orbit our Sun. Over time, advancements in technology have significantly expanded our ability to detect and monitor these planets. This project, done as part of NASA's Exoplanet Watch Citizen Science program, aims to analyze exoplanet characteristics using light curves generated during planetary transits. This project uses telescope images from the Micro Observatory Image Directory and EXOTIC, software utilized through Google

colab that is able to generate light curve graphs from sets of images over varying periods of time. This creates a process in which after gathering the images, a target is identified, and images are uploaded, cleaned, and used for analyzing the transit of a chosen exoplanet using 2 select control stars for flux reference. This generates a light curve that describes the gradual transit process through the exoplanet's parent star loss of brightness as the planet continues to travel in front of it. By observing the changes in a star's brightness as an exoplanet passes in front of it, properties such as orbital period, planetary size, and transit length can be determined giving us a better understanding of how different traits of an exoplanet influence one another.

Attitudes Towards Psychiatric Medication in University Students

Mia Jaros, Psychology
Faculty mentor: Eyad Naseralla, Psychology

The goal of the present study is to examine the relationships between mental illness stigma, alternative medicine attitudes, and attitudes toward psychiatric medication among university students. Research has consistently found that mental illness stigma is associated with negative attitudes toward psychiatric medication. Individuals who internalize public stigma about mental illness often experience feelings of shame or embarrassment about taking psychiatric drugs, which in turn predicts lower medication adherence. Moreover, public stigma toward people with mental illness has been associated with skepticism toward psychiatric treatments. Attitudes toward psychiatric medication also appear to be associated with attitudes toward alternative or complementary medicine. Specifically, people who hold more negative beliefs about the safety, effectiveness, or necessity of psychiatric drugs are often more likely to express positive views toward complementary and alternative approaches. Eighty-eight students were recruited from psychology classes. Participants completed questionnaires measuring mental illness stigma, psychiatric medication attitudes, and alternative medicine attitudes. The results showed that mental illness stigma was correlated with more negative attitudes toward psychiatric medication. Additionally, participants who had been treated and/or evaluated for mental illness, and participants who had previously been prescribed psychiatric medication, had more positive attitudes toward psychiatric medication.

Three Piece Suit: Raúl Grigera, and the Politics of Visibility in Argentina

Abijah O.J.C. Johnson, Environmental Geography, Indigenous Studies, GIS
Faculty mentor: Bridget Chesterton, History & Social Studies Education

This project centers on Raúl Grigera to examine how Afro-Argentines were made invisible within Argentine national identity and history. Drawing on Paulina L. Alberto's book Black Legend, the project explores how Grigera was publicly framed as "the last Black man in Argentina," a powerful myth that masked the continued presence of Black communities. Presented as a 3-to-5-page comic, the project visualizes Grigera as both a person and a constructed symbol. As he moves through public spaces, he is watched, defined, and transformed into evidence of disappearance. Each panel is paired with music from across the African diaspora, using sound to deepen the emotional and historical meaning of each scene.

Visual choices such as spatial positioning, crowd dynamics, and perspective shifts emphasize the tension between hypervisibility and erasure. The recurring image of the three-piece suit draws on dandyism to suggest moments of agency within systems of observation and control. By contrasting the myth of Grigera as the “last” with images of ongoing Afro-Argentine presence, the project challenges the idea of disappearance. It ultimately argues that absence was not natural, but constructed, and that Grigera’s story exposes how national narratives can both create and conceal racial realities.

Social Media: The Pressure to Purchase

Bridgette Johnson, Psychology; Aurora Trinkwalder, Psychology; Jada Francis, Psychology
Faculty mentor: Kimberly Kamper-Demarco, Psychology

Social media has been extensively examined through psychological research. A common focus has been on the impact social media has on people's emotional and mental health. More specifically, researchers have begun to examine how active and passive use on social media relates to self-esteem and overall, well-being. Although an important matter to investigate, social media influences people in ways that are detrimental to society other than negative self-esteem. An area of study that has little to no research is how social media shapes consumer behavior. A social media platform that many college students are influenced by is TikTok. The aim of this study is to examine how active and passive use on TikTok is associated with an increase in purchase intention. Participants will be recruited from Buffalo State University via email and class notifications from their professors. In the proposed study, surveys will be administered to students through Qualtrics to assess how participants use TikTok (actively or passively), the content they view, and purchase intention. The results of this study will be analyzed using correlations and regression models to determine whether active use predicts purchase intention. It is expected that active use on TikTok will positively correlate with an increase in purchase intention. The findings from this study should highlight the frequency of people's TikTok use, whether that be active or passive usage. Furthermore, this can give people the opportunity to reflect on how social media may influence their consumption behavior and can enhance motivation to be more mindful.

The Effects of American Foreign Aid Policy on NATO Member Responsiveness

Amelia Kailburn, Political Science, Criminal Justice
Faculty mentor: Mehwish Sarwari, Government, Planning & Philosophy

Does U.S. foreign policy shape the foreign aid contributions of NATO members to conflict zones impacted by civilian victimization? Existing literature shows that alliance pacts influence the behaviors of their members' on matters related to conflict. I put forth the argument that America's status within the international sphere as an economic powerhouse shapes the foreign aid initiatives taken by NATO members. It is expected that in civil wars with higher levels of civilian victimization, NATO members are more likely to jointly contribute aid with America. Looking at civil conflict zones during the post-Cold War period, the empirical analyses show a positive and significant relationship between American foreign aid

contributions and civilian victimization in civil conflict countries in relation to the responsiveness of NATO member states in joint foreign aid contributions.

Reclaiming Narrative in Indigenous Cultural Spaces

Jade Kamrowski, Interior Design
Faculty mentor: Lisa Marie Anselmi, Anthropology

This project examines how public Indigenous cultural spaces in North America use integrated architectural and interior design strategies to express cultural identity and reclaim narrative control. Many of these spaces incorporate Indigenous values such as connection to land, community gathering, and cosmological orientation into their design. This study focuses on public cultural environments constructed from the late twentieth century to the present, a period marked by increased Indigenous self-determination and cultural revitalization movements. My research uses case study analysis and scholarly sources to examine how architectural form, spatial organization, symbolism, and programmatic elements communicate cultural narratives. Preliminary findings suggest that many Indigenous cultural spaces prioritize community gathering, landscape integration, and culturally symbolic spatial organization as key elements. The final presentation will include visual analyses and case study diagrams illustrating how these design approaches support cultural expression and community identity. By centering Indigenous authorship in design decision-making, these spaces demonstrate how such built environments can reclaim narrative control and serve as a spatial act of empowerment.

Phish Or Fish? Comparing IT and Non-IT Professionals' Responses to Phishing Attacks

Lilian Kelsey, Computer Information Systems
Faculty mentor: Sarbani Banerjee, Computer Information Systems

Phishing attacks remain one of the most common and effective cybersecurity threats facing organizations today. Unlike many technical attacks, phishing relies heavily on human behavior and decision making. Because of this, understanding how different groups within an organization respond to phishing emails is an important part of improving overall security awareness. This study aims to examine whether IT-trained professionals respond differently to phishing attempts compared to non-IT professionals. To investigate this question, a standardized mock phishing email will be distributed to several operational groups within an undisclosed organization, including corporate IT. To ensure representation, participants will be sampled from each operational group, covering a variety of job functions and technical backgrounds. Data will be collected on user behavior, including click-through rates, reporting behavior, and response timing. Additional participant information, such as IT training status and organizational group, will also be recorded. The collected data will be analyzed to compare phishing susceptibility and reporting behavior between IT-trained and non-IT employees. It is expected that individuals with IT training will demonstrate greater awareness of phishing indicators and therefore show lower click-through rates and higher reporting rates. These findings will identify high-risk areas within the organization and help guide targeted cybersecurity awareness efforts and employee training initiatives.

Predicting Water Potability

Andrew Kutnyak, Computer Information Systems
Faculty mentor: Sarbani Banerjee, Computer Information Systems

This project investigates which chemical and physical properties of water serve as predictors of water potability failure. Ensuring access to safe drinking water remains a significant challenge both within the United States and globally. As water travels from reservoirs to treatment facilities and subsequently through distribution systems, it is exposed to numerous potential sources of contamination. Analyzing the chemical characteristics of water provides a means to identify these contamination sources and address their underlying causes. This study utilizes the "Water Potability" dataset from Kaggle and employs Jupyter Notebook, Python, and Pandas to load and clean the dataset. Statistical summaries and visualizations are used to analyze the data, and significant correlations related to the research question are examined with the use of histograms, box plots and heatmaps. Visual representations supporting the analysis are generated using Matplotlib. By examining ten distinct chemical and physical attributes of the water samples, the study anticipates identifying correlations between corrosiveness and heavy metals, between trihalomethanes and chloramines, and between pH levels and disinfectant effectiveness. Collectively, these interactions among water characteristics not only help indicate potability but also illustrate the diverse mechanisms such as filtration, water source compromise, or aging distribution systems, through which water potability failure may occur.

Chopin and the Nocturne That Has Lost Its Meaning

Rome Laury, Music
Faculty mentor: Carolyn Guzski, Music

My research focuses on the composition known as Nocturne in E-Flat Major, Op. 9, No. 2 (1830-1832), composed by Frédéric Chopin (1810-1849). My goals are to explore the relationship between Chopin and his Irish musical predecessor John Field (1782-1837), the nocturne as a genre, and to learn possible motivations for why Chopin composed the piece. Chopin, however, didn't invent the nocturne genre: it was derived from his friend Field, the credited original inventor, first known by the Italian term Notturno in the 18th century. The genre of nocturne can be described as "suggesting night, usually quiet and meditative in character." It achieved this via its use of operatic melodies. It wasn't until 1812-1836 that Field composed using the style with lyrical solo piano. Although Field was born during the Classical era of music, his nocturnes were a significant contributor to the succeeding Romantic era. Field would eventually meet Chopin and inspire him; the piece specifically that inspired Chopin to compose Nocturne in E-Flat Major was Field's Nocturne No. 4 in A Major. However, I feel that Chopin's piece has been lost throughout time as an independent composition and not just an internet reference. On Instagram and TikTok, I frequently hear the piece accompanying a series of either misfortunate events or something hilarious. That wasn't the original piece's original interpretive intention at all. The piece actually encapsulates a lyrical melody that occasionally breaks its repetitive yet memorable pattern.

Determining The Truth: Addressing Social Desirability Bias In Research With Sensitive Topics

Edoardo Lawvere, Psychology
Faculty mentor: Pamela Schuetze-Pizarro, Psychology

Receiving accurate reports from research participants is of the most importance when conducting a research study. If fraudulent or false data are collected, then the findings cannot be trusted. One of the primary objectives of any study should then be to have a method on how to limit misreporting and have the data findings be as accurate as possible. In situations where self-reporting is required, gathering data can sometimes be difficult. Participants may feel the need to falsely report and enact some impression management. When survey questions are subjectively sensitive for the participant they may choose to answer in a way that is socially desirable. The topics can include illegal behavior, sexual activity, or views on race and religion. Thus, self-reports to questions of this nature have the potential to be compromised due to an individual participant's social desirability bias. To combat this bias, a proper communication of confidentiality must be provided. Indicating that the answers reported are not under threat of disclosure. Adding an incentive like payment can also be beneficial. The purpose of this poster is to describe strategies that can be used to limit participant bias and increase accuracy in self-report data.

Culture Optimization For Microbial Pigment Production

Barachel Mangialomini, Biology; Matthew Hughes, Biology
Faculty mentor: Olga Novikova, Biology

Due to the environmental and health impacts of synthetic dyes, there is a growing need for sustainable, biologically derived alternatives. Microbial pigments produced by bacteria and fungi represent a promising class of bio-based dyes; however, there is limited understanding of how growth conditions influence pigment yield and intensity, particularly when using low-cost or waste-derived substrates. Our study investigates how different culture media formulations affect microbial growth and pigment production across a range of pigment-producing microorganisms. To evaluate the impact of medium composition on both biomass accumulation and pigment synthesis, we prepared a series of agar-based media containing different simple and complex sugars at various concentrations, as well as glycerol, peptone (as a nitrogen source), and other core media components. Diverse food-based extracts were used as sources of sugars and starch. Selected microbes were cultured on these media, incubated under controlled conditions, and harvested after optimal growth periods. Pigments were extracted using solvent-based methods, followed by centrifugation to remove cellular debris and isolation of the pigment-containing supernatant. After solvent evaporation, pigment yield was quantified and compared across conditions, alongside measurements of microbial growth. We hypothesize that media rich in carbon and nitrogen sources will enhance both growth and pigment production, whereas limited carbon availability will inhibit these processes. By identifying cost-effective and sustainable media formulations, including those derived from food-based extracts, this study aims to optimize microbial pigment production and support their practical application as environmentally friendly dyes.

More Than a Pantry: Building Community through Communication and Connection

Tamia Martin, Individualized Studies; Alana Hooks, Media Production
Faculty mentor: Ann Liao, Communication

This presentation focuses on a group's efforts to improve Candice Mobile Pantry's visual identity by creating a new, more professional, and bold logo design. During a meeting with Candice, we discussed the importance of branding in building recognition, trust, and consistency across different platforms. Drawing on literature from digital communication and nonprofit marketing, having a strong visual identity helps an organization present itself clearly and connect with its audience. This project explored different logo ideas that better reflect the organization's mission, values, and impact on the community. We focused on using stronger design elements, including bold colors, clear symbols, and a clean layout, to make the logo stand out and feel more professional. The goal is to create a logo that strengthens the organization's brand, improves recognition, and supports its outreach efforts. Overall, the project shows how a more polished and bold design can help the organization grow and make a stronger impression.

Across-Strike Micro- to Meter-Scale Structures in the Norumbega Shear Zone System in Harpswell Neck, ME

Emily Meidel, Earth Sciences
Faculty mentor: Gary Solar, Geosciences

In southeastern Maine, an area called the Harpswell Neck, has rock exposure all around. Forming around 400 million years ago in the Norumbega shear zone system (NSZS) during the Acadian through continent-continent collisions, the rock was deformed during this period (between 400-280 million years ago). Data and samples were collected from this area to study the deformation structures. Tectonic activity is evident within the grain scale, seen using microscopy (petrography) of thin sections curated from the samples collected. The microstructures in the specimen were described and measured. This information was used to create a structure cross-section as a representation of the data collected within the field and in the lab. From the field data, a stereonet was created to show the direction of deformation, suggesting the deformation caused a substantial amount of folding. The minerals in the rock samples showed evidence of high deformation grade, as well as a retrograde reaction evident in garnet tails surrounding a garnet specimen. These rocks have a quartzofeldspathic ground mass with ferromagnesic minerals in them. There are microfolds seen in some of the specimens, leading to more evidence of a substantial deformation history. A lot of the porphyroblasts (larger crystals) in the rocks are broken apart, with some having inclusions within them. This further suggests that the Harpswell Neck in southeastern Maine has gone through many stages of deformation. The tectonic history with the Norumbega shear zone system was substantial, as the evidence of retrograde reactions are seen within the samples collected.

Effects of Racial Stereotypes of Emotion on Perceived Sexual Assault Victim Credibility

Isabella Melfi, Psychological Science; Yadiely Rosario Villar, Applied Psychology
Faculty mentor: Eyad Naseralla, Psychology

Previous research has identified several factors that influence whether victims of sexual assault are perceived as credible. One important factor is the victim's expressed emotions. Specifically, research suggests that victim credibility may be determined by observers' expectations about how emotional a survivor should be. Additionally, stereotypes—particularly those related to race and ethnicity—can contribute to harmful judgments and assumptions, which may also influence whether a survivor is deemed credible. The present study aims to extend prior research by examining how race and emotional expressiveness influence credibility judgments of sexual assault victims. Participants will be randomly assigned to read one of four incident reports that vary by condition. Participants will then be randomly assigned to read one of three transcripts from a victim's police interview. If credibility judgments differ by race, this may suggest that observers evaluate victims through racialized emotional stereotypes. However, if credibility is predicted uniformly across groups, this may indicate that observers adhere to a White normative standard of victimhood. We hypothesize that participants' expectations of survivors' emotions will be based on racial stereotypes about emotional expression, with Black survivors expected to be angrier than White survivors. Additionally, we hypothesize that Black survivors will be perceived as more credible when they express greater anger compared to when their emotions are neutral.

Fashion Outside the System

Avery Mengay, Fashion, Textile & Technology; Writing; Amanda Collins, Arts and Letters; T'Keyah McCrea, Fashion, Textile & Technology; Abigail Bundy, Fashion, Textile & Technology
Faculty mentor: Arlesa Shephard, Fashion & Textile Technology

Fashion Outside the System highlights designers who have risen to success without relying on the dominating ideals of Eurocentric institutions. Featuring Carla Fernandez, Rachel Scott, Tidjane Tall, and Yohji Yamamoto, we explore designers who reject Eurocentric trends and the unspoken rules of fashion in favor of highlighting their culture. Fernandez redefined the traditional fashion house as a cultural agency in Mexico through collaboration with master artisans, and providing social, economic, and cultural reform. Scott celebrates her Jamaican culture by infusing it into her brand, partnering with small local artisans, and prioritizing sustainability. Tidjane Tall, a recent graduate, dives into his family's Ivory Coast history and explores blackness and elegance while creating garments that blend his personal heritage and structural design. Lastly, Yamamoto fought post-WWII Westernization by preserving traditional Japanese fashion and empowering women in a male–dominated society. Research was conducted using a broad review of literature and digital media, synthesizing information from academic databases, interviews, press releases, and social media platforms. This research amplifies a pluralistic approach to fashion rooted in the history of underrepresented cultures, instead of the exclusionary Eurocentric lens. In doing so, we decolonize fashion narratives and reevaluate the current power structures. Key conclusions include how to establish a new sustainable framework for the fashion house model, utilizing

storytelling that originates from the heart and experience when designing, and centering culture and heritage to drive innovation. Together, these designers exemplify success and provide an equitable, diverse, and authentic blueprint for the future of fashion!

The Effects of Wealth on US Arms Proliferation Policies

Damone Miller, International Relations
Faculty mentor: Mehwish Sarwari, Government, Planning & Philosophy

To what effect do political contributions have on arms proliferation? This analysis focuses on the monetary influence that wealth has on US foreign policies related to foreign weapons proliferation. This builds on the assumption that policy outcomes are heavily influenced by lobbying, media control, and campaign donations. This applies to the theory which suggests political contributions could decide how Senatorial policymakers will vote on issues pertaining to arms proliferation. This theory is examined through the hypothesis that as political contributions from the defense industry increases, then the likelihood that Senators vote for policies that approve weapons proliferation increases as well. By using legislative outcomes during the 118th US Congress (2023-2024) and political contributions per Senator for the prior election cycle (2022), this research attempts to measure the direct influence of the military-industrial complex on US foreign policy outcomes. The findings suggest that political contributions from defense industries play a small, yet significant, role in deciding how US policymakers would vote on various foreign arms proliferation policies.

Born into Barriers: How Poverty and Poor Education Shape Future Homelessness

Synia Morrison, Social Work
Faculty mentor: Amy Manning, Social Work

What does poverty look like for children in Buffalo, and how does it affect their education and future risk of homelessness? In Buffalo, poverty and education are closely connected and often goes untreated and ignored, especially impacting the children of color in buffalo who often attend underfunded schools with fewer resources. Research shows that these inequalities lead to lower academic achievement, higher dropout rates, and limited career opportunities, reinforcing generational cycles of poverty. This project uses local data from Buffalo Public Schools and Erie County, including poverty rates, school attendance data, and graduation statistics. Additional insights were drawn from community observations and real life examples of how poverty impacts student's daily lives, including barriers like transportation, childcare responsibilities, and lack of basic resources. Public Data shows that over 40% of children in Buffalo live below the poverty line, with over 75% qualifying for free or reduced lunch, and many experiencing chronic absenteeism. These conditions contribute to learning gaps, lower reading levels, and decreased graduation rates, especially among Hispanic and low income students. Poverty not only creates significant educational disadvantages but increases the likelihood of long term economic instability and risk of homelessness. This presentation will highlight how poverty affects students both inside and outside the classroom and explore how these challenges lead to future consequences like limited job opportunities and housing instability along with education Disparities. It aims to

raise awareness and encourage discussion about breaking the cycle of poverty through education and community support.

Speech Scaling and Parkinson's Disease: Impact of Background Noise and Cognition

Lorelai Mucciolo, Speech-Language Pathology
Faculty mentor: Anita Senthinathan, Speech-Language Pathology

Difficulties with speech loudness and intelligibility are commonly reported among individuals with Parkinson's disease (PD). These speech difficulties are linked to a decrease in quality of life and social withdrawal. This study intends to investigate the speech scaling task in the context of background noise, specifically pertaining to individuals with PD. The impact of an individual's cognitive status on speech scaling is also considered. In this study, participants are asked to say a sentence first at baseline loudness, then at varying loudness levels when prompted (i.e. 2 times quieter, 4 times quieter, 4 times louder, 2 times louder). This occurs while randomized background noise is played through field speakers. Additionally, information is collected from the Voice Handicap Index (VHI), the Montreal Cognitive Assessment (MOCA), and an accuracy survey completed after each production. Preliminary results indicate a statistically significant difference between the slopes of the PD and YC groups in the 60, 65, and 70dB noise conditions after controlling for MOCA scores ($p<.05$). These results suggest possible differences between individuals with PD and neurologically healthy individuals. Further investigation is necessary to determine the role of cognitive ability and self perception of voice problems.

"Can You Repeat That?": Effects of Repetition Requests on Judgments of Mock Interview Candidates

Abigail Murphy, Psychological Science; Aiyana Reynolds, Psychological Science; Alex Valery, Psychological Science; Elizabeth Schilling, Psychological Science; Canyon Damon, Psychological Science; Raj Arumugam, Psychology; Olivia Czarnecki, Applied Psychology; Ellie Regensdorfer, Psychological Science; Yadiely Rosario Villar, Applied Psychology; Carl Christensen, Psychological Science; Desiree Rosul, Psychology
Faculty mentor: Eyad Naseralla, Psychology

The “Halo Effect” is a psychological phenomenon in which observing one positive trait in a person leads others to assume that the individual possesses additional, unrelated positive qualities. A related phenomenon, sometimes referred to as the “Horn Effect” reflects the opposite pattern, in which observing a negative trait or interaction leads observers to associate a person with other unrelated negative qualities. This study aims to examine the horn effect through a mock interview. Participants will be informed that they will evaluate a senior student who is preparing to enter the job market by playing the role of an interviewer and asking the candidate a series of scripted questions. Participants will then evaluate the candidate’s fitness for the job for which they are applying. The job candidate will, in fact, be a confederate in the study and will either repeatedly ask the interviewer to repeat questions throughout the interview or respond normally. We predict that participants who interview

candidates who repeatedly ask for repetition will evaluate the candidate more negatively on unrelated traits and rate them as less fit for the job in a post-interview evaluation.

Player Injury Analysis System Using Oracle APEX

Lucky Nkubit, Computer Information Systems
Faculty mentor: Sarbani Banerjee, Computer Information Systems

Athlete well-being affects performance, recovery, and injury prevention, but many teams still rely on manual notes and inconsistent tracking. This project designs a computer-based information system that monitors athlete well-being using integrated data from player statistics, match events, and user-reported wellness checks. The system stores athlete profiles, workload indicators such as minutes played and match frequency, contact and event-based injury signals extracted from match logs. An analytics module calculates a risk score and assigns clear flags (low, moderate, high) to support coaching and medical decisions. A web-based dashboard allows staff to search athletes, view trends, and generate reports for training adjustments and return-to-play planning. The project also addresses data quality, privacy, and role-based access control to protect sensitive information. This project also demonstrates how information systems and data analytics can deliver practical, real-time insights to improve athlete care and reduce preventable injuries for competitive sports programs today.

Building a Digital First Impression: Designing an IT Portfolio Website for Career Visibility

Toni Paso, Computer Information Systems
Faculty mentor: Sarbani Banerjee, Computer Information Systems

This project focuses on the development of a professional portfolio website designed to showcase the skills, experiences, and resources of undergraduate and graduate Information Technology (IT) students. The primary objective is to examine how an effective online portfolio can enhance employability, strengthen professional branding, and increase visibility in today's competitive job market. As employers increasingly rely on digital platforms to evaluate candidates, establishing a strong online presence has become an essential part of career development for IT professionals. The project is based on research on portfolio design, professional branding, and user experience (UX) best practices. The development process involved planning, designing, and implementing a website that is visually engaging, accessible, and easy to navigate. The portfolio integrates key academic and professional materials, including GitHub repositories, LinkedIn profiles, technical projects, industry certifications, and downloadable resumes. Attention was given to usability and content organization to ensure that potential employers can quickly understand a student's technical abilities and achievements. Preliminary results indicate that a well-structured and professionally designed portfolio website improves the presentation of technical skills and accomplishments. This presentation highlights the design process, key features, and lessons learned, offering practical insights to help IT students build effective portfolios and support their professional development.

Aqui Estamos: Research and Resilience as a Fashion Collection

Jaylene Perez, Fashion, Textile & Technology
Faculty mentor: Shantell Reid, Fashion & Textile Technology

Aqui Estamos ("Here We Are") is a research-driven fashion collection grounded in presence, pride, and resilience, reflecting my Dominican, Puerto Rican, and Ta√≠no heritage alongside my lived experience as a first-generation American. Developed as both a creative and academic research project, the collection investigates how fashion can serve as a vehicle for cultural preservation, storytelling, and social visibility. The research process includes analysis of scholarly articles, visual studies, and interviews to deepen understanding of Ta√≠no culture, as well as traditional Puerto Rican and Dominican dress. These sources inform the collection's reinterpretation of historical silhouettes, textiles, and adornment through a modern, feminine lens. Design choices—such as layered textures, flowing forms, and expressive construction—symbolize resilience, generational continuity, and the blending of past and present identities. While not developed in direct partnership, the collection will collaborate with the ECBA Volunteer Lawyers Project (VLP) to bring awareness to their work providing free legal aid to individuals and families navigating immigration challenges. This cause is deeply personal, as I've had my own experiences with immigration systems. Ultimately, Aqui Estamos positions fashion as both research and resistance. Honoring dignity, amplifying underrepresented narratives, and affirming the right to be seen and heard.

Frederic Chopin: Artist/Teacher

Hannah Plunkett, Music
Faculty mentor: Carolyn Guzski, Music

Frédéric Chopin, or Fryderyk Franciszek Szopen, lived from 1810 to 1849. Although his life was cut short by pulmonary tuberculosis, his virtuosity as a performer, his pedagogical skills, and his legacy as a Romantic composer remain timeless today. He began playing the piano at just 4 years old and very quickly exhibited traits of a child prodigy, as he rapidly exceeded the skills of his teachers and began to compose his own music by the age of 7. Chopin composed three collections of Études during his life: Op. 10, Op. 25, and an independent collection of just three pieces. These études, written just 10 years before he died, were requested from him by two musical colleagues by the names of Ignaz Moscheles and Francois-Joseph Fétis, who were writing a manual on piano pedagogy entitled Méthode des Méthodes de Piano. It is in this final collection where Chopin’s Trois nouvelles études, op. posth. (1839) appears. Even though this set of Études only contains three pieces, they are--as all of Chopin’s compositions--incredibly useful exercises and works of technical as well as artistic genius. No. 2 in Ab Major contains complex polyrhythms (duple meter in the left hand and triplets in the right hand) that are challenging for pianists of any level. Perhaps this piece’s biggest feat is its use of harmony, or the way his voices blend together to form beautiful phrases that sound almost effortless to the listener. Chopin’s Études allowed for future composers to use as a pedagogical exemplar in order to develop their technique and dexterity.

No Place to Call Home

Emmaleigh Pollard, Social Work
Faculty mentor: Amy Manning, Social Work

What does housing insecurity and poverty look like in Buffalo? Throughout the United States the housing insecurity is a very big growing issue that is connected to the high rise in rent and poverty. Cities like Buffalo are vastly impacted because of the limited affordable housing and economic challenges that are being caused long term. In this project, I used data from Erie County, including eviction rates and housing costs. Also observing neighborhoods and taking photos to understand their real living conditions. With the information I gathered it showed how many in buffalo really do struggle with the high cost of living and how unstable it really is. This really showed in lower income areas. All in all the housing insecurity is a serious problem in Buffalo and reflects larger problems. This project is to encourage conversation by sharing the data found in the community about the serious housing insecurities in Buffalo Ny.

Improvements to the Buffalo State COSMOS ROVER

Taras Pomayda, Mechanical Engineering Technology; Dylan Delaney; Ian McCombs, Mechanical Engineering Technology; Abdulrahman Ahmad-Hasan, Mechanical Engineering Technology
Faculty mentor: Jikai Du, Engineering Technology; Johnathan Rosten, Engineering Technology

The current Mars Rover suspension and chassis have several issues that reduce performance and efficiency, including excessive weight and mechanical play. The suspension sags outward, binds against the chassis, and allows unintended movement due to the use of self-centering bearing blocks. These bearings permit motion in multiple directions, causing the suspension arms to shift and bind. This was not intended in the original design. The differential crossbar also binds and occupies valuable space by being mounted on top of the chassis. To address these problems, our team redesigned suspension components. We developed a new bearing block that holds a standard flanged ball bearing, restricting motion to a single axis of rotation. This modification eliminates binding and allows the differential arm to be mounted below the chassis, improving space efficiency and structural reliability. We also added relief slots to the suspension arms to reduce weight while maintaining strength, verified through CAD modeling and static analysis. The redesigned suspension increases durability, reduces mass, and improves overall stability. These modifications create a more efficient and reliable rover structure that will enhance performance and maneuverability in the conditions fund on the surface of Mars

Flow Through What You Go Through: Yoga Self-Care for Students

Olivia Puleo, Social Work; Bianca Miller, Social Work; Ni'Breya Williams, Social Work; Gerald Nance, Social Work
Faculty mentor: Jessica Fitzpatrick, Social Work

Is yoga a beneficial self-care practice for college students? Research studies have shown that yoga has demonstrated many mental health benefits. This includes anxiety, stress, depression, and overall mental health. It is theorized that the combination of metacognition when practicing yoga combined with body postures have overall improved cognitive functions. This includes memory, attention, and cognitive control. This self care event will be researching the beneficial impacts of yoga among Buffalo State University students. In April of 2026 a yoga flow will be held to measure an improvement in student wellbeing. The yoga teacher is a student which can help boost student engagement furthermore. The event will be marketed around campus by word of mouth and flyers. It is expected that students will feel some sort of stress or anxiety before taking class. It is also expected that students will report an overall improvement in mood, stress, and anxiety after the yoga class. Students can expect an exceptional yoga flow taught by a Buffalo State student. The yoga flow will be held in Caudell and a goody bag will be rewarded after class as incentive to practice self-care.

DNA Barcoding for Lichen Identification

Emma Ramseier, Biology
Faculty mentor: Olga Novikova, Biology

Lichens are a unique group of symbiotic organisms that play a crucial role in ecosystem stability, nutrient cycling, and bioindication. They thrive in diverse climates and extreme conditions, demonstrating remarkable adaptability and resilience. Despite their ecological importance, lichen identification is challenging due to morphological variability, cryptic species, and environmental influences on their appearance. Traditional classification methods rely on macroscopic and microscopic characteristics, which are often insufficient for accurate species determination. To address these challenges, DNA barcoding has emerged as one of the most reliable methods for species identification and classification. This process involves extracting DNA, amplifying specific genetic markers using PCR, and sequencing the resulting DNA fragments to generate a unique barcode for each species. The nucleotide sequences are then compared to existing genetic databases, allowing for precise species identification and taxonomic verification. The Eckert Herbarium at Buffalo State University houses a unique lichen collection with specimens from Western New York (WNY) and Downeast Maine. These herbarium specimens provide a historical record of biodiversity, offering well-documented, vouchered samples for building a reliable DNA barcode reference library. Our project aims to build a comprehensive reference library from the Eckert Herbarium's collection to enhance lichen identification, support taxonomic revisions, and contribute to conservation, biodiversity assessments, and climate change research, while improving overall species documentation and data accessibility. To date, our work has focused on troubleshooting and optimizing protocols for DNA isolation and PCR amplification of the Internal Transcribed Spacer (ITS) region from lichen herbarium specimens.

More Than a Feeling? Campus Belonging, Stress, and Substance Use

Aiyana Reynolds, Psychological Science
Faculty mentor: Kimberly Kamper-Demarco, Psychology; Howard Reid, Psychology

Prior research has shown convincing evidence for an association between stress and substance use and suggests that campus belonging plays a complex role in both student well-being and substance use. However, little is known about how campus belonging affects the relationship between stress and substance use. The present study explored the relationship between perceived stress, nicotine, tobacco, and cannabis usage, and feelings of campus belonging among college students. We hypothesized that campus belonging would play an important role in understanding the links between stress and substance use. The final sample consisted of 106 undergraduate students aged 18 to 33 who completed a series of self-report questionnaires via Qualtrics. Contrary to the expectations, university belonging was not significantly associated with perceived stress, and none of the belonging sub-scales were significantly correlated with substance use. However, significant direct relationships were found. Specifically, overall university belonging was negatively correlated with average marijuana use per day, and levels of support had an even stronger correlation. It was also found that campus involvement was positively associated with levels of belonging. Both attendance at events and membership in student organizations were significantly correlated with belonging. Lastly, event attendance was also positively associated with perceived stress. This study highlighted that while campus belonging did not affect the relationship between stress and substance use, higher campus belonging was associated with lower marijuana use.

The Impact of Inflation on Property Crimes: A Cross-National Comparison.

John Romeo, Political Science
Faculty mentor: Mehwish Sarwari, Political Science/International Relations

This study examines the relationship between inflation and property crime rates across different countries based on GDP, which is done by focusing on how rising prices may contribute to increased criminal activity. Inflation erodes purchasing power, which leads to a rise in the cost of living, and intensifies financial insecurity, particularly among lower- and middle-income populations. As economic strain deepens, individuals may face heightened pressure to meet basic needs, potentially increasing incentives for property-related offenses such as theft, burglary, and fraud. Drawing on economic strain and deterrence, this research looks into how weakened deterrence mechanisms such as overburdened legal systems, reduce of law enforcement resources, or even the declining trust in institutions may amplify the impact of inflation on crime. When the perceived risks of punishment decline relative to the economic benefits of illegal activity, property crime rates may rise. Along with this, prolonged inflationary environments have the ability to foster the expansion of shadow markets, which includes informal labor and black-market exchanges, which may further weaken formal economic structures and regulatory oversight. Using cross-national panel data, the study analyzes inflation indicators alongside reported property crime rates, controlling unemployment, income inequality, and GDP growth. Preliminary findings suggest a positive correlation between sustained high inflation and increase in property crime, particularly in countries experiencing weak institutional enforcement and limited social safety

nets. The results highlight the importance of macroeconomic stability, effective governance, and social protection systems in mitigating crime during inflationary periods.

It All Starts in Childhood

Desiree Rosul, Psychology
Faculty mentor: Amy Manning, Social Work

This poster aims to answer the question of how growing up in poverty affects someone's life as an adult in the city of Buffalo. Childhood poverty is well known problem in the United States and affects the lives of many people in the country. Poverty among children can cause a number of problems during adulthood. This poster is meant to help bring attention to the effects of childhood poverty on the life of an individual in the United States, specifically in the city of Buffalo. Data was collected from various sources of information and statistics on Buffalo and the effects of childhood poverty on the life of an adult. This poster will also include information from someone who has lived through poverty. This information was gathered from an interview with someone who suffered from poverty growing up in Buffalo and how it has affected their life as an adult. According to the statistics and findings on Buffalo, the problem of poverty in childhood causes a number of problems that affect people's lives as adults. This presentation aims to create awareness among people on the effects of childhood poverty on adults and the possible ways of solving the problem of poverty in Buffalo.

Food Insecurity & Barriers to Food Access in Buffalo

Adrion Rowe, Social Work
Faculty mentor: Amy Manning, Social Work

This project looks at food insecurity and the challenges people face accessing food in Buffalo. I'm focusing on how things like money, transportation, and where people live make it hard for some residents to get healthy food regularly. To understand this, I'm looking at studies about food deserts, local statistics on income and grocery store locations, and talking to people in the community about their experiences. I also want to highlight programs and resources that are trying to help, like food banks, community gardens, and local nonprofits. By combining real data with people's stories, I hope to show not just the numbers but what it's really like for someone struggling to get enough to eat. My goal is to use this research to help people understand why food access is a big issue in Buffalo and what can be done to make it better. I also plan to share some ideas about solutions, like improving public transportation, supporting local food programs, and raising awareness about inequality in food access. Overall, this project is about looking at the problem from different angles social, economic, and personal and showing why it matters. I want viewers of my poster to leave understanding both the challenges and the efforts being made to help, and to think about ways the community and policymakers can work together to make food access fair for everyone.

Breaking the Cycle: Domestic Violence and Poverty in Buffalo, New York

Dominique Sanford, Social Work
Faculty mentor: Amy Manning, Social Work

This project explores the connection between poverty and domestic violence in Buffalo, New York, asking what this issue looks like at the local level. Research across the United States shows that poverty increases the risk of domestic violence due to financial stress, unstable housing, and dependence on a partner, while domestic violence can also lead to long-term financial hardship. According to the National Coalition Against Domestic Violence, many survivors face barriers such as limited income, lack of access to resources, and difficulty maintaining employment. To understand how this issue impacts Buffalo specifically, local data was gathered from sources including the Partnership for the Public Good and the United Way of Buffalo & Erie County. A PhotoVoice approach was also used, with three photographs taken in the community to capture visible signs of poverty such as housing conditions and access to resources. Findings suggest that domestic violence in Erie County is closely connected to ongoing economic challenges, including poverty and lack of affordable housing. This project will be presented as a research poster that combines local data, images, and resources to raise awareness and encourage discussion about how communities can better respond to both poverty and domestic violence.

Hurt People Hurt People...Or Do They? Symbolic Concerns and Reactions to Victimization

Elizabeth Schilling, Psychological Science
Faculty mentor: Eyad Naseralla, Psychology

Previous research indicates that victimization is associated with both altruistic and selfish behaviors. This study aims to examine the influence of power/status and shared-values symbolic concerns, with the goal of determining whether they differentially predict responses to altruistic and selfish behaviors following victimization. One hundred and fifty participants will be randomly assigned to read one of two vignettes describing a college student who is broken up with by her boyfriend for either a victimizing reason (leaving her for someone he has been cheating with) or a non-victimizing reason (transferring schools), depending on condition. Participants will then read one of two additional vignettes describing the victim receiving an invitation to a concert from a friend who has romantic interest in her, which she does not reciprocate. Depending on condition, the victim will either admit her disinterest to avoid leading her friend on (i.e., altruistic condition) or conceal her disinterest in order to attend the concert (i.e., selfish condition). It is hypothesized that participants will express greater support for altruistic behavior when power/status concerns are emphasized and greater support for selfish behavior when shared-values concerns are emphasized. These findings will aid in developing a deeper understanding of the different responses individuals may display following victimization.

A Historical Dungeons and Dragons Adventure Featuring Fidel Castro

Israel Sepulveda-Kiefer, History
Faculty mentor: Bridget Chesterton, History & Social Studies Education

The goal of my project is to create an interactive historical fiction activity to help teach people about the build up to the Cuban revolution. Cuba's fall into communism is an important event in US history that had dramatic impacts on US foreign policy and the Cold War. Nevertheless US schools do not teach how or why the event happened. For my presentation I explained what a Dungeon and Dragons one shot is and how Dungeons and Dragons can be used in a educational setting for an interactive visual learning experience. As the game will be based off of historical events Historical characters shall make an appearance as my players would witness a speech by Fidel Castro a retelling of his famous "history will absolve me speech". The players will be rebels partaking in Castros Assault on Moncada only to be captured by Cuban Authorities. They will then work to spread Castros famous speech and smuggle it out of prison making the players a key piece in the early days of the Cuban revolutions. I did this because dungeons and dragons uses primarily interpersonal roleplay to tell a story. These two events provide the most opportunity for such interactions. I will include anecdotes from my players about the one shot and their experiences and whether or not they learned anything about Cuban history.

Creating Symphonic Jazz for the 21st Century

Quin Smith, Music Education
Faculty mentor: Carolyn Guzski, Music

During his tenure as musical director of Jazz at Lincoln Center, Wynton Marsalis (b. 1961) has made significant contributions to the American jazz idiom. Drawing on influence from Duke Ellington (1899-1974), Marsalis creates a programmatic soundscape that transports the listener to the pre-World War II jazz scene through the musical suite form. Explored by Marsalis in Big Train (1998) he embodies the life of the early jazz scene. More recently, Marsalis fulfilled a joint commission from the New York Philharmonic, Berlin Philharmonic, Los Angeles Philharmonic, and London's Barbican Centre by creating the Swing Symphony (2010). In five movements, he employs symphonic form, taking the listener on a journey through the jazz dialects that arose in the United States, while also responding to the Austro-Germanic symphonic tradition. Through the analysis of modern musical scores and Western European classical tradition, Marsalis utilizes music of the past and infuses it into modern jazz culture. Wynton Marsalis has remained at the forefront of American artistic culture through the combined impact of virtuoso performance and compositions of powerful meaning.

Campus Chameleon: Designing Adaptive, Multifunctional Apparel for Campus Life

Kaylee Starkweather, Fashion, Textile & Technology; Maire Gardon, Fashion & Textile Technology; Erin Luna, Fashion & Textile Technology
Faculty mentor: Ji Young Lee, Fashion & Textile Technology

Under the theme of "multipurpose performance" for the American Association of Textile Chemists and Colorists Design & Merchandising Competition, we developed Campus Chameleon, a modular, adaptive clothing line designed to support college students' dynamic lifestyles through comfort, versatility, and sensory-conscious design. Rooted in the concept of "study-to-relax" versatility, the line features transformable garments with adjustable silhouettes, detachable elements, and multifunctional components that transition seamlessly between academic, social, and restorative campus environments. Targeting students aged 18,Äì25, the collection introduces two functional apparel sets that respond to changing climates and daily routines. The "Hot Pack Set" includes a Hot-Pack sweatshirt, pants, and a Cushion Bag. The sweatshirt and pants feature removable Carbon Nanotube heating inserts integrated into the hem and waistband, delivering warmth through a button-based on/off system and allowing removal for washing. The Cushion Bag functions as both storage and a zipper-removable cushion that transforms into viscoelastic foam seating for hard or outdoor surfaces. The "Climate System Set" includes the Climate Control Shawl, Scrunch Top, and Drift Pants. The merino wool shawl features a detachable hood that converts into a lap blanket, while the cotton-blend Scrunch Top allows users to adjust sleeve length using buttons. The Drift Pants include a pull-out sheet stored in the waistband for outdoor seating. A nature-inspired palette of earth tones and neutrals enhances comfort and well-being. Soft textiles and sensory-conscious elements such as puff-printed textures reduce overstimulation and support focus. Ultimately, Campus Chameleon redefines campus wear as an adaptable system for modern student life.

Tuscarora vs the Robert Moses Power Vista

Carissa Stone, Anthropology
Faculty mentor: Lisa Marie Anselmi, Anthropology

This research examines the conflict between the Tuscarora Nation and the development of the Robert Moses Power Plant in Niagara Falls, focusing on issues of Indigenous land rights, federal authority, and environmental transformation. Through historical and legal analysis, this project explores how the U.S. government used eminent domain to seize Tuscarora land for the Niagara Power Project, culminating in the Supreme Court case FPC v. Tuscarora Indian Nation (1960). By analyzing primary sources, legal documents, and historical accounts, this research highlights how the Tuscarora were displaced despite longstanding ties to their land and prior treaty relationships. This poster will present a timeline of events, key legal arguments, and the lasting consequences of the case, emphasizing how this conflict reflects ongoing tensions between infrastructure development and Indigenous rights. By centering the Tuscarora perspective, this research contributes to a deeper understanding of how historical injustices continue to shape present-day discussions around land, power, and sovereignty.

Martin Fierro en Pastel al Oleo

Cassandra Stryjakowski-Nourry, History
Faculty mentor: Bridget Chesterton, History & Social Studies Education

This project illustrates the epic Argentine poem Martin Fierro written by Jose Hernandez in 1872. The poem is about a fictional gaucho (Argentine cowboy), living in Argentine pampas (flat grass land in South America) taking care of his cattle, living simply with his family. He is recruited by the army to defend the border against the Indigenous peoples of the region but chooses to desert; he comes an outlaw. When Martin Fierro returns home, he is no longer welcomed by his neighbors and decides to live with the natives. Mart√≠n Fierro appears from the beginning like a romantic hero but twisted with Argentinian life in the nineteenth century. Gauchos were deeply rooted with the flora and fauna of the Pampas. To illustrate my understanding and vision of this poem, I used soft pastel on squared paper in 4-5 drawings representing the journey of Martin Fierro as gaucho and individual. Through this project the fictional Mart√≠n Fierro and his environment come to life.

Food Deserts or Designed Scarcity? Corner Store Reliance in Buffalo

Nathyn Trimper, Social Work; .; .; .; .; .; .
Faculty mentor: Amy Manning, Social Work

In the United States, around 12.8% of our population lives in low income areas with fairly limited access to grocery stores. These areas end up relying more on corner stores with fewer healthy options. My research shows this is all very connected to how neighborhoods are designed and where businesses purposely choose to invest their money into. For this project, I used local data from Buffalo and Erie County to compare where grocery stores and corner stores are located across all income levels. I used public data to identify low access areas and also visited some of these neighborhoods myself, observed their food availability, and took photos to see what options people actually have in their day to day. From my observations, lower income areas had fewer grocery stores and a much higher volume of corner stores, which matches both local data and national trends that have been published. The placement of grocery stores plays a major role in food access and attempts to increase the reliance on corner stores in specifically lower income communities. This project shows how larger systems attempt to affect our everyday choices and also tries to raise awareness about food access issues while attempting to encourage talking points about more equal access to healthy food.

Color of Change: Visual Culture in the Chilean Revolution

Desire Tubbins, History
Faculty mentor: Bridget Chesterton, History & Social Studies Education

This project considers the Chile's Socialist Revolution (1970-1973). This project is a mural in the style of Diego Rivera 1886-1957—a famous Mexican muralist and portrait painter. The images represented on my mural will be of Allende Salvador, the Chilean flag, and Allende's

supporters and their posters and flags. The background will have representations of the Chilean landscape showing not only the location but how the revolution impacted it.

Influence of Scanning Strategies on the Microstructure and Mechanical Performance of Laser Powder Bed Fused 15-5 PH Stainless Steel.

Zackery Ungaro, Mechanical Engineering Technology
Faculty mentor: Ganesh Walunj, Engineering Technology

Precipitation-hardening stainless steel 15-5 PH is a high-performance alloy widely adopted in aerospace and tooling applications, with laser powder bed fusion (LPBF) offering the ability to produce near-net-shape parts featuring refined microstructures and an exceptional strength–toughness balance. While volumetric energy density and alloy chemistry are well-recognized determinants of LPBF quality, the laser scan strategy defined by the geometric path of the beam within and between layers plays a decisive role in governing melt pool dynamics, thermal gradients, and the resulting porosity, microstructure, and mechanical performance. This study delivers a direct, controlled comparison between two commonly implemented scanning strategies. Stripe (long-vector) and Chessboard (island) under a low-power LPBF regime, relevant to energy-efficient manufacturing. A total of 28 specimens were fabricated for each strategy, with the three highest-density samples from each set selected for further analysis. Initial hardness measurements revealed values of 365-385 HV for Stripe and 350-370 HV for Chessboard. Detailed microstructural characterization, tensile testing, and wear assessment are performed on these top-performing samples to determine the optimal scan strategy and processing parameters for 15-5 PH stainless steel, offering new insights into process structure–property relationships for precision LPBF manufacturing.

Invisible Wounds: How Microaggressions Undermine Student Belonging

Tara Uplinger, Childhood Education
Faculty mentor: Jevon Hunter, School of Education

While schools have made many changes throughout the last century to create inclusiveness today, there is still a long way to go. This research investigates microaggressions in schools and their effects on students' sense of belonging. The paper will also explore ideas on how to uplift and protect all students. Data that has been retrieved for this research has relied on the evidence of how microaggressions and stereotypes may seem small, but, when they are continuous, they can grow to impede a child's education. When students are focusing on emotional safety, how can they focus on learning? While recognizing these infractions is key, most research focuses on the effects that microaggressions have without identifying solutions on how to stop this from happening. For this qualitative research, we interviewed three White, female teachers who currently work or have previously worked in schools with diverse student bodies. They were interviewed virtually. The interview questions that were focused on had themes centered around sense of belonging, microaggressions in the school climate, and educating teachers on these subjects. The participants consistently described that microaggressions not only negatively affect sense of belonging among students of color. These slights also affect their cultural identity, worrying more about social acceptance rather than academic content. Another underlying theme was protecting students' dignity using data

and explicit training strategies. This study as a whole shows the significant need to put the safety of children first.

A Pilot Study: Effects of Emotional Regulation Training on Rugby Performance

Alex Valery, Psychology
Faculty mentor: Jill Norvilitis, Psychology

Emotional regulation is a key skill for athletes, allowing them to manage stress and maintain focus in high-pressure situations. In prior research Beatty and Janelle found that soccer players who practiced emotional regulation made fewer errors under stress. Also, research done by Boas and colleagues showed that these strategies improved athletes' focus and decision-making in competition. More recently, Montenegro-Bonilla and co-authors further noticed the benefits of the technique of cognitive reappraisal in helping athletes stay composed and effective under pressure. Although these findings show the benefits of emotional regulation in sports, little research has examined the direct impact in rugby. Building on this earlier work the current study tests whether a brief emotional regulation training session can improve rugby players' performance and reduce their perceived stress levels. Results showed a trend toward higher tackling performance in the emotional regulation group. Importantly, participants reported that they liked the emotional regulation skills and tried to use them during the match.

Participating in NASA's Citizen Science Program: Searching for Brown Dwarfs, Planet 9, and Exoplanets

Shane Varrone, Philosophy, Individualized Studies
Faculty mentor: Kevin Williams, Geosciences

NASA's citizen science program enables regular citizens to take part in research on various topics. In this project, I took part in two programs: Backyard Worlds and Exoplanet Watch. In Backyard Worlds, I analyzed over 150 flipbooks—groups of 3-5 infrared images from the WISE mission showing the same area over time to search for moving objects that could be brown dwarfs or even the possible Planet 9. For each of the over 100 moving objects I identified in the flipbooks, I then used their coordinates to search for them in databases of astronomical objects, such as SIMBAD. Although most objects were already in the databases, several were not. For those, I filled out a form that relayed the information to NASA for further investigation. The second phase of this project was meant to focus on studying exoplanets through the Exoplanet Watch program. My goal was to use software and data from NASA to process light curves of stars with at least one exoplanet. A light curve shows changes in the amount of light from a star as a planet passes in front of it. Unfortunately, this part of the project did not go as planned because of problems with the software. Still, these challenges became valuable learning experiences. Throughout these two research projects, I not only contributed to ongoing research but also developed a deeper understanding of how science is conducted.

The Use of Algorithmic Risk Assessment Tools Undermines the Contestability of Procedural Due Process

Gretchen Weisansal, Computer Information Systems
Faculty mentor: Jane Sullivan, College Writing Program

Algorithmic risk assessment tools are increasingly used in pretrial bail decisions, yet their growing influence raises serious procedural due process concerns. When courts rely on algorithmic risk assessment tools to determine whether an individual is released or detained, due process is undermined. Disparities matter because people are not given fair, transparent, equal trials, all of which are elements of true procedural due process. Defendants cannot meaningfully examine, understand, or challenge the basis of that assessment. Based on procedural due process principles and relevant case law, including the broader constitutional requirement of notice and opportunity to be heard, algorithmic opacity can weaken the fairness and accuracy of these decisions. Courts should require a) greater transparency, b) adversarial testing, and c) human oversight before relying on such tools to determine pretrial proceedings. Technological efficiency does not justify procedures that weaken the individual's ability to contest evidence affecting their liberty. Constitutional safeguards must evolve alongside the growing use of algorithmic decision-making in the criminal justice system. Attorneys for Loomis in Loomis vs. The State of Wisconsin consulted with Dr. David Thompson, who studied the algorithmic risk assessment technology used in the original pretrial motion. He testified that his research suggested that the tool creates disparities for defendants who are a) low-income, b) male, and c) non-white, and it should not be used for decision-making. Do these disparities exist in New York State courts? This study will replicate the Thompson study surveying the State of New York courts of urban areas with a population of more than 100,000 people to determine the extent to which the same disparities exist in New York State.

Who Made Feijoada?: A Dish with History

Jackson Wilkerson, Social Studies Education 7-12
Faculty mentor: Bridget Chesterton, History & Social Studies Education

This project examines feijoada, a traditional Brazilian dish widely recognized as the national dish of Brazil. Feijoada is a slow-cooked stew made primarily from black beans and a mixture of salted, smoked, and fresh pork or beef, often including sausage, bacon, ribs, and other preserved cuts. It is commonly served with white rice, collard greens, orange slices, and farofa, a toasted cassava flour that adds texture and helps complete the meal. They balance the heaviness of the stew and are part of what makes feijoada a full and recognizable culinary tradition. Its ingredients, preparation, and historical associations, the dish reflects Brazilian identity, communal tradition, and the larger relationships between food, race, and cultural memory. Feijoada has often been linked to the labor of enslaved female Africans and Afro-Brazilian cooking traditions, although scholars debate the older popular story that enslaved people invented it entirely from discarded scraps. That debate is important because it shows how national dishes can carry myths, unequal histories, and racial meanings at the same time. Even with uncertainty about its exact origin, feijoada has been passed down for generations by African women who have prepared it in order to sustain themselves and their

families for generations. This poster will address the debate concerning the origin of feijoada between modern historians and the oral tradition of the Afro-Brazilian people.

Concentrated Poverty In Buffalo

Carissa Wilson, Social Work
Faculty mentor: Amy Manning, Social Work

This examines the issue of concentrated poverty in Buffalo, New York, with a focus on the structural, historical, and social factors that have contributed to its persistence. Concentrated poverty refers to geographic areas where a high percentage of residents live below the federal poverty line, often resulting in limited access to quality education, employment opportunities, healthcare, and safe housing. In Buffalo, patterns of racial segregation, deindustrialization, and disinvestment have played a significant role in shaping economically disadvantaged neighborhoods. The study explores how these factors intersect to reinforce cycles of poverty and inequality, particularly among marginalized populations.

Financial Helicopter Parenting

Olivia Zappy, Psychology
Faculty mentor: Jill Norvilitis, Psychology

An individual's relationship with finances is formed in the early years of their lives through parental financial socialization which involves the SES of the parent and their style of involvement in teaching their children about money. Financial socialization and education from parents are important moderators in the amount of debt young adult finds themselves in, as well as that individual's self-efficacy and confidence in handling their financial situations. The style of overly involved parenting, often referred to as "helicopter parenting" is found to extend into financial socialization and can continue into adulthood when young adults are accruing debt through school loans and credit cards. This can produce problematic effects on the young adult children of financial helicopter parents' levels of stress, depression, anxiety, and self-efficacy in the handling and understanding of their financial situations. This study is aimed to investigate the effects of financial helicopter parenting on the self-efficacy and overall psychological well-being of their college aged children. Helicopter parenting has found to produce children with lower levels of self-efficacy and higher levels of stress. Financial helicopter parenting has little previous publicized research. Our hope is that our collected data will help to reveal the way parental over-involvement in the financial lives of their young adult children affects those young adult children in regard to their relationship with self and money.

Poster Session II 10:00–11:00 AM

Eat Well, Live Eat

Nasteho Abshir, Social Work
Faculty mentor: Jessica Fitzpatrick, Social Work

What is the connection between healthy eating patterns and mental health outcomes? According to research, poor diet increases the risk of depression. Studies show that people who have a higher intake of carbohydrates and trans fats have a higher score on depression measures and a lower intake of nutritional foods. This is evidence for why healthy eating habits can cause better mental health outcomes. This research project handed out surveys to students at Buffalo State about their diet. Free organic fruit cups were handed out at the event site. A flyer was posted about healthy eating patterns and how they affect students' mental health. Fifteen students showed up at the event and took the survey. After reviewing the surveys, It shows that majority of the students who had a poor diet had stress over their classes and did not like sports and exercise. The rest who had healthier eating habits usually were getting through their classes and were focused on self-care and sports. There are many resources available around the campus involving self-care, like the gym, sports arena, and Delaware Park. Additional information will be posted on the flyer.

COSMOS VI (Computer On-Board Scientific Mobile Observatory System)

Abdul Al Sbaikhawi, Electrical Engineering Technology; Diamond Hamilton, Electrical Engineering Technology; Ricardo McKay, Electrical Engineering Technology; Yacouba Daow, Electrical Engineering Technology
Faculty mentor: Ilya Grinberg, Engineering Technology; Jonathan Rosten, Engineering Technology

This project presents the design and implementation of a rover platform developed as part of an undergraduate Electrical Engineering Technology senior design course. The rover integrates a closed-loop motor control system to regulate the speed of its DC drive motors. Feedback-based control enables consistent motor performance and improved responsiveness under varying operating conditions. Communication between the rover and a base station is achieved through a wireless link that allows the rover to receive real-time control commands. Because reliable wireless communication is critical for remote operation, an alternative control method was also implemented to provide a backup for troubleshooting and continued operation in the event of communication disruptions. As part of a multi-year development effort, the primary objective for the 2025-2026 project cycle was to redesign the rover's circuit board to optimize its placement within the platform and improve system integration. In addition, a robust enclosure was designed to protect critical electronics while supporting multiple control methods and accommodating improvements to the rover's control hardware. The enclosure safeguards key components—including the batteries, motor driver, and wireless communication module—from mechanical damage, electrical interference, and environmental exposure. Design considerations such as structural durability, accessibility for maintenance, and effective component layout were incorporated to enhance system reliability

and usability. The project demonstrates the practical integration of embedded systems, power electronics, and feedback control principles within a mobile robotic platform. Through the design, prototyping, and testing phases, students gained hands-on experience in system integration, hardware design, and control implementation. The resulting rover platform serves as a functional demonstration of multidisciplinary engineering concepts applied to a real-world robotic system.

Class and Injustice: Wealth and Punishment in Revolutionary New York

Abdulla AmjadRamzan, History
Faculty mentor: Kenneth Orosz, History & Social Studies Education

During the American Revolution, New York's Commissioners for Detecting and Defeating Conspiracies exercised extralegal authority, investigating, trying, and punishing suspected Loyalists without juries or formal legal safeguards. In contrast to Pennsylvania, where treason cases proceeded through civilian courts and juries, New York's commissioners operated with broad discretionary power, effectively acting as judge, jury, and enforcer, where decisions often fell to personal discretion. This structure raises a central question: to what extent did a defendant's socioeconomic status influence judicial outcomes? Contemporary accounts suggest a disparity. As Kieran J. O'Keefe documents, when the wealthy Cadwallader Colden II received parole in 1777, one local complained that "he was a poor man he would be kept in Goal" (O'Keefe 2021, 522). Despite such claims, no systematic study has verified this pattern. This research addresses that gap by analyzing cases from Kings District in Albany County through a cross-referencing of two primary sources: the three-volume Minutes of the Commissioners (1778-1781), which document charges and punishments, and the 1779 Kings District tax assessment rolls, which indicate relative wealth. Each defendant is categorized by type of offense (verbal or active treason) and severity of punishment (lenient or harsh). By comparing these variables, this study seeks to determine whether economic status correlated with judicial outcomes. The resulting analysis provides a quantitative dataset alongside preliminary archival findings, contributing empirical evidence to broader discussions of class dynamics and revolutionary justice in New York.

Poverty and Policy: Their Effects on Immigration in Buffalo, New York

Yasmine Arabaty, Social Work
Faculty mentor: Amy Manning, Social Work

This study looks at the immigrant population in Buffalo. This study's main focus centers on the disproportionate effects that immigrants face in the city, more specifically economic stability, access to services, and quality of life. Immigrants make up around 10-12% of the Buffalo population, with a high concentration of this population living in lower-income communities. This study examines historical and current data trends to better understand how disproportionately poverty impacts immigrant communities. Research suggests that immigrant households in the city experience poverty rates that can exceed 20%. This study will also address systemic and policy based barriers that contribute to these disparities.

Divided By Design: Racialized Poverty in the East Side Of Buffalo

Tatiana Arroyo, Social Work
Faculty mentor: Amy Manning, Social Work

What does concentrated and racialized poverty look like in Buffalo, particularly on the East Side? Across the United States, poverty is often concentrated in specific neighborhoods and tied to racial segregation, limiting access to quality housing, education, and economic opportunities. This project uses local reports, journal articles, and news sources to show how these national trends appear in Buffalo, where the East Side experiences significantly higher poverty rates and racial segregation. I also used a PhotoVoice approach to show racialized poverty, using places like the Michigan Street Baptist Church and the Tops memorial on Jefferson Ave to visually represent the issue. Preliminary findings show that poverty on Buffalo's East Side is connected to both its history and what is still happening today. The places I chose to photograph show this really clearly, since they represent both struggle and strength in the community. For example, the Tops memorial connects to recent violence and loss, while the Michigan Street Baptist Church represents history and resilience. This project suggests that racialized poverty in Buffalo isn't random, but is shaped by larger systems and long-term inequalities. This poster will focus on making those connections clear and helping people better understand how these issues affect the community, while also starting conversations about possible change.

Drawing in the Moment: A Mindfulness-Based Chalk Art Activity

Hazel Arteaga-Martinez, Social Work; Arianna Martz, Social Work; Trinity Ware, Social Work
Faculty mentor: Jessica Fitzpatrick, Social Work

Will college students benefit from chalk drawing self-care event? Research shows that engaging in creative expression can encourage mindfulness because it helps the individual focus fully on the artwork itself. Studies also show that drawing practices helped university students with emotional distress by increasing psychological resilience and self-disclosure which helped them cope with stress and their emotions. The goal of this project is to highlight how creating art can help individuals reflect on their emotions, and practice self care by encouraging people to engage in simple creative activities, this project promotes art as a tool for improvement in mental well-being and supporting emotional health. Students will participate in mindfulness chalk drawing outside the student union. The group members will explain the activity and have music playing for the students' comfort. There will be questions to follow at the end of the drawing activity to evaluate students' reaction. As studies showed positive results, it is expected that students' moods will improve. Students will also experience stress reduction and help individuals find pleasure in life. The poster will showcase pictures of students' artwork, meaningful words and quotes, and information regarding where more art mindfulness activities are available.

Examining Perceptions, Opinions, and Behaviors of Students Overall Wellness

Raj Arumugam, Psychology
Faculty mentor: Jonathan Lindner, Weigel Health Center

The Spring 2025 American College Health Association's National College Health Assessment III (ACHA-NCHA III) Reference Group Executive Summary reported across 97 United States Institutions, there was a major mental health concern. Among students who reported being diagnosed or treated within the last 12 months, 19.5% were reported for depression, 29.5% for anxiety, and 12.7% for ADHD. Statistics show 67.8% of students reported using alcohol in their lifetime and 41.1% of students ever using cannabis. Research shows a correlation between alcohol/substance use and mental health challenges, as alcohol/substance use contributes to depression, anxiety, and cognitive impairment, in which attention and memory are declined (Bulfone et al., 2025), leading to negative academic performance. SUNY Buffalo State University reflects these national trends, including increased rates of social anxiety, generalized anxiety, depression, academic distress and declines of wellbeing. Buffalo State has also shown increased disordered eating, sexually transmitted diseases and infections, and unplanned pregnancies, as 54% of appointments at Weigel health center are sexual health related. Understanding these student factors are detrimental for the University. This study aims to use an anonymous Qualtrics survey to evaluate self report health behavior including mental health, physical health, sexual health, substance/alcohol use, and academic performance among Buffalo State University students, to promote resources/support, and to take initiative in future prevention programs. Data collected from the survey will be analyzed and presented as a poster project at SRCC, conveying the concern of health behavior in Buffalo State University Students.

The Effect of Sea Level Fluctuations on Delta Formation on Saturn's Moon Titan

Benjamin Axberg, Earth Sciences
Faculty mentor: Kevin Williams, Geosciences

Saturn's moon Titan has a "methanaulic" cycle analogous to the hydrological cycle on Earth. This is due to Titan exhibiting temperatures (~90K, –298F) that can support liquid methane/ethane and the evaporation of each. Despite having fluvial systems similar to those on Earth, Titan exhibits only a handful of river deltas. This persists even where several massive rivers, even by Earth standards, empty into large seas. Saturn orbits around the sun on a tilted axis, similar to Earth. Orbiting Saturn on this tilted orbital plane, Titan's poles experience differing levels of solar energy, leading to evaporative summer conditions and precipitative winter conditions, each lasting roughly 7 Earth years. The most prominent delta exists¬ in the southern hemisphere's Ontario Lacus, the shallowest of Titan's big seas. The much deeper northern lakes showed regular fluctuation in sea level while being observed by Cassini and exhibit virtually no deltas. I speculate that the seasonal fluctuation each hemisphere experiences in total liquid hydrocarbon reserves plays a role in Titan's ability to form deltas. It could be that the rapid and dramatic sea level changes during Titan's seasonal cycle does not allow enough time for long term accumulation of sediment at the mouths of rivers. In this project I created a simple model that could explain this incredibly low rate of delta formation in most Titan lakes.

Grounded in Nature

Akuage Ayol, Art & Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

I create paintings that use nature as a visual language to explore emotion, growth, and healing. My work focuses on the quiet connection between our inner feelings and the natural world around us. I am inspired by moments in nature that feel grounding, such as trees, landscapes, and natural textures. These elements help me process emotions and translate them into visual form. Through painting, I create calm spaces where viewers can slow down and reflect. I want the audience to experience a sense of peace and connection when they look at my work, as if they are stepping into a moment of stillness in nature. My paintings are made with oil paint and acrylic on canvas, allowing me to build rich textures and layers of color. I am interested in how natural imagery can hold emotional meaning and remind us of our connection to the environment. Overall, my goal is to create work that invites viewers to pause, feel grounded, and reflect on their own relationship with nature and their inner emotions.

Reconstruction of Past Environments Using Fossils from Hamburg Beach

Alex Bader, Earth Sciences; Dan Hines, Earth Sciences; Joel Willis, Environmental Geography
Faculty mentor: Kevin Williams, Geosciences

We sought to understand the paleoclimate and environment of Western New York during the Devonian Period (approximately 419-358 million years ago). By examining fossils from the study area of Hamburg Beach, we can tell various environmental conditions such as water and atmosphere chemistry, water temperature, and water depth. The study of these fossils also reveals a detailed history about the rise and fall of a shallow sea that once covered the area. Hamburg Beach is located on the Lake Erie shoreline, south of Buffalo, New York. The underlying rock strata are Devonian aged shale and limestone, part of the Ludlowville Formation, which hold a significant number of marine fossils. Some fossils collected and analyzed from the area include brachiopods, corals, ammonites, bivalves, and sponges. These fossils have been sorted by species type and quantity. The mineralogy of the samples can tell us about various environmental conditions. For example, the presence of hematite indicates high oxygen levels in the bed, while pyrite indicates low oxygen levels. The calcite to aragonite ratio in fossilized shells indicates the water depth and tells us the magnesium to calcium ratio in the ocean at the time of deposition. We will present conclusions about paleoclimate and environment interpretations based on our analysis of the fossils.

Neue Eden

Dondre Baker, Art & Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

Neue Eden is an exploration of videography, 2D Planes, in 3D spaces. Short Film/Visualizer created with 3D rendering in Blender and F-spy combining with videography of a live model to give a surreal visual experience. Matching real world lighting with digital lighting, splashes of pop art inspired coloring and styling of the model(s).

Examination of Elementary Literacy Assessments

Callan Barber, Childhood Education; Alyssa Darone, Childhood Education
Faculty mentor: Jennifer Reichenberg, Elementary Education, Literacy & Educational Leadership; Julie Henry, Elementary Education, Literacy & Educational Leadership

The science of reading is based on evidence from decades of research about reading acquisition and instruction that was conducted using gold-standard methodologies (Snowling, Hulme & Nation, 2022). In aligning with the science of reading, educators are focused on utilizing standardized assessments for elementary literacy that have been designed to help teachers to understand their students' skill levels so that they can carefully design instruction to move students forward as readers and writers. Researchers have found that teacher candidates benefit from experience administering and scoring these assessments (Thoma & Small, 2024). At Buffalo State, elementary teacher candidates conduct a child study in EDU 311, the junior-year literacy methods course, to assess a child's literacy skills and design instruction for that child. The program is updating this assignment to make sure that it aligns with the science of reading. This AURA project included contextualized research to determine which standardized assessments will be most feasible for teacher candidates to utilize in the child study. We administered and scored ten standardized assessments and rated each assessment on several characteristics including ease of administration and scoring, usefulness of results, decisions made while administering, and reaction of the child to the assessment. We will present these findings and make recommendations for instructors teaching EDU 311 based on this experience.

Senior Gallery Fantasy Paintings

Ezraela Belanger, Art & Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

During my time as a student at Buffalo State University, I have substantially improved my abilities in producing works with accurate anatomy, perspective, and settings within a realistic art style. Within the contemporary fine art scene, this style is often regarded as refined and admired. However, the animated style I am seeking to emulate and represent in my work, is frequently overlooked or dismissed in the modern art world, as some consider it unworthy of exhibition or gallery display. Therefore, the main goal of my project is to explore ways to integrate an animated or cartoon-inspired art style into my paintings and drawings, deriving

influence from western and Japanese animation. Additionally, I hope to expand my knowledge of establishing a small art business, supporting the practical application of my work. By developing this style, I can further improve my abilities to produce this type of work in a more sophisticated tone by the fundamental elements and principles of art. To achieve this, my methods will include creating and visualizing rough sketches in the animated style, studying how other artists approach this form, and analyzing source material or animation for inspiration. Through this process, I hope my final compositions will challenge perceptions of this art style and demonstrate its legitimacy in a gallery or exhibition setting. Ultimately, this project will allow me to produce artwork that reflects both my personality and artistic voice while highlighting my improvements in anatomy, color, lighting, and overall artistic technique. By bridging animation-inspired aesthetics with fine art principles, I aim to create compositions that are expressive, polished, and capable of engaging with a wider audience, and to encourage critics to reconsider the value of cartoon-like work.

No Place to Rest: Homelessness and Barriers in Buffalo, NY

Emily Bombard, Social Work
Faculty mentor: Amy Manning, Social Work

What does poverty and homelessness look like in Buffalo, NY, and how do local barriers such as employment, health, weather, and anti-homeless structures affect individuals experiencing housing instability? Homelessness in the United States is greatly affected by systemic inequalities, whether it is rising housing costs, disparities in employment, or the criminalization individuals suffering from homelessness. With weak or no safety nets in place these inequalities affect marginalized populations (Goldshear et al., 2025). In Buffalo, NY this is an extremely prevalent issue with a total of 8,504 people in the Western, NY region facing the hardship of losing their home in the 2023 fiscal year (Local Report on Homelessness - wnyhomeless.org, 2025). Local data of Buffalo, including news stories, local reports, and other information from Partnership for the Public Good, and other public records were collected to evaluate poverty and homelessness in Buffalo. A photovoice was conducted, in which three pictures are taken showing homelessness and barriers in the Buffalo area. These images were taken to visually illustrate a personal look in the lives of our homeless neighbors while also showing barriers. Findings indicate that homelessness in Buffalo mirrors national trends with the addition of local barrier caused by factors of limited employment, harsh weather, etc. making these challenges even worse (Goldshear et al., 2025; Bowen et al., 2016; Bowen et al., 2024). The photographs taken are expected to highlight these realities. This presentation emphasizes the complex relationship between poverty and homelessness in our own community in which our neighbors are the individuals suffering, and the need for community awareness and policy change.

The Effects of an Acute Bout of Exercise on Stress and Eating

Madelyn Braun, Psychology; Carl Christensen, Psychology; Alex Gomez de Jesus, Psychology; Juliette Falzone, Psychology; Natalie Gorman, Psychology; Shailee Thakar, Psychology; Madison Sharp, Psychology; Autumn Nuzum, Psychology; Shelby Nicholson, Psychology; Bridget Czermerys, Psychology; Raj Arumugam,

Psychology; Alicia Souleiman; Psychology; Amanda Humel; Psychology; Elleana Bush, Biology
Faculty mentor: Naomi McKay, Psychology

Both acute exercise sessions and long-term exercise interventions have shown to reduce emotional and physiological symptoms associated with stress. Exercise alone also influences food intake, but how the effect of adding a stressor to this relationship has not been well documented. The present study will determine the effects of an acute session of exercise before a stressor on stress reactivity and food intake. It is hypothesized that exercise will reduce stress reactivity and associated energy intake. Participants were introduced to the stress or no stress control and then randomly assigned to either an exercise or no exercise condition. The exercise group completed a 15-minute high-intensity interval exercise video. The no exercise group watched a 16-minute squirrel video. After the exercise manipulation, participants were subjected to either a stress manipulation, where they underwent an interview for their ideal job or, if in the no stress control, participants played solitaire on the computer. Snack foods were provided after the stress manipulation. Cortisol levels, heart rate, blood pressure, and self-rated anxiety were measured throughout the protocol. Energy intake was measured during the laboratory visit, the evening after, and the following day. Exercise was expected to reduce heart rate, blood pressure, cortisol levels, food intake, and self-rated anxiety. Food intake is expected to decrease in the laboratory but increase during the evening and into the following day. Understanding the relationship between exercise and stress offers opportunities to use exercise as another form of treatment for stress-related disorders.

From Beaches to Bleachers: Brazil's 1950 World Cup

Shabrion Brooks, History
Faculty mentor: Bridget Chesterton, History & Social Studies Education

This project is a creative and historical brochure that explores 1950 FIFA World Cup in Brazil, highlighting the culture, atmosphere, and national identity during this important moment in the 1950s. My work combines research on Brazilian society, tourism, and sports history with a visually engaging travel-style format meant to immerse the viewer in the time period. The brochure presents key locations such as Rio de Janeiro and Maracanã Stadium, while also exploring music, food, and everyday life during the tournament. I was inspired by the powerful connection between sports and national identity, especially the emotional impact of the Maracanazo, which revealed both pride and heartbreak. I want the audience to feel as though they are stepping into 1950s Brazil—experiencing the excitement, tension, and cultural vibrancy surrounding the World Cup. Using a brochure format allowed me to blend visuals, short descriptions, and persuasive travel language to make the project engaging and accessible. I also focused on color, layout, and imagery to reflect the energy of Brazil while maintaining historical accuracy. Overall, this project invites viewers to not only learn about a significant historical event but to emotionally connect with the people and atmosphere of Brazil during that time.

Proximity Measures Within A Black-and-Gold Howler Pair

Marz Cannata, Anthropology
Faculty mentor: Julie Wieczkowski, Anthropology

Howler monkeys live in social groups composed of individuals of all ages. The Buffalo Zoo houses two black and gold howler monkeys (Alouatta caraya), adult male Tater and adult female Lily. I conducted group scan samples to record proximity to each other and location within the enclosure. I recorded approaches and retreats with all occurrences samples, and used the Hinde Index to measure who is more responsible for maintaining proximity (Hinde & Atkinson,1970). I collected 127 proximity records, 181 location records and 22 approaches and retreats. The howlers spent a majority of their time more than 2 arm's length apart. The pair spent 72% of their time in the same half of their enclosure as each other. The Hinde Index indicated that Tater was more responsible for maintaining proximity than Lily. The study was limited in data collected because the howlers are not available for observation the whole day, and a new howler was introduced in late stages of the study. Considering my ad lib data, a study on use of space in captivity, or favorability of naturalistic habitats could be considered for future research.

New Earth: A Clay Model of Brasilia

Ella Casselman, History
Faculty mentor: Bridget Chesterton, History & Social Studies Education

This project New Earth is a clay model that is showing the modern city of Brasilia, named after the Latin translation of the country, which was established in the 1960s. Each building has its own significance for the city and the country as a whole, which would be established in detail with each model. There are five models, each being represented to an accurate scale and colored accordingly. With this diorama, the modern design of the city is apparent. The sleek, modern design gives the city a reputation, especially among its residents, who experience a unique variant of urban life.

Experimenting With Silver Clay

Charlotte Chamberlain, Psychology
Faculty mentor: Robert Wood, Art & Design

This project examines the compatibility of silver clay and ceramic clay (stoneware and porcelain) and how it can be used to create small-scale hybrid objects. Primarily using ceramic practices and techniques, my aim is to expand both the aesthetic and technical possibilities of combining these two materials while developing foundational jewelry-making skills. Silver clay, which fires at approximately 1200 degrees Fahrenheit, presents potential compatibility with low-fire ceramic processes. The end result of the research involves the production of a series of experimental objects using a range of construction techniques. These methods include pre- and post-firing attachment of silver clay to ceramic forms, as well as embedding silver clay into ceramic structures. Additional experimentation will incorporate

ceramic glaze elements as gem-like components within silver clay designs. Differences in shrinkage rates and firing behaviors will significantly impact structural integrity and attachment success. This research aims to identify effective techniques for achieving durability and visual cohesion between materials. The result of this project will be a number of hybrid objects alongside a clearer understanding of best practices for combining silver clay and ceramics. These findings will directly inform future studio work and contribute to ongoing exploration of ornamentation within functional design.

S is for Sertraline: Illustrating Mental Health and Resilience

Caroline Cho, Graphic Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

"S is for Sertraline" is an illustrated picture book for adults that uses the traditional ABC-book format to explore themes of mental health, resilience, and self-acceptance. Through 26 original watercolor illustrations, one for each letter of the alphabet, the work pairs visually engaging and emotive imagery with difficult concepts, offering a candid and compassionate reflection on the lived experience of overcoming mental health challenges, and navigating the journey of life. This project seeks to normalize conversations around topics often stigmatized or understated. The familiar structure of an alphabet book contrasts with the depth of the subject matter, creating an accessible entry point for readers while honoring the complexity of emotional struggles. Ultimately, this work aims to foster a sense of connection, validation, and hope, encouraging a broader cultural understanding of mental health and the resilience required to move through it.

Can Acute Stress Reactivity Predict Long-Term Weight Gain?

Carl Christensen, Psychology
Faculty mentor: Naomi McKay, Psychology

Previous studies have shown that population stress increases calorie intake, resulting in a shift in food preferences that are high in fat and carbohydrates, which in turn contributes to weight gain. However, studies have yet to establish whether stress reactivity during an acute stressor is a predictor of future weight gain. The hypothesis of the current study is to see if people documented with higher levels of stress reactivity gain more weight over a three-year period. Previous participants of the McKay lab were put through an acute stressor and had all agreed to be contacted 3 years later. Last semester, I began a four-semester project where I contacted participants who had previously been participants in the McKay lab to determine if stress reactivity can predict 3-year weight gain. It is anticipated that those with previously recorded higher levels of stress reactivity have gained more weight than those who had previously recorded lower levels of stress reactivity. The total number of last semester's and this semester's research has given us 14 valid data points. I plan to present the current data and will continue to collect more data throughout the next two semesters to increase our sample size.

The Effects of Adolescent Fertility Policies and Healthcare Expenditure on Teen Pregnancy Rates

Melanie Clift, Political Science
Faculty mentor: Mehwish Sarwari, Government, Planning & Philosophy

Are policies that address teen pregnancy effective in reducing teen pregnancy rates? Existing literature suggests that a variety of factors that influence teen pregnancy, including economic capacity, education, and regime type. This study focuses on the impact of policies focusing on teen pregnancy on healthcare expenditure and teen pregnancy rates. I put forth the argument that if a country adopts policies to address adolescent fertility rates, this will lead to more resources invested in healthcare industries and result in a decline in teen pregnancy rates. Focusing on all countries during the 2017-2024 time period, statistical results show that countries that have adopted a policy focusing on the issue of teen pregnancy are more likely to spend more on their healthcare system and exhibit lower teen pregnancy rates after policy adoption. These findings suggest that if government intervention is present, national policies can decrease teen pregnancy rates.

Hostile Architecture: Weaponizing Everyday Objects and Designs Against the Unhoused

Troy Cloutier, Social Work
Faculty mentor: Amy Manning, Social Work

Hostile architecture, also known as exclusionary design, is the implementation of objects and designs with the purpose of pushing unhoused individuals from public spaces by both municipal and corporate entities. The impacts of these designs are widespread and experienced by individuals across multiple social classes. A 2021 study by the University of Chicago estimated that nearly 40% of unsheltered individuals were employed either full or part time, meaning that at any given time, hundreds of our coworkers and community members here in Buffalo, NY could be leaving work and not going home or even to a shelter, but to the street. In turn, these exclusionary designs are not only impacting the lower and poverty-stricken class of our society, but the working class as well, forcing our coworkers to live double lives; one serving our capitalist system from nine to five, and the other life pushed out of sight by that same system once the workday ends. Corporations, the largest recipients of welfare in the U.S., along with local municipalities and their budget deficits, manage to find the time and funds to actively exclude valid members of our society through anti-sleep seating designs, unpleasant lighting, sound machines, and mass surveillance technology.

LUCKY YOU: Grief In Practice

Emily Constantin Art & Design, Art & Design
Faculty mentor: Robert Wood, Art & Design

“Grief in Practice” is a ceramic-based research and exhibition project that investigates how material process and immersive installation can communicate and support the experience of

grief. Recognizing that grief manifests across a wide spectrum—from personal loss to broader forms of instability—this project explores whether an embodied, spatial art environment can function as a communal framework for reflection and emotional processing. Through the transformation of familiar everyday objects into altered ceramic forms, the work examines how recognition shifts when translated into clay. Techniques such as casting, distortion, cracking, and varied firing processes are used to embed emotional tension directly into the material, allowing clay to record states of pressure, collapse, and reconstruction. Rather than relying on literal representation, the project centers process as a means of conveying complex psychological experiences. The resulting works will be presented within an immersive installation where spatial arrangement, lighting, and scale shape viewer perception and engagement. Audience responses will be gathered through comments to evaluate how effectively the work fosters emotional connection and reflection. By integrating material experimentation with viewer interaction, “Grief in Practice” contributes to contemporary ceramics by positioning process as both a conceptual and experiential tool for exploring grief, resilience, and shared human experience.

Cyber Breach Database: Searchable Repository of Major Cyber Security Incidents

Noble Corp, Computer Information Systems
Faculty mentor: Sarbani Banerjee, Computer Information Systems

Cybersecurity breaches impact organizations across nearly every industry; these often result in financial loss, operational disruption, regulatory consequences, and long-term reputational damage. While high-profile incidents receive mass media attention, many breaches occur through reoccurring and preventable attack vectors such as credential compromise, unpatched software vulnerabilities, third-party access, cloud misconfigurations, and inadequate access controls. Understanding how these breaches occur and how organizations respond to them is essential for improving both technical defenses and organizational security practices. This project presents a web-based database of major publicly reported cybersecurity breaches. The website organizes breach data in a structured JSON dataset and dynamically shows the information through a searchable and filterable interface. Users can explore incidents by company, year, industry, and attack vector, allowing for pattern recognition across multiple cases. Each breach is presented as an individual case study containing a concise summary, identified method of compromise, documented remediation actions, and citations to publicly available sources included directly within the breach page. Also, the system includes a submission feature that allows users to suggest new breaches supported by credible sources, encouraging transparency and future dataset expansion. By connecting attack vectors with documented remediation strategies, the project highlights common security failures while emphasizing the importance of layered defense, patch management, access control, monitoring, and incident response planning. Technically, the system demonstrates how structured data and querying can support a meaningful analysis without requiring a backend database. Overall, the website functions as both an educational resource and a practical demonstration of organized, data-driven cybersecurity research.

Scanning the Shadows

Ronald Cox, Computer Information Systems
Faculty mentor: Sarbani Banerjee, Computer Information Systems; Charles Arbutina, Computer Information Systems

Web applications are frequent targets for cyberattacks because they are publicly accessible and process large amounts of user generated data, creating opportunities for attackers to exploit weaknesses such as SQL Injection, Cross Site Scripting (XSS), and authentication flaws, which makes reliable security testing essential. Web Application Vulnerability Scanners support this need by automatically probing applications from an attacker's perspective to identify known vulnerabilities, misconfigurations, outdated components, and missing security controls, and their speed and repeatability make them especially useful in modern development environments where continuous testing is part of the Secure Software Development Life Cycle (SDLC). Research shows that these scanners are effective at detecting common, signature-based issues, including insecure server configurations and outdated libraries, but they struggle with complex business logic flaws, multi-step workflows, and context dependent authorization rules that require human understanding of how an application is intended to function. They may also miss advanced authentication weaknesses or custom access control problems, and their results often include false positives or false negatives that require manual review. Overall, automated vulnerability scanning is a valuable component of a comprehensive security strategy, but it is most effective when combined with secure coding practices, manual penetration testing, threat modeling, and continuous monitoring to ensure that both technical vulnerabilities and deeper logic issues are addressed throughout the development lifecycle.

Automatic Cultivation System of Low PH Mycelium Through Liquid Culture

Brian Crouse, Mechanical Engineering Technology; Emily Lauber, Electrical Engineering Technology
Faculty mentor: Saquib Ahmed, Engineering Technology

This project investigates how automated pH control can improve consistency in liquid culture mycelium cultivation. Mycelium, the vegetative structure of fungi, is widely used in sustainable materials and biotechnology, but maintaining stable growth conditions, especially pH, remains a major challenge in liquid systems. Fluctuations in pH can impact growth rate, nutrient uptake, and contamination risk. To address this, a scaled-down automated prototype was developed using a microcontroller programmed through Arduino IDE. The system integrates a pH probe to continuously monitor acidity and uses programmed logic to trigger system responses based on pH thresholds and timing. The automation controls fluid movement and mixing through synchronized motors, while calibration of the pH sensor ensures accurate feedback for regulation. Preliminary testing compares manually maintained cultures with the automated system by tracking pH stability over time. Initial observations show that automated monitoring reduces fluctuations and maintains a more consistent acidic environment. These results suggest that even a simplified, low-cost system can improve control in liquid culture processes. This project provides a foundation for expanding automation in biological systems. This work will be presented through a prototype demonstration, system design explanation, and analysis of experimental data.

Rise of Wine in New York (1890-1930)

DeAngelo D'Aloise, Social Studies Education 7-12
Faculty mentor: Kenneth Orosz, History & Social Studies Education

This paper looks at how the wine industry in New York grew between the years of 1890 and 1930, with a focus on the Finger Lakes region. The paper argues that this growth was not caused by one factor, but a combination of agricultural improvements and the rising demand for wine. These changes helped make wine an important part of New York's agricultural identity. Using sources like agricultural repots, government documents, and historical archives, as well with secondary research, this study shows how grape cultivation developed over time. It will also show how pests and disease affected vineyards, and how immigrant traditions influenced winemaking. The paper will also look at the impact of Prohibition and how wineries found ways to survive during that period. Even though Prohibition created major problems, most of the wineries were able to adapt and continue their usual operation in different ways. Overall, this paper shows how economic, regional, and agricultural factors all played a key role in shaping the wine industry in New York during the early twentieth century.

Che's Influence on Fashion Through Time: From Revolution to Modern style

Noah De, Fashion, Textile & Technology
Faculty mentor: Bridget Chesterton, History & Social Studies Education

My SRCC project will be presented in a poster book format that displays the relationship between Che Guevara's political legacy and influence on fashion culture over time. The book will be chronologically ordered, with each page delving deeper into his influence, while contributing to a much larger picture. The opening pages with introduce his political history and formation of his public image. As you get farther into the book, the focus starts shifting to how his identity transformed him into a global symbol. Each page highlighting different fashion subcultures and communities, such as protest groups, streetwear culture, movements and more. The visual aspect of the presentation will evolve and change dependent on the timeline and mirror shifts in cultural meaning and interpretation. The final pages will emphasize and represent how his image has been globally reproduced and reinterpreted, often detached from his original origins and political meaning. Often being connected to rebellion and protest. But overall the poster will educate many on his influence throughout the years.

You Deserve Better

Cyd Dickson, Social Work
Faculty mentor: Amy Manning, Social Work

Something that is important to be aware of is that Buffalo has been listed one of the top poorest cities in the United States in 2025 with the poverty rate being 27.4% (73,660 out of 200,000 total residents are living in poverty). The cost of groceries also increase as SNAP

(Supplemental Nutrition Assistance Program) restrictions on what can be bought are being enforced and there are many people experiencing food insecurity (This traces back to poverty).. Some sources used to obtain data and information are/will be from reports, journal articles, polling, and actually going out into the community to gather data on the quality of resources using images and sheets. For my social media poll, I will ask people about their experiences with all local services as well as if they feel that the quality of the services they receive trace back to poverty. The poll will also ask about their experiences with food insecurity, grocery prices, food quality and more. I expect to find evidence of poor quality food. I also expect to find information on what homeless shelter conditions in Buffalo New York are like and collect data on ratings of public service based on experiences. I expect to collect sufficient data that links poverty and quality of resources. In sharing my poster project, I'm raising community awareness on the fact poverty and its impact and vice versa on the quality of services' relationship is not a personal issue, but it reaches entire communities. I'm willing to engage in conversations about my findings, impact, and listen.

Structure–Activity Guided Discovery of Pyrazine–Pyrrolidine Antimicrobials

Jennifer Eweka, Chemistry
Faculty mentor: Sujit Suwal, Chemistry; Olga Novikova, Biology

Heterocycles are privileged structural motifs in medicinal chemistry and are frequently found in FDA-approved drugs as well as biologically active natural products. Among these, pyridine and pyrazine derivatives have emerged as versatile scaffolds for drug discovery due to their structural rigidity and their capacity to engage in diverse molecular interactions. In this study, we developed a synthetic strategy to construct a structurally diverse library of pyrazine–pyrrolidine heterocyclic compounds for evaluation as potential antimicrobial agents. Our synthetic approach employs Buchwald–Hartwig amination of pyrazine-derived halo esters with chiral N-Boc–protected pyrrolidine derivatives using PEPPSI-IPr as the catalyst and cesium carbonate as the base. This step is followed by regioselective halogenation with N-chlorosuccinimide and subsequent Suzuki–Miyaura cross-coupling with various boronic acids. This three-step sequence enables the rapid generation of structurally diverse analogs and facilitates systematic exploration of structure–activity relationships within the scaffold. Preliminary biological evaluation of selected pyrazine–pyrrolidine analogs revealed promising antimicrobial activity against both Gram-positive and Gram-negative bacterial strains, with minimum inhibitory concentrations (MICs) ranging from 20 to 60 μg/mL. Ongoing efforts are focused on expanding the compound library to over 100 analogs and evaluating their activity against a broader panel of bacterial and fungal pathogens, including multidrug-resistant strains. Overall, this work expands accessible chemical space through the development of novel heterocyclic scaffolds and contributes new lead candidates to the antimicrobial drug discovery pipeline.

Exercise and Stress: The Effect Exercise Has on Cortisol

Juliette Falzone, Psychology
Faculty mentor: Naomi McKay, Psychology

Previous literature has shown that the Trier Social Stress Test (TSST; a mock job interview) is a reliable tool for elevating cortisol. When examining the effect of exercise on cortisol, several studies have found that cortisol increases immediately post-exercise, but then reduces. Since much of the previous literature focuses on either exercise or stress independent of one another, it is important to explore how both exercise and stress work together to affect cortisol. The hypothesis of the current study is that exercise alone will briefly increase cortisol, but together with stress will decrease the cortisol caused by stress. Some participants came into the lab and engaged in a fifteen-minute exercise video, followed by participating in the TSST; while others engaged in a control video rather than exercise. Throughout their visit, participants also gave saliva samples to measure cortisol levels. Participant visits are ongoing, but it is expected that engaging in exercise before stress will reduce cortisol levels later on. Since previous literature focuses on exercise and stress individually, it is therefore important to look at how the two may work together to affect cortisol.

Congolese Dandyism as Social Resistance: From La SAPE to Contemporary Designers

Brooklynn Fitzgerald, Fashion, Textile & Technology; Sofika Hudak, Fashion, Textile & Technology; Jaylene Perez, Fashion, Textile & Technology; Melanie Morales, Fashion, Textile & Technology
Faculty mentor: Arlesa Shephard, Fashion & Textile Technology

Congolese dandyism, expressed through the culture of La SAPE, is more than a fashion movement; it's a form of social resistance. Defined by refined tailoring, bold colors, and curated presentation, the sapeur aesthetic allows individuals to reclaim dignity, identity, and visibility within societies shaped by colonial histories and economic inequality. Research shows that for many sapeurs, dressing elegantly is an act of resistance–transforming fashion into a social resistance movement. This tradition of resistance through Dandyism continues in contemporary fashion through designers who reinterpret its visual language. Christopher John Rogers' vibrant colors and dramatic silhouettes reflect the confidence associated with Dandyism. Edvin Thompson blends Jamaican cultural references with refined tailoring and expressive styling, emphasizing identity through clothing. Wale Oyejide's brand Ikire Jones combines West African storytelling with European tailoring, expanding narratives surrounding Black luxury and heritage. Likewise, Harlem designer Dapper Dan used hip-hop fashion and customized luxury garments to challenge exclusivity in the fashion industry, using style as a form of cultural resistance. Although these designers are not members of La SAPE, their work reflects its core philosophy: fashion as a tool of empowerment and social resistance. They use Dandyism to express pride in Black culture within a fashion world that historically excluded them. Blending Western tailoring with African diasporic aesthetics extends Congolese Dandyism's legacy, showing how fashion continues as an act of resistance. Through research collected from articles, historical sources, and videos, this study highlights

how Congolese Dandyism influences contemporary fashion, cultural identity, and social resistance.

Housing Instability and Homelessness in Buffalo NY

Maleah Frain, Social Work
Faculty mentor: Amy Manning, Social Work

This project focuses on homelessness and housing instability in Buffalo and dives into factors that contribute to unstable housing in this area. By using local data, research and what I have learned through school and experience, I zoom in and explore issues like rising rent costs, lack of affordable housing available, mental health and substance use, and barriers people face when trying to obtain support and have access to resources. I investigate how these challenges impact different populations, especially people with low income and those already dealing with other life stressors. I aim to show in my presentation what homelessness looks like in Buffalo, go over the main causes and look at some ways we as a community can give back. Some approaches that are shown to help, like Housing First and more supportive services. I would like to give the social work perspective by talking about the importance of advocacy and understanding these situations without judgement. This project is to bring awareness to housing instability in our community and to show that real compassionate changes need to be made.

Social Media and Emotion Regulation

Jada Francis, Applied Psychology; Bridgette Johnson, Psychology; Aurora Trinkwalder, Psychology
Faculty mentor: Kimberly Kamper-DeMarco, Psychology

Emotional regulation is defined as the processes individuals use to manage and respond to their emotional experiences in appropriate and adaptive ways. Social media platforms, more specifically TikTok, have algorithms that display curated content and personalized advertisements that trigger emotions and influence impulsive spending habits. However, even with increased concern regarding the impact of online marketing and advertising, not much research has examined how people's social media usage affects their consumer behavior. The objective of this qualitative study is to examine the relationship between college-aged students' emotional regulation and their consumer behavior because of their social media use. Using surveys, participants will complete questionnaires evaluating their emotional regulation strategies, their type of social media usage (active or passive), and their frequency. The data will be analyzed using correlation and regression analyses to discover how strongly these factors are related and if they can predict consumer behaviors. This study hopes to better understand the psychological processes behind online consumer behavior and purchase intentions. The findings are meant to support emotional regulation skills, encourage more mindful use of social media, and reduce unhealthy impulse spending patterns online.

The Relationship between Helicopter Parenting and NEET: A Cultural Comparison

Molly Frothingham, Psychology
Faculty mentor: Jill Norvilitis, Psychology

We investigated the relationship between helicopter parenting, rates of NEET-proneness, and self-efficacy in the United States and China. Greater helicopter parenting was associated with greater NEET-proneness. Notably, students from China were more likely to move home to provide mutual help whilst students from the United States were more likely to move home to be supported financially. Self-efficacy and NEET-proneness were negatively correlated. Outcomes indicate further investigation of cultural factors impacting motives for moving back home.

The Affordability of Housing Crisis in Buffalo

Sarafina Girukwishaka, Social Work
Faculty mentor: Amy Manning, Social Work

Affordable housing is an issue that has been on the increase among most communities in the United States including Buffalo in New York. The project will examine the intersection of poverty and housing affordability in Buffalo through national studies and the local community data. According to research on housing, the increase in the cost of housing and the rise in the cost of wages have resulted in a financial burden on the low-income households in the entire country. According to local reports and news, numerous Buffalo residents cannot afford to have safe and stable housing as rent prices are rising and affordable housing is scarce. A survey of ten people was held to help gain a clearer picture of how people across the nation were aware of the topic of housing affordability in the city of Buffalo. The findings indicate that majority of the participants feel that affordable housing is a local issue which is serious. The purpose of this poster is to create housing awareness as well as to emphasize community resources that can be used by residents with housing issues.

Seeking Solitude: Creating an App for Anxiety Relief

Rebecca Hanson-Czerny, Art & Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

Seeking Solitude is a semester-long project that focuses on the creation of a mobile application designed with the purpose of providing users with tools for promoting calm and grounded self-reflection, while reducing anxiety through an entertaining mobile mini-game format. Different methods used in anxiety reduction were researched - including reading articles about the 3-3-3 Rule commonly used in panic attacks, as well as studies examining the neurological effects of color on mood and emotional regulation. In addition to this, research into mobile app design was conducted in order to provide a pleasing and easy user experience. The app was developed using the open-source Godot Game Engine, with visual assets created through Blender, Illustrator, and After Effects. Sound design incorporated royalty-free assets sourced from the websites Splice and Pixabay, alongside original audio

recordings created specifically for the project. This project investigates the elements of calm and how they can be translated into an interactive digital experience that addresses a user need. The work explores the broader role of graphic design as a tool for positive impact, demonstrating how visual design can provide entertainment while delving deeper to assist users with a problem they may have in everyday life. Seeking Solitude illustrates how a mobile app can function as both an engaging experience and a purposeful, human-centered work of design that brings together technology, art, and care.

Reconnecting the Belle Center: Strategies for Alumni Engagement through Social Media

Anthony Iacuzzo, Communication; Mike Atti, Public Relations and Advertising; Evan VanWyk, Public Relations and Advertising; Chris Boadi, Media Production; Adrian Anderson, Communication Studies
Faculty mentor: Ann Liao, Communication

This poster will present our group's project on how The Belle Center can reconnect with alumni who previously participated in its programs for its 50th Anniversary. Over time, many past participants lose contact, which makes it harder to maintain relationships and continue building a strong community. Our group focused on finding better ways to reach those individuals again. We looked at the Belle Center's current outreach efforts and compared different communication strategies, especially social media platforms like Facebook and TikTok. We also considered how different age groups use these platforms and how that impacts engagement. Our findings show that social media is one of the most effective ways to reconnect, with TikTok offering a wider reach across multiple age groups, while Facebook is more effective for older audiences. This poster will highlight our research process, key findings, and recommended strategies for improving alumni outreach and engagement moving forward.

The Empire State Grow-Down: Ranking Major NYS Cities by Local Produce Variety

Abijah O.J.C. Johnson, Environmental Geography
Faculty mentor: Tao Tang, Geosciences

The Empire State Grow-Down maps the diversity of locally grown agricultural products near major cities in New York State. Rather than focusing on total production, it highlights variety, identifying which regions offer the broadest range of crops.
Using ArcGIS, agricultural datasets are analyzed to map crop types and their distribution around each city. Buffer zones capture surrounding farmland, and overlay tools allow direct comparison of crop diversity across urban regions. The analysis produces a ranking of cities based on local produce variety, revealing which areas provide the most diverse food options. By examining these patterns, the study shows how climate, soil, and market access influence local agriculture. The findings offer practical insights for policymakers, community organizers, and farmers seeking to support resilient, sustainable food systems. This project provides a clear, spatial perspective on agricultural diversity and highlights New York cities with the greatest potential for producing a wide array of local crops.

Issue Salience and Conflict Resolution

Isabella Kilmer, Political Science
Faculty mentor: A.K. Shauku, Government, Planning & Philosophy; Mehwish Sarwari, Government, Planning & Philosophy

Intercircuit conflict—instances of disagreement among federal appellate courts about the appropriate application of federal law—creates regional differences in the application of federal law. Despite significant research on the causes and consequences of intercircuit conflict, surprisingly little research has been done on the life cycle of intercircuit conflicts and what factors make resolution of conflict more likely. Recent studies suggest that most conflicts persist for many years, and some scholars have suggested that the political salience of a legal issue makes the Supreme Court more likely to resolve a conflict among the circuit courts. The present study develops a measure of salience and uses a hazard model to determine whether salience tends to speed up conflict resolution.

The Tie Between Gambling and Social Circles

Robert Lampka, Communication Studies
Faculty mentor: Ann Liao, Communication

This research project examines how dynamics within social groups influence individuals' gambling behaviors and explores factors such as social reinforcement. Drawing on social cognitive theory, this study demonstrates how individuals within friend groups and on social media may negatively influence gambling habits through normalization, competition, and the desire for social inclusion. The project focuses on the influence of social media on gambling behaviors, particularly among college students. Surveys will be conducted to identify factors that increase individuals' likelihood of gambling. The surveys also examine how social media has influenced gambling behaviors since COVID-19. The findings aim to highlight problematic marketing practices targeting college-aged individuals.

From Tradition to Trend: South Asian Fashion in Global Context

Kai'sa Le, Fashion, Textile & Technology; Marta Navarro Palacios, Fashion, Textile & Technology; Katelyn Tappin, Fashion, Textile & Technology
Faculty mentor: Arlesa Shephard, Fashion & Textile Technology

This research examines how South Asian fashion is evolving beyond its traditional association with bridal wear, highlighting how designers and textile traditions incorporate embroidery, symbolism, and craftsmanship into everyday, professional, and creative attire. Contemporary designers are adapting these cultural elements to resonate with modern lifestyles and global audiences. To explore this shift, we studied designers such as Masaba Gupta and Gaurav Gupta alongside traditional textiles including Banarasi silk, Kanjeevaram silk, and Brocade. These designers reinterpret heritage techniques through bold prints, sculptural silhouettes, and modern styling while maintaining strong cultural influences.

Brands that once created garments primarily for local or ceremonial contexts are now amplifying South Asian culture within a global fashion system historically dominated by Euro-centric designs. Our literature review drew on academic sources, fashion articles, and designer websites to analyze how traditional South Asian elements are incorporated into contemporary collections. By examining designers and textiles together, we traced how cultural heritage communicates identity, bridges tradition with innovation, and adapts to global trends. Our findings reveal that South Asian fashion is both versatile and influential. Traditional techniques, once confined to local or ceremonial use, are now embraced internationally, shaping mainstream fashion trends. This research demonstrates that heritage craftsmanship can coexist with contemporary innovation, emphasizing the growing role of culturally rooted design in a global fashion landscape that increasingly values diversity, creativity, and cultural identity.

Exploring the Optical Properties of Bi2Se3 Thin Films Deposited by RF Sputtering

YeKit Vernon Lee, Physics; Kevin Ochoa, Physics; Mechanical Engineering; Brian Crouse, Physics; Mechanical Engineering
Faculty mentor: Ram Rai, Physics

Bismuth selenide (Bi2Se3) crystallizes in a rhombohedral structure and is classified as a topological insulator, which is fundamentally different from a conventional insulator. While standard insulators do not conduct electricity well, topological insulators can conduct electricity on their surfaces, a property that is protected by their unique topological characteristics. We deposited Bi2Se3 thin films on single-crystal c-axis sapphire substrates using radio-frequency magnetron sputtering. The growth conditions, such as the substrate temperature, argon gas flow, and sputtering power, were optimized for the quality of single-crystal thin films. X-ray diffraction primarily indicated a c-plane orientation of Bi2Se3 on the substrate, with a minor proportion of other planes. The thickness of the deposited Bi2Se3 thin film was estimated to be under 100 nm, which is ideal for optical measurements. A UV-VIS-NIR spectrophotometer was utilized to measure the reflectance and transmittance of the Bi2Se3 thin film at room temperature. The energy band gap of Bi2Se3 was determined to be approximately 0.4 eV from the absorption coefficient spectrum of the sample, calculated from both reflectance and transmittance data. The existence of a band gap indicates that bismuth selenide is an insulator.

Planting the Seeds to Marketing

AnneMarie Link, Communication Studies; Lenya Harper, Media Production; Anastasia tenPas, Journalism
Faculty mentor: Ann Liao, Communication

This project focuses on improving the social media presence and overall customer engagement of Pure Roots, a clean-eating cafe and plant shop located in Hamburg, New York. Pure Roots emphasizes wellness, whole foods, and community connection, but has opportunities to expand its reach through more consistent and strategic online marketing. To address this, our group developed a communication-based plan centered on social media content, branding, and the promotion of in-house products and events. Our approach

includes creating consistent Instagram and Facebook posts, developing captions and visual content, promoting community events such as run club and special event nights, and expanding content to platforms like TikTok. The goal of these strategies is to increase customer awareness, highlight the cafe's unique clean-eating focus, and attract more people into the business. This project demonstrates how effective communication and marketing strategies can strengthen a small business's presence and deepen its connection with the local community.

Understanding Student Perceptions of Child Maltreatment and Its Impact

Meica Luzaire, Applied Psychology; Shailee Thakar, Applied psychology
Faculty mentor: Pamela Schuetze-Pizarro, Psychology

Child maltreatment is a widespread issue that affects many children and can have lasting effects on their development and overall well-being. Harmful experiences during childhood, such as physical harm, emotional mistreatment, or lack of proper care, are linked to difficulties in mental health, school performance, and forming healthy relationships later in life. Because of these long-term outcomes, it is important for students, especially those who may work in fields like psychology, education, or social work to better understand both the impact of these experiences and how people respond to them. Emotional responses to learning about these topics can vary, with some individuals feeling strong compassion and concern, while others may feel overwhelmed or emotionally distant. These reactions can influence how likely someone is to step in, offer support, or take action when they suspect a child may be in harm. The purpose of this project is to design a survey to explore college students' views on the long-term effects of child maltreatment and to examine their emotional and empathetic responses to different situations involving children. To do this, we had created a survey using Qualtrics, including questions that asked participants to rate the seriousness of different forms of maltreatment and their emotional reactions, such as empathy, distress, and willingness to help. This study aims to better understand how students think and feel about this issue and how prepared they may be to respond in real-life situations.

Transforming Bacteria Into Natural Pigments

Grace Maldonado, Fashion, Textile & Technology
Faculty mentor: Olga Novikova, Biology

The textile industry's reliance on petroleum-derived synthetic dyes contributes to significant environmental challenges, including toxic wastewater discharge and high energy consumption. In contrast, microbial pigments are renewable, biodegradable, and produced through natural metabolic processes, offering a more environmentally friendly approach to coloration. Despite these advantages, the application of microbial pigments in practical textile contexts remains limited. This project aims to address this gap by evaluating the feasibility of using microbial pigments as dyes for a range of materials. Our research involves optimizing microbial growth conditions to maximize pigment yield and intensity by varying media composition, temperature, and incubation time. The pigments are then extracted and purified using solvent-based methods, followed by spectrophotometric analysis to assess their yield

and stability. Finally, the pigments are applied to diverse substrates, including natural fibers (cotton and wool), cellulose-based materials, algae-derived bio-yarns, and selected synthetic fabrics. Dye performance is evaluated based on color vibrancy, binding efficiency, wash fastness, and light stability. By combining scientific analysis with material experimentation, this study aims to determine the practical viability of microbial pigments for sustainable textile design.

The Grossest Coloring Book to Ever Exist—The Intersection Between the Calm and Repulsive

Aubs Marohn, Art & Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

"The Grossest Coloring Book to Ever Exist" is a 6x9 book filled with 26 original illustrations that create a visual universe full of uncanny creatures, organic imagery, and exaggerated textures. The book is targeted towards countercultural adults of all ages. My book pushes the idea of what we consider calming and grounding. Through this coloring book users get in touch with their juvenile side, bringing lightheartedness to concepts we find repulsive. Tapping into the gross-out humor of our youth that was once a rite of passage. The task of coloring also puts them in the driver's seat, giving users choice, which allows them to feel more involved in the creation process. It gives mutual collaboration to the artistic process and fosters engagement.

Observing the Coastal Changes of Woodlawn Beach State Park Over 100 Years Using Aerial Imagery

Emily Meidel, Earth Sciences; Andrew Monteforte, Geology; Mikayla James, Computer Information Systems; Gavin Clayton, Geology
Faculty mentor: Kevin Williams, Geosciences

The coastal change of Lake Erie has been a topic of interest for hazard prevention (on the coast). With a trend of both record breaking lake levels in Lake Erie as well as massive snowfalls and intense lake effect activity, Hamburg, particularly Woodlawn Beach State Park, has become a target to study shoreline erosion. With that, comparing the coastlines from the past 100 years to now is necessary to determine how much of the coastline has been lost or gained. Aerial imagery has been collected since the 1920s and has been regularly updated since. Using the DEM data collected, ten measurements in ArcGIS Pro will be used to calculate area differences between the coastlines over the century. In ArcGIS Pro, there is a ruler tool which was used to gather measurements for coastline comparison. Using a physical mosaic and overlay of a modern digital photograph, we can measure the erosion versus deposition on the shoreline. From analyzing these DEMs, there have been trends of both recession and advancement of the shoreline over time, though this may also be due to the gaps in the timeline of the imagery, weather fluctuations, conditions, and natural causes.

Two-Faced Media: How the LGBTQ+ Community is Used for Profit

Gwyneth Millar, Media Production
Faculty mentor: Ann Liao, Communication

Media companies have been exploiting the LGBTQ+ community for as long as it has been legal for them to get married. This paper explores the concept of “double dipping,” as explained by Annamarie Forestiere in her article, “Buying Pride: An Analysis of Corporate ‘Double Dipping’ in LGBTQ+ Equality.” Double dipping is the process by which corporations make money at the expense of the LGBTQ+ community in two ways: by donating to politicians who prioritize corporate interests but also seek to oppress LGBTQ+ people, and by gaining queer customers and employees by putting out an LGBTQ+ friendly brand image. On top of that, they can avoid being questioned about these donations to shady politicians, as they are seen as a business move rather than a reflection of the brand itself. The theoretical framework that will be used to analyze this paper is conflict theory, in which the wealthy and powerful try to hold onto what they have, however possible, usually by suppressing the poor and powerless. This paper will explore whether it is ethical for corporations to participate in double dipping. Additionally, it will examine how the political atmosphere shapes how companies advertise to the community. These questions, along with others, will be addressed through a survey distributed to a wide range of LGBTQ+ people.

How Environment Shapes Gorilla Activity: Wild vs. Captivity

Joshalynn Miller, Anthropology
Faculty mentor: Julie Wieczkowski, Anthropology

Wild western lowland gorillas (Gorilla gorilla gorilla) spend most of their time feeding and very little time in social behaviors. I hypothesized that gorillas at the Buffalo Zoo would spend the majority of their time feeding and resting. I hypothesized that zoo gorillas would spend more time socializing than wild gorillas because of the recent introduction of a silverback male to the two adult females. I also hypothesized that the females being half-sisters, would interact more with each other than with the new silverback. I conducted group scans to calculate activity budgets and all-occurrence samples to record social interactions. Twenty-four group scans and 16 all-occurrence samples were collected July 16-25, 2025. Captive gorillas spent most of their time inactive or resting (54.5%), higher than wild gorillas (0,Äì21%). Captive gorillas spent less time feeding (36.2% vs. 67.7-72%) and more time socializing (4.3% vs. 0.5%). Approaches were the most common social interaction within the focal group, suggesting kinship influences interactions, but the new silverback introduction also increased social engagement. Overall, captive gorillas spent more time resting than feeding or interacting.

Sword Bird

Eric Monin, Art & Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

"Sword Bird" is a short video game which challenges the conventions of what is considered quality control in a video game. Developed over the brief period of about a month, with much of that time taken by other obligations, it has also come to reflect a necessary ability for a graphic designer. To swiftly learn new methods or mediums and apply them to a project successfully under tight limitations of time. As a small bird carrying a hefty sword, the protagonist of the game struggles to progress. The bird can hardly fly and to swing the sword requires an unwieldy motion that carries its body far. With each instance of clearing an obstacle, such as crossing a gap or defeating an enemy, the expectations of a video game player used to these standard concepts will be found to be betrayed by the unusual control scheme. Blender and Adobe Illustrator were utilized to produce graphics for the game programmed with the software Godot. The cartoon visuals and level design are choices that though original, also intend to pay homage to the primary inspirations of “Sword Bird”: "Super Mario Bros.", "Kirby's Dreamland", and "Getting Over It with Bennett Foddy." To launch as a product, much of the period of Sword Bird’s development was dedicated to preparing advertising, the store page for its launch on the website Itch.io, and to physical merchandise for an in-person launch event and demo exhibition. Demonstrating a balance of many duties that is needed for a graphic designer.

Beyond Ever After: Stephen Sondheim's Into the Woods

Adrian Morales, Music Education
Faculty mentor: Carolyn Guzski, Music

Stephen Sondheim (1930-2021) revolutionized musical theatre through works that blend sophisticated musical techniques with complex cultural themes. His Broadway musical Into the Woods (1987) draws on fairy-tale narratives from the legendary Brothers Grimm, Jacob (1785-1863) and Wilhelm (1786-1859), exploring what happens after characters' wishes are granted and challenging traditional ideas of morality and consequence. By intertwining characters from familiar fairy tales, Sondheim constructs a narrative that initially promises a conventional fairy-tale resolution but ultimately questions the stability of the "happy ending." This project focuses on the ensemble number "Your Fault" as an example of Sondheim's ability to musically convey conflict and emotional tension between characters. The song features rapid patter singing, overlapping vocal lines, and tightly interlocking rhythmic patterns that create a sense of urgency and escalating conflict. Rather than presenting a clear melodic hierarchy, the texture becomes increasingly dense as characters interrupt and contradict one another. This complex contrapuntal writing reflects the dramatic situation, as each character attempts to shift responsibility for the group's crisis onto someone else before ultimately placing blame on the Witch. These rapid harmonic changes reinforce the chaotic atmosphere and heighten the accusatory tone of the lyrics. The resulting musical density reflects the breakdown of unity among the characters, transforming the ensemble into a sonic representation of argument and confusion. Through the compositional design of "Your Fault," Sondheim demonstrates how musical theatre can communicate complex social ideas. By

aligning musical texture with dramatic conflict, the number becomes a powerful exploration of blame, accountability, and the consequences of shared decisions.

IT Ticketing System for a Church

Luis Da Costa Mukuku, Computer Information Systems
Faculty mentor: Sarbani Banerjee, Computer Information Systems

Enhancing church ticketing systems with stronger security features has become increasingly important due to recent incidents in public gathering spaces. Mass violence in communal settings underscores the need for effective safety measures that protect attendees and minimize disruptions during services. Churches are places meant to foster peace, fellowship, and spiritual growth, but maintaining safety within these open and welcoming environments can present challenges. As congregations grow and events attract larger crowds, churches must consider new strategies that allow them to manage attendance while maintaining their welcoming nature. By integrating digital ticketing systems, controlled access points, and real-time monitoring tools, churches can improve crowd management, limit unauthorized entry, and create a safer environment for worshippers. Digital ticketing allows administrators to track attendance, manage seating capacity, and organize entry procedures more efficiently. Controlled access points help ensure that only registered attendees can enter specific areas during services or events, reducing the risk of disruptions. In addition, real-time monitoring can assist staff and volunteers in quickly identifying and responding to potential safety concerns. This study explores how churches can strategically adopt technology to strengthen safety while preserving a warm and welcoming atmosphere. Python, Visual Studio Code, Google Forms, and SQL will support development, feedback collection, and secure data management.

A Review on Atypical Antipsychotics as Treatments for the Externalizing Behaviors of Autism

Abigail Murphy, Psychological Science
Faculty mentor: Jean DiPirro, Psychology

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that affects social communication, and those with the disorder display restricted and repetitive behaviors. Externalizing behaviors typically associated with autism are hyperactivity and irritability, including mood swings, self-injurious behaviors, and aggressive outbursts. The present research reviews current findings about the safety and clinical efficacy of atypical antipsychotics in decreasing maladaptive externalizing behaviors associated with ASD. Atypical antipsychotics are dopamine-D2 and serotonin-2A receptor antagonists, and dopamine and serotonin hyperactivity are linked to the externalizing behaviors of autism. Currently, only two atypical antipsychotic medications are FDA-approved to treat the externalizing behaviors associated with ASD: risperidone and aripiprazole. While these drugs show clinical efficacy in reducing maladaptive behaviors, adverse drug effects (decreased prolactin levels, dyskinesia, and increased weight) pose medical concerns and indicate the need for other pharmaceutical options. Olanzapine, lurasidone, ziprasidone, and paliperidone are atypical antipsychotics currently being researched for potential clinical efficacy in

decreasing irritability. These atypical antipsychotics show promise in treating externalizing behaviors, but they too produce side effects. For example, paliperidone, olanzapine, quetiapine, and lurasidone are associated with weight gain. Further, though ziprasidone is considered a better option compared to the FDA-approved aripiprazole and risperidone in reducing weight-gain risk, it is associated with other issues, such as lengthened QTc (a heart-health risk). Though pilot studies show promise in the clinical efficacy of these additional atypical antipsychotics, more longitudinal research with larger sample sizes should be conducted to better understand their safety, efficacy, and generalizability compared to the current FDA-approved drug options.

Perceptions of Sexual Misconduct Based on Victim and Perpetrator Gender

Elizabeth Nezelek, Applied Psychology
Faculty mentor: Eyad Naseralla, Psychology

The present study examines how victim and perpetrator gender in a teacher–student sexual misconduct scenario influence mock jurors' perceptions of blame, seriousness, and judgments of guilt. Additionally, this study examines whether rape myth acceptance (RMA) moderates the relationship between gender and these perceptions. Participants will read a newspaper article describing either a male or female teacher engaging in sexual misconduct with a 16-year-old student of the opposite sex. Participants will then rate a series of statements on Likert-type scales assessing victim blame, perpetrator blame, and perceived seriousness of the crime, as well as complete a rape myth acceptance scale. Participants will also answer questions based on the information presented in the article, including whether they would render a guilty verdict, how long the sentence should be, and whether the perpetrator should be placed on the sex offender registry. Based on previous research, we predict that male victims will be blamed more than female victims and that female perpetrators will be blamed less than male perpetrators. We also predict that the male perpetrator–female victim condition will be rated as more serious than the other conditions. Finally, we predict that rape myth acceptance will moderate the relationship between victim and perpetrator gender and perceptions of blame and seriousness.

Lines That Divide: Race, Income, Inequality in Buffalo

Bryanna Nixon, Social Work
Faculty mentor: Amy Manning, Social Work

This project examines how income and racial disparities shape inequality in Buffalo, New York, asking: what does poverty look like across racial groups in the city? Across the United States, systemic racism and economic inequality have created long-standing gaps in income, housing, and opportunity. Research shows that communities of color are more likely to experience poverty, limited access to resources, and barriers to upward mobility. To explore this locally, data from Buffalo and Erie County—such as poverty rates, median income, and racial demographics—was analyzed alongside local reports and community observations. These methods helped connect national research to real conditions within neighborhoods. Preliminary findings indicate that communities of color in Buffalo face higher poverty rates and fewer economic opportunities, reflecting broader national patterns of inequality. These

disparities impact access to stable housing, employment, and essential resources. Overall, this project highlights the ongoing effects of systemic inequality and the need for targeted policy and community-based solutions. This presentation will provide insight into these disparities while encouraging awareness, discussion, and advocacy for a more equitable Buffalo.

Development and Performance Evaluation of a Low-Cost Solar-Powered Atmospheric Water Generation System

Kevin Ochoa, Mechanical Engineering Technology; Chadrick Tyndale, Mechanical Engineering Technology
Faculty mentor: Saquib Ahmed, Engineering Technology

Atmospheric water generation (AWG) offers a potential decentralized solution for producing freshwater by extracting moisture from ambient air. This project investigates the feasibility of a small-scale AWG system powered by solar energy. A prototype device was designed and constructed using a fan-driven airflow system and a copper condensation coil to cool humid air and promote water condensation. The system is powered by a solar panel to reduce external energy requirements and improve sustainability. The design emphasizes low-cost components and simple construction to demonstrate the accessibility of AWG technology. Preliminary testing evaluates water collection performance under varying humidity and temperature conditions. This work explores the potential of compact, solar-powered AWG systems as a supplemental water source in regions experiencing water scarcity.

How Does the Educational Level for Constituents Impact SCOTUS Public Approval?

Destiny Odigie, Political Science
Faculty mentor: Mehwish Sarwari, Government, Planning & Philosophy

This study examines how the educational level of constituents influences public approval of the United States Supreme Court. The theoretical argument is that constituents with higher levels of education are more likely to critically evaluate SCOTUS because they possess greater political knowledge and awareness of government processes. As a result, they may be more skeptical of the Court's decisions and performance compared to constituents with lower levels of education. The spatial sample for this study is the United States, and the unit of analysis is the individual survey respondent. The data come from the survey used in the study by Larry Bartels and Christopher Johnston (2013). The temporal scope of the data is the year 2013, when the survey was conducted with updated data as recent as 2022.

Temnothorax spp. Behavioral And Physiological Reaction To Short-term Increased Habitat Temperature

Sophia Palma, Biology
Faculty mentor: Gavin Leighton, Biology

As climate change stands to increase temperatures 2.5 degrees Celsius in the upcoming decades (IPCC, 2023), crucial sects of the ecosystem stand to be impacted. Small surface-dwelling arthropods, such as Temnothorax spp., face the brunt of this warming before more subterranean species. We hypothesize that simulating the warmer climates will describe how Temnothorax spp. will modify their behaviors as individuals and groups, as well as undergo physiological changes to cope with these higher temperatures. We collected data on ant movement in control and warm treatments, as well as individual behavior changes and physiological tolerance of critical thermal maximums and minimums. The data will be interpreted as an indication of Temnothorax spp. projected response to future temperature increases. It will also give us insight to whether Temnothorax spp. and similar species will physiologically evolve in response to environment change or must modify aspects of their behavior to survive.

Heavy Metal Contamination in Everyday Health Foods

Tithi Parmar, Biology
Faculty mentor: Elisa Bergslien, Geosciences

Many people reaching for protein powders, microgreens, baby formula, rice, and spinach believe they are making healthy choices, but these products are rarely tested for heavy metal contamination. Lead (Pb), cadmium (Cd), arsenic (As), mercury (Hg), and aluminum (Al) do not break down in the environment and can accumulate in food through soil, water, and agricultural inputs; even at low levels, long-term exposure has been linked to nervous system damage and cognitive impairment. This project tests commercially available samples of these five product types to measure how much of each metal is present and whether those levels exceed established safety guidelines, including the FDA's 2025 Closer to Zero action levels and Codex Alimentarius limits for Pb, Cd, As, and Hg. Samples will be dried in a low temperature (105 °C) oven for a minimum of 24 hours before disaggregation using an agate mortar and pestle. Fines will be separated with a #200 sieve (75–µm mesh) for analysis with pXRF. A subsample of the fines, weighing 50 mg will be placed in a centrifuge tube, treated with Triton-X and a spike of known concentration before vortexing. A 10–µl drop is then placed on a siliconized sample carrier for TXRF analysis. Results will be compared across product categories and against regulatory benchmarks to identify which food types carry the greatest contamination risk. This matters because consumers, especially parents feeding infants and individuals focused on eating well, largely assume these products have been screened for safety. If contamination is found at concerning levels, these findings can inform conversations about food safety testing and the need for stronger labeling standards. Chronic dietary exposure to these metals has also been associated with disrupted neurotransmitter signaling, neuroinflammation, and an elevated risk of neurodegenerative conditions such as Alzheimer's disease—consequences that may be quietly unfolding through the foods people consume daily.

Hungry In Buffalo: The Reality of Food Insecurity

Emonnie Perez, Social Work
Faculty mentor: Amy Manning, Social Work

Food insecurity is a growing issue that affects millions of people worldwide. In New York State, food insecurity is at a critical level with an estimated 1 in 6 New Yorkers facing hunger, heavily impacting families with children and minority communities. This project examines the causes and effects of food insecurity, particularly among low-income communities. This project asks what food insecurity looks like in Buffalo, and how does it affect low-income communities? There has been a sustained high demand for SNAP benefits as well as a significant increase in food pantry visits following the COVID-19 pandemic. Factors such as poverty, inflation, unemployment, and rising food prices contribute to this issue. Distance from grocery stores in both rural and urban settings limit access to fresh foods, often resulting in families eating less healthy processed or fast foods. Food insecurity is a major public health issue associated with negative health outcomes. Besides malnutrition and obesity, food insecurity can significantly increase the risk of chronic disease, mental health disorders, and higher healthcare costs. Because it limits access to nutrient-dense food, it leads to diet-related diseases like diabetes and hypertension. It also causes severe mental health issues, including higher rates of depression and anxiety, and impairs development in children—it is evident that this issue is addressed in low-income Buffalo areas through continued education, policy changes, and increased community programs.

Programmable Peptoid Scaffolds for Targeting SUMO Protein Interactions

Zander Phillips, Chemistry
Faculty mentor: Sujit Suwal, Chemistry; David Zhang, Biology

Interaction between SUMO2/3 chains and the SUMO-targeted ubiquitin ligase RNF4 is a central signaling event in proteasomal degradation and cancer-associated stress response pathways. Because the SUMO2/3–RNF4 interface is extended and relatively shallow, it remains difficult to target using conventional small molecules. To address this challenge, we are developing structurally programmable peptoid scaffolds that function as SUMO-interacting motif (SIM) surrogates to study RNF4-dependent signaling.A series of 12–16-mer peptoids was synthesized using Solid-Phase Peptoid Synthesis (SPPS) on TentaGel resin. To enhance conformational organization and productive surface recognition, a heterocyclic backbone-containing amino acid surrogate was strategically incorporated to bias the scaffold toward SUMO2/3 engagement. Target binding was assessed using a magnetic pull-down assay with 6×His-tagged SUMO2/3 and anti-His magnetic beads. Co-localization of peptoid-functionalized resin with magnetic beads confirmed successful SUMO interaction. This work establishes a chemically defined platform for engineering backbone-structured peptoids to interrogate and potentially disrupt the SUMO2/3–RNF4 interaction. Ongoing in cellulo studies are evaluating the ability of lead candidates to attenuate SUMO2/3–RNF4 signaling, with implications for cancer biology and therapeutic development.

Collecting My Cluttered Consciousness by Cyanotyping Ceramics

Erin Prior, Art & Design
Faculty mentor: Robert Wood, Art & Design

I am an Art and Design major with a concentration in ceramics. Ceramics and photography intrigue me as art forms because of their long-standing tradition, permanence, and level of experimentation. I am experimenting with cyanotyping, which is a process for developing an image from a negative to a positive using UV-sensitive chemicals that turn blue. The portions of the negative that light shines through develop a rich Prussian blue tone, and the portions that are blocked remain white. I am testing methods of applying cyanotyping chemicals to fired clay to discover potential finishing techniques to incorporate into a body of work. Different application methods of painting, spraying, glazing, and refiring give the images varying tones and capabilities. Some methods are more durable or better at holding an image, so finding the most effective technique is important to long-lasting imagery. My goal is to print images and try to develop the feeling of a memory in various ways after coming to an understanding of the capabilities of cyanotypes on clay and be able to create pieces that reflect the intersection of memory within the mediums of ceramics and photography.

Young Beethoven: Trauma and Conquest

Audrey Quiles, Music Education
Faculty mentor: Carolyn Guzski, Music

Ludwig van Beethoven (1770-1827) composed his musical masterworks during the Classical 18th-century period and bridged artistically to the Romantic period. As a skilled virtuoso pianist and violinist, he was considered a child prodigy. Beethoven was tutored by his father, Johann van Beethoven (1740-1792), whose alcoholic and abusive behavior, however, influenced Beethoven's compositional process, by revealing within himself a fierce, rebellious, and resilient spirit. This traumatic upbringing induced intense emotions, driving a need for independence and a "moral" tone in his music, beyond technical skill, fueling the psychological drive behind his artistic output. Symphony No. 1 in C Major, Op. 21 was written when Beethoven was 29 years old. This marked a critical transition, signaling his move from a promising virtuoso to a mature symphonist. This symphony establishes Beethoven's own voice beyond the heavy influence of Franz Joseph Haydn (1732-1809), a period during which Beethoven was studying with the First Vienna School founder. While this symphony was completed in 1800, sketches show that he was working on ideas for its creation as early as 1795. Beethoven's musical education began in early childhood and included lessons in piano, violin, and French horn. His first major teacher and key mentor was court organist Christian Gottlob Neefe in the city of Bonn, Germany. After relocating to Vienna in 1792, Beethoven's study with Haydn was tumultuous, intense, yet marked by mutual respect. Haydn provided essential training for structures like string quartets, symphony, and other large-scale Classical forms. My research discusses how Beethoven's relationship with Haydn affected the writing of his First Symphony. Subsequently, Beethoven suffered catastrophic hearing loss but responded with a "heroic" middle period. That included Symphony No. 3 ("Eroica") and Symphony No. 5. Beethoven achieved immortality through symphonic music that still resonates in today's world.

ARES- A Robotic Prototype for Automated Resistor Identification Using Electrical Measurement and AI Vision Techniques

Staffan Roalsvig, Electrical Engineering Technology; Phillip Wafula, Electrical Engineering Technology; Mossab Eltaher, Electrical Engineering Technology
Faculty mentor: Ilya Grinberg, Engineering Technology; Steven Barker, Engineering Technology

The Automated Resistor Evaluation System (ARES) is a prototype designed to address the challenges associated with reclaiming and sorting electronic components after project use, particularly in small laboratory environments such as academic labs, small businesses, and hobbyist work spaces. These environments often reuse components to reduce cost and waste; however, identifying and organizing components manually can be time-consuming and inefficient. ARES integrates principles from electrical engineering, robotics, and computer science, incorporating artificial intelligence to automate routine but labor-intensive tasks involved in component identification and sorting. The system utilizes a compact robotic manipulator to handle resistors due to its positional flexibility and ability to operate within the limited workspace commonly found in small laboratories. ARES evaluates two independent automated methods for determining resistor values before physically sorting the components into predetermined storage bins. The first method employs an analog measurement subsystem based on a voltage divider circuit to determine resistance values through electrical measurement. The second method implements a machine vision subsystem that uses a camera and an AI-based object detection model to classify resistors based on visual characteristics. Development of the prototype revealed several technical limitations within both identification approaches. The measurement subsystem exhibited inconsistencies caused by electrical continuity issues between the measurement interface and the resistor leads. The machine vision subsystem demonstrated limitations related to the availability of sufficiently large and diverse training datasets for specific resistor values. Additional constraints were identified in the imaging process, including camera focal length limitations and the high visual similarity among resistor profiles, particularly in terms of shape and color band patterns.

Spirituality & Soundness: The Effect of Spiritual/Religious Affiliation on Life Satisfaction and Well-Being

Jessie Ricotta, Psychological Science
Faculty mentor: Eyad Naseralla, Psychology

The most universal human desires include the drive to find meaning in life and to sustain connections with others. Throughout documented human history, people have gravitated toward religious and spiritual practices for these reasons. While different cultures have developed and followed their own belief systems, many religious and spiritual traditions share underlying themes. These themes commonly include beliefs in an afterlife, moral guidelines for how to treat others, and belief in a supernatural or higher power. The present study examines how spiritual and religious affiliation contribute to participants' overall sense of purpose and perceived level of social support, as well as the subsequent effects on mental and physical well-being. Results indicated that religiosity and spirituality were each associated with a greater sense of purpose and life satisfaction but were not associated with

social support. Sense of purpose was positively associated with life satisfaction and positive health outcomes. Additionally, the relationship between religiosity/spirituality and life satisfaction was mediated by sense of purpose, indicating that the sense of purpose derived from religious affiliation and spiritual practices contributed to greater life satisfaction.

Media Coverage of Undocumented Immigrants and Its Effects

Keith Robison, Social Work
Faculty mentor: Ann Liao, Communication

This study examines how media coverage of undocumented immigrants may shape public empathy in the United States. Drawing on media effects theories such as agenda-setting, framing, and priming, the project proposes that crime-related immigration coverage may be associated with more negative public attitudes. The study uses content analysis of 100 immigration-related news articles from two major news outlets (The New York Times and Newsmax). News stories were coded for economic threat, national security threat, cultural threat, political threat, criminal threat, and source of information. Existing research suggests that different types of news framing influence public perception in meaningful ways. This project aims to clarify how media portrayals may contribute to differences in empathy and why these findings are important for media literacy and culturally responsive social work practice.

From the Gourd to the Can: How Yerba Mate Changed to Appeal to Mainstream Culture

Sophia Rodriguez, Social Studies Education 7-12
Faculty mentor: Bridget Chesterton, History & Social Studies Education

Yerba Mate is a drink made popular by the people of Paraguay. Through mainly primary source research, I have created a series of 10 images in which I felt is the easiest way to understand the history of Yerba Mate. The images will explore how it made its way to mainstream culture starting with the Native people of South America and the Jesuits first contact with Mate, to how it has become mainstream in modern culture. The way Yerba Mate has been prepared has changed from its indigenous roots, so that mainstream culture can find ways to enjoy it. Nowadays people can drink it out of a can. Yerba Mate is not just a drink, it is significant to the people of not just Paraguay, but the people of South America.

Youth Leadership in Scouts: What Is It and How Is It Transmitted

Michael Romance, Social Studies Education 7-12, Anthropology
Faculty mentor: Kimberly Hart, Anthropology

Scouting America, formerly known as the Boy Scouts of America, has historically been an organization that held a large influence over the development of young people in America. Preparing youth to become leaders is a key focus of Scouting America and as a result, the

organization sets its own standards of leadership and must transmit those ideas to its members. My research looks at the ways in which leadership is defined and transferred by members of Scouting America. This presentation is a prelude to a larger project in which I will conduct interviews and participant observation research. In this presentation I will highlight the academic background for this project as well as my personal experiences that led to my forthcoming research. Through this I will show the ways in which leadership as a concept is established by academics and how youth serving organizations such as Scouting America play a role in this discussion of what leadership is.

Assessing Campus Research Needs: IRB Satisfaction Survey

Elizabeth Schilling, Psychological Science
Faculty mentor: Jill Norvilitis, Psychology

Through the duration of any research project, it is important to ensure that all researchers are informed regarding policies surrounding ethical conduct and guidelines. The present study aims to gather student and faculty feedback regarding Buffalo State's Institutional Review Board (IRB) and SUNY Pre-Award Compliance System (SUNY PACS) to evaluate campus needs and improve IRB operations. Participants will include current Buffalo State University faculty, as well as current students that have been listed on IRB submissions within the past year. A brief survey will be completed by participants online through Qualtrics. Data collection is currently underway through the month of April.

Troubles Brewing in Buffalo: A Look Into Buffalo During Prohibition (1920-1933)

Adam Smielecki, Social Studies Education 7-12
Faculty mentor: Kenneth Orosz, History & Social Studies Education

This project examines Buffalo from the period of 1920-1933 covering the different factors and events that shaped Buffalo during Prohibition. Various causes will be examined including Social and economic factors with particular attention to Buffalo's unique position along the U.S.–Canadian border. While national narratives often emphasize the broad failure of prohibition, this study uses a localized approach exploring how Buffalo's unique culture, geography, and economy all shaped Buffalo throughout this time. This project uses archived newspapers, articles, records, and secondary sources to explore how Buffalo's culture, geography, and economy influenced enforcement practices, public perception, and community responses to Prohibition. Particular attention is given to the role of cross-border activity, enforcement funding, and local attitudes in shaping both compliance and resistance to the law. This project argues that Buffalo's experience demonstrates the importance of a regional approach in understanding national policies, ultimately offering a more nuanced approach to Prohibition under a local lens.

The Forgotten Virtuoso: Rediscovering Joseph Bologne, the Chevalier de Saint-Georges

Ma'Raya Stewart, Music Education
Faculty mentor: Carolyn Guzski, Music

Joseph Bologne (1745–1799), a composer, conductor, and violinist known as the Chevalier de Saint-Georges, was born in Guadeloupe to a mother who was enslaved and a father who was a wealthy plantation owner. At just six years old, Bologne was taken to France by his father so he could receive a proper education. There he attended a Jesuit boarding school and later enrolled in a prestigious private academy where he trained in fencing and became an excellent swordsman. Along with these accomplishments, Bologne studied music composition with François-Joseph Gossec and violin with Antonio Lolli. Today, about fifty to sixty of his musical works survive. He composed in a variety of genres, including French operas, sonatas, and concertos. Only one of Bologne's operas has survived in full, L'Amant Anonyme [The Anonymous Lover], first performed in 1780. The opera is a romantic comedy centered around the character Léontine, a young and beautiful widow who has spent years trapped in an unhappy marriage. After her husband's death, she promises herself that she will never fall in love again. Her promise is challenged, however, when she begins receiving anonymous love letters from a close friend who secretly admires her. One important moment in the opera is an aria, a solo piece sung by one performer with orchestral accompaniment that focuses on a strong emotion. In "Enfin une foule… L'Amour devient principe," Léontine expresses her inner conflict between accepting love and protecting herself from more emotional pain. During the lavish era of Louis XVI and his queen Marie Antoinette, the Chevalier achieved renown as the first classical composer of African descent. He also participated actively in the French Revolution. In his honor, he was portrayed by actor Kelvin Harrison, Jr. in the biopic Chevalier (2022), which reflected his extraordinary music among the emotional tensions of his time.

Fungal Communities Colonizing Seneca-Iroquois Baskets: Toward Preservation of Indigenous Cultural Heritage

Parker Swearingen, Biology; Brooke Formaniak, Biology
Faculty mentor: Olga Novikova, Biology

The Seneca-Iroquois basketry tradition, rooted in centuries of Haudenosaunee craftsmanship, represents an irreplaceable cultural heritage. Crafted from black ash splints and sweetgrass, these baskets embody artistic identity, ceremonial significance, and community resilience. A remarkable collection is preserved at the Seneca-Iroquois National Museum (Salamanca, NY); however, these artifacts face serious threats from fungal biodeterioration, including staining, structural weakening, and irreversible material loss. Despite this risk, woven plant-based artifacts remain critically understudied in conservation science, creating a significant gap in evidence-based preservation strategies. This project investigates fungal communities colonizing these historic baskets to characterize active degradation risks and inform targeted conservation interventions. We employ culture-based techniques, light microscopy, DNA barcoding, and next-generation sequencing for species identification, complemented by biochemical assays targeting cellulolytic and ligninolytic

enzymatic activities. This research will provide critical data to help conservators implement preventive measures, ensuring long-term preservation of these irreplaceable artifacts.

The Influence of Stress on Cannabis Craving in University Students

Alex Valery, Psychology
Faculty mentor: Gehan Senthinathan, Social & Psychological Foundations of Education; Psychology

Undergraduate students experience a range of social stressors that can shape decision-making and may contribute to substance use. With cannabis becoming more widely legalized and accessible, it is increasingly important to understand how social stress influences cannabis use in this population. This study is part of a larger experimental procedure that included additional measures and focuses on how social stress impacts cannabis craving. Participants will be randomly assigned to one of two groups. Saliva samples will be collected to analyze a biomarker of stress, and participants will complete the Core Alcohol and Drug Survey, which assesses the nature and scope of psychoactive substance use. Subsequently, Group 1 (the experimental group) will participate in the Trier Social Stress Test (TSST), which includes an anticipatory period for a mock interview, delivering a speech, and performing a mental arithmetic task in front of two judges. Group 2 (the control group) will complete a simple reading and counting task for a similar duration. A second saliva sample will be collected to examine changes in stress following the task. Finally, all participants will complete the State-Trait Anxiety Inventory and the Marijuana Craving Questionnaire-12. Preliminary data will be presented. This study aims to improve understanding of current patterns of psychoactive substance use among undergraduate students and explore whether social stress impacts cannabis craving, with potential implications for future interventions targeting problematic use.

Sonny the Scared Cat

Anastasiya Varian, Graphic Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

This project aims to produce a story that is both entertaining and educational, using the experiences of the protagonist cat as a relatable lens for children to recognize and manage their own feelings. Through narrative arcs where the cat encounters fears, receives guidance, and gains confidence, children are encouraged to see anxiety as a natural emotion while learning that small, consistent efforts can lead to personal growth. The book will reinforce social-emotional skills, including self-awareness, resilience, and empathy, by demonstrating that bravery is a process rather than an immediate outcome. Illustrations created in Procreate using textured, hand-drawn brushes will visually support these lessons, enabling children to connect feelings to colors, shapes, and the cat's body language. Muted tones and confined spaces will depict anxious moments, while brighter, open imagery will communicate confidence and accomplishment. This dual emphasis on storytelling and art ensures that readers are supported both cognitively and visually, enhancing engagement and comprehension. Anticipated outcomes include helping children identify emotions in themselves and others, fostering a sense of confidence in addressing challenges, and

providing a resource for parents and educators to facilitate conversations about anxiety and coping strategies. In addition, the project highlights inclusivity and diversity by presenting friendships and environments that normalize a range of personalities and experiences. Ultimately, this book seeks to empower children to approach fear with courage, model empathy, and experience the satisfaction of gradual achievement, all through a narrative and visual framework that is accessible, comforting, and inspiring.

Translation of Three Stories from Cemetery Stories by Boris Akunin and Grigory Chkhartishvili

Aglaya Zinenko, English
Faculty mentor: David Ben-Merre, English

I translated the first three sections and the introduction of Cemetery Stories by Boris Akunin and Grigory Chkhartishvili. These two names are the same person; Akunin is the pseudonym of Chkhartishvili. Cemetery Stories is a book about six renowned cemeteries around the world. For each cemetery, there is an essay and a short story. The three chapters of the book that I translated tell of the Old Donskoe Cemetery in Moscow, the Highgate Cemetery in London, and Green-Wood in New York. I will show highlights from each. The first story is set in Moscow, Russia. I translated the title of this story as “One for Lips, Two for Teeth.” In it, a police officer goes missing from Moscow in the 2000s. A slave owner from the 18th century had mistaken him for her lover and took him away. This slave owner, Saltychikha, appears in an old basement near the policeman’s job. She can’t leave this basement for two hundred years. That’s because she can’t give up her two passions: one for her lover and the other for killing young blond serf girls. The story begins as a crime mystery. By the end, it becomes a spiritual tragedy. Two of the other stories I translated deal with the topics of the conflict between safety and passion (New York) and ideology (London). In my SRCC presentation, I will show highlights from my translation and explain the main difficulties in translating from Russian into English.

Poster Session III 11:00 AM–12:00 PM

Visual Analysis of Risk and Return in U.S. Mutual Funds

Rilwan Adesina, Computer Information Systems
Faculty mentor: Sarbani Banerjee, Computer Information Systems

This project looks into whether higher risk in U.S. mutual funds is consistently associated with higher returns. Specifically, the study analyzes historical performance data to examine the relationship between volatility and annualized return among selected U.S. mutual funds. The project will be developed in Python using the Anaconda distribution. Data analysis will be conducted using pandas and NumPy for processing and financial calculations. Visualizations will be created using Matplotlib and Seaborn to show risk versus return scatter plots, cumulative growth curves, and drawdown graphs. Key metrics such as annualized return, standard deviation (volatility), Sharpe ratio, and maximum drawdown will be computed from adjusted closing price data. Expected results include clear visual patterns illustrating differences in fund performance and risk exposure. The presentation will demonstrate how quantitative analysis and visualization techniques can be used to evaluate investment performance and interpret financial theory using real-world data.

Substance Abuse Treatment and Socioeconomic Status in Buffalo, New York

Bailey Arena, Social Work
Faculty mentor: Amy Manning, Social Work

Seeking treatment for substance use disorders is a difficult task for anyone. Outcomes are greatly impacted by access to treatment, resources, and quality of care. What does it look like to seek treatment when you are already facing barriers to access resources to get your basic needs met?

Probing the Origin of the Gray-Blue Intermediate in Citrate-Mediated Gold Nanoparticle Synthesis

Darling Arias, Forensic Chemistry
Faculty mentor: Jinseok Heo, Chemistry

This presentation presents an investigation into the early-stage growth mechanism of gold nanoparticles synthesized via the Turkevich method, with a focus on the origin of the initial color change observed during the reaction. Gold nanoparticles are formed in water by reducing gold ions with citrate at boiling temperature, a simple and environmentally friendly approach. In this process, citrate acts as both a mild reducing agent and a stabilizer, binding to nanoparticle surfaces and preventing aggregation through electrostatic repulsion. Current understanding suggests that a small number of seed particles form early in the reaction,

when only a small fraction of the gold precursor has been reduced. Citrate reduces gold ions stepwise from Au^{3+} to Au^{+} and ultimately to metallic Au^{0}, while also increasing the solution pH. This pH rise converts gold complexes into less reducible hydroxylated forms, slowing new particle formation and favoring growth on existing seeds. However, it remains unclear whether new seeds continue to form at later stages. A key unresolved feature is the rapid color change from pale gray-blue to ruby red. This work investigates whether this transition arises from transient aggregation or from changes in nanoparticle surface charge and electronic structure. Understanding this process will improve control over nanoparticle growth and optical properties for plasmonic applications.

LVST

Mattia Case, Art & Design
Faculty mentor: Robert Collignon, Poster presentation

Lvst examines the prevalence of the seven deadly sins as base aspects of human nature, arguing that these core vices persist in modern life despite social and technological progress. Rather than fading, vices such as lust, greed, envy, wrath, pride, sloth, and gluttony have adapted to contemporary contexts, often becoming more subtle and pervasive. The stylised title reflects this shift, reimagining a timeless concept within a digital age. The work presents sin not solely as moral failure, but as a base part of human behaviour that shapes our every action and relationship. By linking historical ideas of sin with modern expressions, such as consumerism and social media, Lvst reveals their continued influence on identity and decision-making. Ultimately, the project invites reflection on the blurred line between vice and normalcy, suggesting that these enduring traits remain central to understanding human experience.

Moving Buffalo: Evaluating Public Transit in New York

Roclyn Baah, Social Work
Faculty mentor: Jessica Fitzpatrick, Social Work

This project explores the public transit system operated by the Niagara Frontier Transportation Authority (NFTA Metro) in Buffalo, which needs an upgrade to better meet the needs of riders. Public transportation is very important for providing affordable mobility for people who rely on buses for commuting, accessing services, and participating in daily community life. However, questions remain about whether Buffalo's transit system has kept pace with technological and infrastructure improvements seen in other comparable cities. This study will examine potential updates to the NFTA Metro system. Including but not limited to the installation of digital bus shelters with real-time arrival screens, improved lighting, and heated shelters for high traffic stops. Additional considerations include fare pricing, payment accessibility such as mobile or contactless options, and the availability of discounted passes. The project also raises questions about maintenance practices and rider comfort. To better understand possible improvements, Buffalo's transit system is compared with those in similar New York cities such as Rochester and Syracuse, where innovations such as lower fares and digital payment systems have recently been implemented.

The Bengal RAWR: Turning Syllabi Clutter Into Schedules

Ritesh Bastola, Computer Information Systems
Faculty mentor: Sarbani Banerjee, Computer Information Systems

College students often struggle with managing academic workload because course syllabi are distributed as separate, static documents at the beginning of a semester. Important deadlines for assignments, exams, and projects are scattered across multiple PDFs, making it difficult for students to visualize their overall workload. As a result, many students discover periods of excessive academic pressure often referred to as "impossible weeks" only when deadlines are already approaching. This project introduces Bengal RAWR (Real-time Academic Workload Reducer), an intelligent system designed to help students proactively manage their academic responsibilities by transforming fragmented syllabus information into a unified, actionable schedule. Bengal RAWR leverages AI-powered document analysis using Google's Gemini API to automatically extract key academic events including assignments, exams, and project deadlines from syllabus documents in PDF or DOC format. The system then organizes deadlines from multiple courses into a single combined schedule, allowing students to easily see their entire semester workload in one clear view. The platform analyzes overlapping deadlines and workload density to identify potential scheduling conflicts and high-stress periods during the semester. To improve clarity and usability, the system generates a dynamic, color-coded workload heatmap that visually highlights peak academic pressure weeks. Students can also export the optimized schedule directly to Google Calendar, enabling seamless integration with their existing productivity tools. Through automated syllabus analysis and intelligent workload visualization, Bengal RAWR empowers students to plan ahead, reduce stress, and maintain a more balanced academic schedule throughout the semester.

Go Bills or Go Food

Brookelynn Bender, Social Work
Faculty mentor: Amy Manning, Manning

The name of my poster is Go Bills or Go Food. I am answering how people in Buffalo handle food insecurity. I used many resources such as ABC news, Feeding America Website, and FeedMore and Hearts for the Homeless Websites. On the poster I start with describing what food insecurity is and how it affects people in America. I then describe how it's affecting people in Buffalo and how Buffalo is trying to handle the food insecurity we have. I then will give my own research based on a poll of people in Buffalo and what they know about food insecurity, if they know where to go if needed, and if they know how many people struggle with food insecurity. I will also show resources that have and still helped Buffalo with food insecurity.

Traditional Dance Dresses of Latin America

Amaya Blatner, Fashion, Textile & Technology
Faculty mentor: Emine Ercan, Fashion & Textile Technology; Bridget Chesterton, History & Social Studies Education

My favorite part about studying history and different cultures is seeing how people express themself through fashion and dance. For this project my goal is to tastefully capture those elements of Latin America culture and design Latin American countries traditional dance dresses. The countries I choose were Venezuela, Cuba and the Dominican Republic. Traditional dances across Latin America often combine Indigenous, African, and European influences, and their costumes frequently feature embroidery, feathers, ribbons, and bright colors that represent cultural identity and replicating the dresses, using advanced pattern making software and technology from the Buffalo state fashion department. I will be using the knowledge from my fashion illustration class, computer flat pattern class and my Latin American history class. For my project I would like to have an information board along with numerous videos showcasing significant information, construction details and the different types of dance these dresses were constructed for paired with three dress forms showcasing the dress es I made for each country. Each dress could realistically be shared as a separate TikTok and Instagram post featuring detailed shots, construction photos, and a short 100-word caption explaining the cultural inspiration behind the designs. By sharing my designs on social media it will show a larger group of people how fashion is affected by history. I will illustrate the dresses on paper and then I will use the pattern rendering software CLO to digitally design the dresses.

The Relationship Between Anxiety, Impulsivity, and Eating Over the Day

Madelyn Braun, Psychology
Faculty mentor: Naomi McKay, Psychology

Appetite and food intake have been seen to peak in both the morning and evening. High impulsivity scores have been found to increase food intake and cravings. Similarly, anxiety was also seen to peak at the same times as food intake and cravings. In the present study, the impact of anxiety, impulsivity, and hours of sleep on hunger and food cravings throughout different times of day were measured. The hypothesis was that anxiety and appetite will increase over the day, due to changes in impulsivity and hours of sleep. Psychology students at Buffalo State University were asked to complete an initial Qualtrics survey for background information. Then 1-21 days later, they were sent a separate survey on three consecutive days at either 8am, 1pm, or 6pm, asking about their current food cravings, stress, impulsivity, and previous night's sleep. The expected relationship between anxiety and appetite was not seen in the results, but separate associations were found between the two and other variables. Impulsivity was seen to increase over the course of day, peaking in the evening. Anxiety and impulsivity were correlated at all times of day, with the highest being in the morning. Hunger and impulsivity were significantly correlated in the evening. Hunger and wanting chips and pizza were also correlated at all times of day. Correlations between hunger and healthier foods like salad and vegetables were significant only in the evening. Further research is essential to gaining a deeper understanding of this complex relationship.

From the Ground Up: A Redesigned Little Women

Delphine Brodowski, Art & Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

This project explores how design can reintroduce a classic text to a modern audience. By redesigning Little Women as a public domain book, my thesis centers on the idea that typography and illustration can reshape how a story is experienced without altering its original meaning and history. As an artist, I'm drawn to combining structure with creativity by using clean typesetting alongside expressive spot illustrations to create something both functional and visually engaging. This project focuses on clarity, detail, and creating a visually cohesive design. In my presentation, I will show the full book redesign, including the cover, typeset pages, and a series of spot illustrations. I will also walk through my design process, from initial concept sketches to final layouts, explaining the decisions behind typography, composition, and imagery. Overall, this project reflects my interest in design as a tool to preserve and reinterpret storytelling.

Sergei Rachmaninoff: As Seen Through His Own Eyes

Michael Brouder, Music
Faculty mentor: Carolyn Guzski, Music

Virtuoso pianist, composer, and conductor Sergei Rachmaninoff (1873-1943) was a creative force whose music still holds a significant position in the classical repertoire today. Pianist Yuja Wang gave the world's first ever "Rachmaninoff Marathon" with the Philadelphia Orchestra and conductor Yannick Nézet-Séguin at Carnegie Hall in 2023, performing all four piano concertos plus the Rhapsody on a Theme of Paganini. Piano Concerto No. 2 in C Minor (1900-01) crossed the border into popular culture with Buddy Kaye's rendition of the work in the popular song "Full Moon and Empty Arms" and its feature in the 1945 British film Brief Encounter. With a particular focus on the Second Piano Concerto, my project seeks to explore who was the Sergei Rachmaninoff behind the impressive virtuosity and the expressive Russian-inflected Romantic lyricism at the forefront of his music? Can we see his music through his own eyes to differentiate between the showstopping performer and the confessional composer? Analyzing musical scores, primary-source letters, and Rachmaninoff's cultural reception contributes to the methodology of my research. Also, how did his dramatic 1917 exile from revolutionary Russia influence his public perception plus his subsequent composing and performing career? Did he assimilate to American culture or remain rooted in his Russian émigré identity? This research aims to find out what Rachmaninoff saw in himself when he looked in the mirror. Did he see the image of the stoic pianist that he presented to the world, or did he see beyond that, into an imaginative, breathing, artistic being?

Hickory Woods/ Good Intentions: Toxic Consequences/ Then and Now

Wilma Ann Buchanan, Environmental Geography
Faculty mentor: Elisa Bergslien, Geosciences

Hickory Woods was a South Buffalo, NY residential community was started in the early 90's to offer to low income families affordable housing. The land developed was previously the site of multiple industrial manufacturing companies, such as Republic Steel, LTV Steel and Donner Hanna Coke. The area had been a highly industrial area since the 1940's. The acreage borders the Buffalo River and runs along the interior of Hopkins Avenue, West up Tifft Street and North along Rt. 5 into the First Ward and East back down South Park Avenue beyond Lee Street. The cleared land from the industrial sites was assumed by the city of Buffalo, NY. The land had been vacant since the mid 80's: but at that point, an environmental study had not been done. In 1992, a review presented by city officials, claimed that there were no industrial waste sites in the South Buffalo neighborhood. That was later rescinded in 1993 after a warning was sent by the DOH confirming the soil was contaminated with waste from coke, a coal-based industrial fuel. In 2000, the NY DOH, under cooperative agreement with the ATSDR, took 600 soil samples and confirmed the evaluation. Unfortunately, four homes were already occupied. In this soil project, soil samples have been collected from locations in the housing and playground area. Samples were dried in a low temperature (105 °C) oven for a minimum of 72 hours before disaggregation using a mortar and pestle. Fines were separated using a #35 sieve (500 mm mesh) for analysis using a portable Niton XL3t GOLDD+X-ray fluorescence spectrometer (pXRF). This is a standard technology approved by the US EPA for screening soil and is used to detect lead, arsenic and other heavy metals at the part per million level. The results will be compared with the published values found for the region previously.

Development of an Automated Robotic System for Solar Panel Inspection and Cleaning

Michael Calabrese, Electrical Engineering Technology; Ethan Jablonski, Electrical Engineering Technology; Zach Ransbury, Electrical Engineering Technology
Faculty mentor: Ilya Grinberg, Engineering Technology; Maryam Nasri, Engineering Technology

This project develops an automated system for inspecting and cleaning photovoltaic panels to maintain energy production and reduce manual maintenance. Dust and debris accumulation on solar panel surfaces can significantly reduce electrical output, creating the need for reliable and scalable maintenance solutions. Supported by a $38,000 grant, the work is being implemented as a multidisciplinary senior capstone project involving students from Electrical Engineering Technology, Mechanical Engineering Technology, and Computer Information Systems working on renewable energy and automated maintenance technologies. The system integrates a mobile robotic platform equipped with a cleaning mechanism, an aerial drone used for visual inspection, and an image processing pipeline designed to identify contamination on panel surfaces. Images captured by the drone are analyzed using computer vision and machine-learning techniques to detect the presence and location of dust or debris. Students in Computer Information Systems developed the artificial-intelligence model used for contamination detection and implemented the control software

that coordinates robotic motion and system operation. Electrical Engineering Technology students focused on power delivery to drive motor control, and embedded communication, while Mechanical Engineering Technology students designed and integrated the robotic chassis and cleaning hardware. Data collected during testing included electric current draw, system power demand, wireless communication reliability, and mechanical positioning accuracy of the robotic cleaning arm. Trials conducted on simulated solar panels verified stable subsystem operation and consistent communication between system components. The result is a functional prototype that demonstrates automated inspection and cleaning while providing students with hands on experience in robotics, embedded systems, artificial intelligence, and renewable energy applications.

Buffalo Welcomes the World - Pan-American Exposition, 1901

Rosalie Carey, Journalism; Magnus Indridson, Media Production; David Nixon, Communication Studies; Jordan Strasser, Communication Studies; Brenden Charles, Industrial Engineering Technology; Emma Hoang, Media Production; Diamondstar Sanders Bascombe, Media Production
Faculty mentor: Ann Liao, Communication

This project examines the history of the Pan-American Exposition in celebration of its 125th anniversary. To honor the Exposition and the City of Buffalo, we explore the technologies and cultures that were displayed during the Expo's six-month run. The Pan-American Exposition introduced many different aspects of life to the Western Hemisphere. We started by using the 5D Appreciative Inquiry model. Some methods used for research included resources from the internet, such as historical articles and information from our community partner. We also used social media sites, such as Facebook, to collect information passed down through generations that have experienced the events/time firsthand. We will have a poster board with visuals, images of buildings that were at the Exposition (the Machinery and Transportation Building, the Temple of Music, the Electricity Building, etc.), and information on specific exhibits.

The Sound of Pink Glitter: A Feminist Ballet Revolución

Olivia Castillo, Music Education
Faculty mentor: Carolyn Guzski, Music

This project examines Revolución Diamantina (2023), the 42-minute, Grammy Award-winning ballet score by 21st-century Mexican composer Gabriela Ortiz (b. 1964), as an exemplary model of how contemporary music and dance can serve as a medium for social activism. The work is inspired by the 2019 “Glitter Revolution” in Mexico City, an activist movement sparked by the rape of a teenage girl by a police officer, during which protestors threw pink glitter at officials and police officers. Ortiz transforms the protestors’ actions into a musical and choreographic statement resisting gender-based violence. Commissioned by the Los Angeles Philharmonic under conductor Gustavo Dudamel, the six-act work fuses Mexican folk and traditional Western European classical components with ballet, creating a unique musical perspective on 21st century political activism. Through close score analysis and live performance observation, my study methodology explores how Ortiz masterfully

translates protest into instrumental and visual technique, as she has exemplified in many of her previous politically charged orchestral works. Focusing on instrumentation, rhythmic drive, and motivic development, while tying these musical elements to corresponding choreographic gestures, I seek to synthesize musical analysis with visual interpretation to demonstrate how Ortiz expresses urgency, emotion, and tension in ballet. By situating these analyses within the historical contexts governing both European and Latin American musical traditions, the project addresses a gap in research on politically engaged contemporary ballet. Revolución Diamantina illustrates how interdisciplinary collaboration can amplify marginalized voices, modeling techniques for contemporary artists seeking to impact social change through their work.

Counting Creatures: Learning the Numbers 1-10

Kirsten Cherevko, Art & Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

As an illustrator, my work centers on creating whimsical, cartoony creatures that spark joy, and curiosity, as well as inspire creativity in young audiences. Counting Creatures: Learning the Numbers 1-10 combines this style with reinforced learning techniques to teach numbers in a way that is effective and fun. This technique integrates written numbers, numerical symbols, and corresponding dot patterns alongside groups of illustrated creatures for children to count. This project also served as a way to better understand the process of creating a book and to strengthen my illustration skills.

Buffalo: A Visual Archive

Tori Cutler, Graphic Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

Buffalo: A Visual Archive is a visual study of place, texture, and everyday observation, created through the process of scanning found materials and environments throughout Buffalo, New York. This project explores how a flatbed scanner can be used as both a recording tool and a creative lens, capturing fragments of the city in a way that emphasizes surface, detail, and composition over traditional perspective. By scanning objects such as natural elements, printed matter, and urban textures, the work transforms familiar surroundings into abstracted visual moments that highlight patterns, imperfections, and overlooked details. The process of physically collecting, arranging, and scanning these materials becomes an act of documentation and reinterpretation, blurring the line between photography and collage. This project is informed by an interest in archival practices and experimental image-making, using the scanner as a method of preserving small, often unnoticed pieces of the environment.

Prevalence and Patterns of Psychoactive Substance Use in Undergraduate Students

Olivia Czarnecki, Psychology
Faculty mentor: Gehan Senthinathan, Social & Psychological Foundations of Education; Psychology

The most common psychoactive substances used by undergraduate students modernly are alcohol and cannabis likely due to their relative availability. Alcohol is the most common psychoactive drug undergraduate students indulge in. Notably, with the increasing legalization of cannabis in many states, undergraduates use of such as also increased accordingly. Use of cannabis within the last year and even within the last month has shown to be the highest among people in their early twenties which is the typical age group of most undergraduate students. Furthermore, intensive cannabis users have exceeded that of daily alcohol consumers, despite alcohol remaining more prevalent amongst undergraduate students. In hopes of supporting academic interventions reducing the incidence of substance use disorders in undergraduate students, this study aims to develop a better understanding of the prevalence and patterns of psychoactive substance use amongst undergraduates. Buffalo State University undergraduate students aged 18-26 years of age will complete the Core Alcohol and Drug Survey, and the preliminary results of such will be analyzed and presented along with key findings in relation to prevalence rates and usage patterns. It's important to note that this study is part of a larger experimental procedure and includes additional methods and measures. An improved understanding of the prevalence and patterns of psychoactive substance use among undergraduates could be used to help develop academic and social interventions, harm-reductions strategies, while also possibly influencing public policy, and courses of treatment to substance use disorders.

Overexposed: Correlates of Unsolicited Sexting Behavior

Canyon Damon, Psychological Science
Faculty mentor: Eyad Naseralla, Psychology

The present research examines unsolicited explicit media sending by electronic means among male college students. In Study 1, a sample of 84 college students (male and female) completed a survey assessing the frequency of sending and receiving unsolicited explicit images. Results showed that 76.2% of students reported sending explicit media overall, while 85.7% reported receiving explicit images. Of those who reported receiving explicit images, 90% indicated that they had received images without requesting them. Study 2 aims to build upon Study 1 by exploring unsolicited nude sending among male college students, including recipients, justifications, and mediums of sending. Study 2 will specifically examine the relationship between unsolicited explicit image sharing, pornography consumption, rape proclivity, friendship quality, and overall sexual attitudes. Findings will help us better understand unsolicited explicit image sending behaviors and their related psychological factors.

Made From Scratch: A Children's Illustrated Book

My Kim Dao, Art & Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

Made from Scratch is a debut illustrated children's picture book set in Sugarbrook, a vibrant dessert-themed town where three friends each run their own bakery. When Baron Von Bread, a distinguished bear selling bright, perfect-looking pastries made with artificial ingredients arrives in town, the community is dazzled and the three friends begin to feel like strangers in a place they once called home. The book explores themes of community, friendship, authenticity, and the value of things made with care and intention. This project was inspired by a lifelong love of baking and cooking that has always lived alongside my art practice. Long before I knew art was the direction my life would take, I was drawn to the world of food, watching anything related to baking and cooking, fascinated by the care, craft, and intention that goes into making something from scratch. Sugarbrook is where that love and my identity as an artist finally met. As a multidisciplinary artist and illustrator working across digital and physical mediums, my creative process involved building Sugarbrook from the ground up, developing original characters, a cohesive visual world, and a narrative that speaks to children and adults equally. For this poster presentation I plan to present the completed illustrated book alongside the visual development process behind it, including character design, world-building decisions, and how the story's themes shaped every visual element from the first page to the last. I want the audience to walk away feeling like Sugarbrook is a place that exists. It's warm, a little strange, and completely worth visiting, and to leave with a quiet reminder that the best things have always been worth the wait.

Heterocyclic Amino Ester Building Blocks towards Structurally Diverse Peptide and Peptoid Architectures

Ashley Deleo, Chemistry
Faculty mentor: Sujit Suwal, Chemistry

Protein–protein interactions (PPIs) regulate essential physiological and pathological processes and remain challenging yet attractive targets in chemical biology and drug discovery. Developing structurally diverse, conformationally defined peptide surrogates capable of modulating PPIs requires innovative synthetic strategies. We report on a chemo-selective platform for the efficient synthesis of heterocyclic amino ester building blocks that expand structural diversity within peptide backbones. Using this approach, three structurally distinct isobaric heterocyclic amino esters (dipeptide isosteres, DPIs) were synthesized and conjugated with naturally occurring α-amino acids via solution-phase coupling at both N- and C-termini, affording architecturally diverse tripeptide frameworks. Products were authenticated by high-resolution mass spectrometry (HR-MS), and amide bond conformations were characterized using comprehensive 1D and 2D NMR spectroscopy. These DPIs were further incorporated into heterocyclic backbone-containing peptides and peptoids through solid-phase peptide synthesis (SPPS), demonstrating synthetic compatibility and scalability. This work establishes a versatile platform for constructing conformationally tunable heterocyclic peptide architectures for probing and modulating biologically relevant PPIs.

Divided Destiny: Life on Buffalo's East and West Sides

Ingrid DeSaussure, Social Work
Faculty mentor: Amy Manning, Social Work; Amy Manning,

This project investigates how Buffalo, New York's physical layout perpetuates a cycle of structural poverty that income alone cannot fix. While national research links "built-in" environmental factors like redlining to minority community isolation, current literature on Buffalo identifies a "spatial mismatch" where poverty rates remain nearly double the national average. By reviewing census data and policy briefs alongside a "Photo Voice" methodology, this study documents physical barriers like the Kensington Expressway trench and transit-dependent corridors on the West Side. Results indicate a clear link between historical redlining and modern "food deserts," confirming that the "Buffalo Billion" project has not closed the gap between the medical campus and the Fruit Belt. This research concludes that addressing poverty requires physical infrastructure changes—such as removing dividing highways—and fostering food sovereignty to reconnect residents with essential services. Presentation participants will engage in an interactive look at Buffalo's geography using the "Photo Voice" lens to challenge the common narrative of citywide rebirth. Through a mapping activity and small-group discussion, this session creates a space for honest conversation about removing the physical barriers of poverty and building a more equitable future for both the East and West Sides. This participatory approach encourages attendees to move beyond passive observation and collaborate on strategies for community-led economic equality and geographic reconnection.

ABCs Book of Hair

Lauryn Dukes, Graphic Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

The goal of this project is to create a 26-page alphabet book titled “The Everyone Hair ABCs,” which celebrates a wide diversity of hair textures and cultural rituals for children of all backgrounds. Inspired by the "dual-audience" approach of the television show “Bluey,” the book uses a warm, rhythmic narrative for children while offering a deeper emotional subtext for adults regarding heritage, identity, and the generational traditions of hair care. To ensure professional and educational value, I applied technical illustration standards by utilizing line drawings to simplify complex textures and incorporating various viewpoints, such as elevation views for silhouettes, plan views for scalp patterns, and section views to show the internal structure of braids. I also utilized exploded views to deconstruct the "assembly" of styles, showing how tools like beads and hair jam interact with the hair. Throughout the creative process, I experimented with visual styles ranging from bold, high-contrast characters to diagrammatic representations to find a balance that is both artistically inviting and "clear and accessible". I plan to present a digital slide deck of these 2-page spreads, demonstrating how scientific accuracy and cultural warmth can combine to serve as both an instructional guide and a celebratory "crown" for every child. By redefining traditional alphabet prompts, such as using "eXpression" and "Zigzag," this project highlights the artistic and structural beauty of "everyone's" hair.

An Opera by a Hidden Artist

Jack Dziedzic, Music Education
Faculty mentor: Carolyn Guzski, Music

My project discusses an opera by Frederick Delius (1862-1934), A Village Romeo and Juliet (RT I/6, 1899,Äì1901). Delius lived during the Romantic through Modern periods of classical music. Written during the middle portion of his life, A Village Romeo and Juliet was commissioned as an opera based on a short story written by the Swiss author Gottfried Keller, based on a newspaper article about a local tragedy. Delius took interest in the play for a few different reasons, such as the inclusion of vagabonds, Nature through its Norwegian landscape, and a sense of fairytale innocence removed from reality. An important section of the opera in my analysis is "A Walk Through the Palace Gardens" (republished as an Intermezzo). The opera uses chromatic harmony throughout to musically express the emotions of the characters as the tragedy unfolds. Delius's technique produced a more fluid, harmonic language compared to the conventional tonality still being used by other British composers of his time. Sources suggest that many listeners, especially during the opera's debut or immediately thereafter, said that the orchestra sounded amazing and greatly conveyed the emotions of the libretto. Unfortunately, they also noted that it almost seemed as though the orchestration was designed to overpower the singers. This can more plainly be put that the orchestra often carried the emotional narrative instead of singers. Nonetheless, A Village Romeo & Juliet is a retelling of a classic in opera form by a composer hidden in a time of greats.

Afro Puerto Rican Style And Tradition: Identity In Every Thread

Joice Elahmer, Criminal Justice
Faculty mentor: JawJeong Wu, Criminal justice

This project explores Afro Puerto Rican traditions and clothing as expressions of cultural identity, resistance, and heritage. The purpose of this work is to highlight the historical and cultural significance of Afro-Puerto Rican communities and how their traditions have been preserved and adapted over time. Through research on traditional practices such as music, dance, and dress, this project examines the influence of African ancestry on Puerto Rican culture, particularly in styles of clothing used in festivals and everyday life. Special attention is given to the symbolism, materials, and design elements found in traditional garments, and how these reflect identity, history, and community values. This project also considers how Afro-Puerto Rican culture continues to evolve in contemporary society. At the Spring Student Showcase, I will present a visual and informational display featuring examples of traditional clothing, images, and explanations of their cultural relevance. Overall, this project emphasizes the importance of recognizing and celebrating Afro-Puerto Rican heritage as an essential part of Puerto Rico's cultural identity.

From Classroom to Courtroom: The School-to-Prison Pipeline in Buffalo NY

Dejah Evans-Murphy, Criminal Justice
Faculty mentor: Amy Manning, Social Work

The school-to prison pipeline is a nationwide issue, present in Buffalo, NY, where zero-tolerance policies push students, especially minority students in high-poverty areas. These policies push students out of classrooms into the criminal justice system (AQE NY, 2015). Early role models and supportive adults are vital to help students towards success (WIB4.com). Buffalo Public Schools have begun reforming policies such as the "No Suspension Campaign", reducing suspensions for minor and nonviolent offenses. There have also been recent policy changes that push Restorative Justice approaches to inside of the schooling system. However, minority students are still disproportionately affected, and missed school time leads to higher dropout rates, lower academic motivation and limited career opportunities. Inclusive policies and restorative justice can break this cycle, keeping students engages and provide low-income communities with a better chance at success.

The Mind, Body, and Soul: Mindful Meditation and Yoga

Maleah Frain, Social Work; Ava Brown, Social Work; Kelly Mongan, Social Work; Nilda Ruiz, Social Work
Faculty mentor: Jessica Fitzpatrick, Social Work

Are mindful body meditation and yoga practices effective tools for self-care? Research shows that yoga has many physical and mental health benefits. Yoga practices can help with several health conditions such as anxiety, depression, fatigue, hypertension, metabolic issues, and general stress. Yoga is not considered a cure for these conditions, but yoga and mindful meditation can be helpful tools for self-care because of their ability to decrease stress and promote relaxation and healthy living. This research project explored whether college students at Buffalo State University noticed a decrease in stress and anxiety after participating in a mindful body exercise and yoga session. In April 2026, a yoga event was held on campus that was open to both students and the public. The event was marketed on social media, and flyers were posted around campus three weeks before the event. Participants who attended the event were surveyed afterward to compare how they felt after the exercise compared to when they first arrived. Data analysis showed that many attendees felt more relaxed and less stressed after completing the yoga session. The poster presentation includes additional details about the project, pictures from the event, and anonymous quotes from participants.

Proximity and Grooming Between Japanese Macaques

Emily Gamble, Anthropology
Faculty mentor: Julie Wieczkowski, Anthropology

Japanese macaques (Macaca fuscata) have a tendency for kin based grooming and closer proximity between mother-daughter pairs. The Buffalo Zoo has three macaques, a mother-

daughter pair and a male. I hypothesized that: the mother-daughter pair would be in closer proximity with each other than with the male, the mother-daughter pair would groom each other more than they would groom the male, and the male would auto-groom more than either the mother or the daughter. I conducted focal samples to record proximity and grooming behavior. I collected 600 behavioral and proximity records. There was a significant difference among the mean proximity scores for each macaque dyad (H= 40.772, df= 2, p= <0.001). The male's proximity score with each female (W= 48540.000, p=<.001; W= 52650.000, p= <.001) was significantly higher than the proximity score between the mother-daughter pair. The mother-daughter dyad spent 26.2% of their time grooming, while the male-daughter dyad spent 4.6% and the male-mother dyad spent 0% of time grooming. The male spent the least time autogrooming. Two of my hypotheses were supported. The mother-daughter pair were in closer proximity with each other and groomed each other more than the male. However, the male did not autogroom more than either female.

Buffalo State University Bike Day

QinDi Gerwitz-Dunn, Anthropology
Faculty mentor: Susan Maguire, Anthropology

Sustainability and sustainable practices are increasingly important to conserve resources and to ensure the ecological, health, and economic vitality of current and future populations. Cycling represents an alternative form of transportation to automobiles that decreases our impact on the environment, strengthens our individual health, and reduces costs. Buffalo State University Bike Day enables the campus community to learn about the value of bicycling as an alternative form of transportation while also removing common obstacles to cycling. This project takes a multi-prong approach to connecting the Buffalo State community to more sustainable practices through cycling. The event will provide instruction on cycling and traffic safety, assist cyclists with proper maintenance techniques and connect the community with local organizations that support cycling throughout Western New York.

Love Canal: A Tumultuous Legacy

Caleb Gorney, History
Faculty mentor: Kenneth Orosz, History & Social Studies Education

Love Canal located in Niagara Falls tells a story of corporate and governmental negligence. From the haphazard fashion of how chemicals were dumped in the area to the government ignoring the concerns of the residents of the neighborhood. It is one of the most tragic pieces of history that Western New York has ever seen. But the legacy is more complicated than that.

Surviving College: How Poverty Shapes the College Experience

Anniyah Guess, Social Work
Faculty mentor: Amy Manning, Social Work

I plan to present a poster that will show how poverty exists on college campus and how that affects students. Higher ed is seen as a way for people to better their lives but people face economic challenges that prevent them from doing so. Financial aid, tuition and the cost of living make students have to choose between necessities and education expenses. The lack of economic opportunity causes students to endure food insecurity which impacts performance in college. Financial stress also has negative impacts on student's mental health

Enhancing IoT Security Through: Human-in-the-Loop Intrusion Detection

Liana Harris, Computer Information Systems
Faculty mentor: Sarbani Banerjee, Computer Information Systems

This research addresses the high false-alarm rates and decision-making inherent in automated IoT Intrusion Detection Systems by investigating how Human-in-the-Loop feedback improves alert reliability. I am studying the synergy between AI precision and human judgment to reduce the risks of fully autonomous responses in smart environments. As IoT devices become ubiquitous, they create a massive attack surface that lacks the contextual reasoning of a human analyst, making HITL integration essential for meeting modern regulatory standards. This project utilizes the HITL-IoT dataset, encompassing 127,000 network flows across twelve device types, including smart cameras and speakers. I will develop a classification pipeline in Python using Colab Notebook, leveraging Pandas for preprocessing and Scikit-learn for model training. The approach specifically analyzes HITL features such as analyst confidence scores and decision latency to evaluate when models should defer to human experts. The expected results include a calibrated detection model that identifies which specific IoT attacks, such as DDoS or Brute Force, most frequently cause AI-human disagreement. Ultimately, these findings will provide a framework, demonstrating that human-AI collaboration achieves higher accuracy and trust than either entity acting alone.

Craft and Cultural Storytelling in Global Fashion Today

Gabrielle Harrison, Fashion, Textile & Technology; Demetria Woodard, Fashion, Textile & Technology; Tommie Hooks, Fashion, Textile & Technology
Faculty mentor: Arlesa Shephard, Fashion & Textile Technology

This research explores how contemporary fashion designers use craftsmanship, heritage, and cultural identity to shape modern fashion. The purpose of this project is to understand how brands such as Story Mfg, Awake NY, and Studio 189 focus on artisanal techniques and cultural storytelling as alternatives to fast fashion and mass production. Historically, fashion has reflected culture, community, and skilled craftsmanship, but the rise of fast fashion has

reduced the visibility of traditional methods. Designers like Katy Elsey and Saeed Al-Raubeyi of Story Mfg, which is based out of London, highlight slow fashion and environmentally friendly clothing through hand dyeing, natural materials, and small batch production. Angelo Baque, founder of Awake NY, connects fashion with New York City's multicultural streetwear culture and identity. Studio 189, founded by Abrima Erwiah and Rossario Dawson, works with artisan communities in Ghana to create garments using traditional techniques such as batik, kente weaving, and natural dyeing while supporting ethical labor practices. To conduct this research, we used a literature review of academic fashion theory texts, fashion publications, and brand sources. These brands work to express and illuminate the life and story of what authentic fashion is before it was industrialized. The process of using traditional techniques like hand dyeing requires a human element that adds to the uniqueness and personality of the designs. Instances such as these amplify the brand's "why?" as to what they do.

School to Solitary: Buffalo NY School to Prison Pipeline

Emma Hill, Social Work
Faculty mentor: Amy Manning, Social Work

This study investigates how the intersection of systemic poverty and punitive disciplinary policies facilitates the "school to prison pipeline" for marginalized youth within the Buffalo Public School system. Nationally, research indicates that zero-tolerance policies and increased police presence in schools disproportionately funnel students of color and those from low-income backgrounds into the criminal justice system. While federal data highlights a nationwide trend of exclusionary discipline, the specific socio-economic landscape of Rust Belt cities like Buffalo creates unique vulnerabilities for student success. To analyze this local impact, I synthesized Erie County juvenile justice reports and Buffalo Public Schools suspension data from the last five years. This quantitative foundation was paired with a qualitative visual survey, where I documented the physical environment of local high schools to find "prison-like" architectural features and surveillance apparatuses. Initial findings show a strong correlation between Buffalo zip codes with the highest poverty rates and schools with the highest rates of out-of-school suspensions. My photographic evidence further suggests that schools in these high-poverty areas use significantly more metal detectors and visible security personnel compared to schools in more affluent local districts. The project concludes that the criminalization of student behavior in Buffalo is not a neutral disciplinary tool, but a direct consequence of underfunded social support systems and the over-policing of poverty.

The Rise in Popularity of K-Pop to the Global Stage

Tristan Hume, Fashion, Textile & Technology; Kelly Liao, Fashion, Textile & Technology; Olivia Mussett, Fashion, Textile & Technology
Faculty mentor: Arlesa Shephard, Fashion & Textile Technology

With the recent rise in the popularity of K-Pop, there's been a global reflection on Korean culture. This is especially prevalent in what we've dubbed the "Modern Hanbok", a revamping of ancient Korean fashion for an everyday look. A hallmark of K-Pop music videos is a focus on costumes, seen in the video for BLACKPINK's "How You Like That?" where they debuted

these stylized handbooks designed by Dahna. Before this video, the brand was not well known, however the fanbase of the group allowed them to break into the scene. Music videos alone aren't the only thing referencing Korean culture, as seen in the award-winning "K-Pop Demon Hunters." While modern music is the focus of the film, there were several cultural references going beyond fashion. However, the accessories stand out the most. Compiling contemporary resources from all sides of pop culture, we can get a picture of the global perspective of Korean culture from a modern lens. This reintroduction of ancient Korean culture has highlighted the differences in values, especially with how these new garments are cut, the ways in which the aesthetics of the accessories have changed, and the new colors that are being used. With all these changes in mind, including the cultural impact of K-Pop, it's no surprise that it's integrated seamlessly in everyday fashion, with the geometry especially suited for streetwear. On a higher end scale, pieces featuring these design details have even been featured at the MET, taking its rightful place among iconic contemporary fashion.

Reconstruction: The Differences In How That Looked In Rural and Urban Georgia

Benjamin Kaczmarek, History; Benjamin Kaczmarek, History
Faculty mentor: Kenneth Orosz, History & Social Studies Education

Through this poster project, I hope to shed some light on the differences of rural and urban areas in Georgia post civil war reconstruction. This will be done through reviewing primary as well as secondary sources to paint a better picture for the viewer.

Homeless Alliance of Western New York

Brynn Kalinowski, Public Relations and Advertising; Terah Echols, Communication Studies; Faride Marte, Public Relations and Advertising; Kerice Salmon, Communication Studies; Peyton Leftwich, Communication Studies
Faculty mentor: Ann Liao, Communication

Homelessness in Western New York is a complex issue influenced by factors such as rising housing costs, limited access to services, unemployment, and more. It challenges the community, and with strong coordination and clear communication efforts conveyed through these infographics and flyers, it can help raise awareness. Prior to receiving services from the Homeless Alliance, many homeless youth have limited exposure to many different opportunities. As a group, we wanted to provide homeless youth with opportunities to enjoy different activities while being there and allow them to gain more exposure to the community. The methods our group used to collect data and obtain information included thoroughly reading through the Homeless Alliance of WNY website and speaking directly with Daniella Gallego, the CoC Supervisor, about her needs and expectations for our group. At the time of preparing this abstract, our group collaboratively created promotional flyers for the Youth Homelessness Alliance. Each member contributed equally to the content and design, resulting in visually engaging materials that effectively communicate the organization's mission. You can expect to see flyers created by the group used to bring awareness to upcoming meetings focusing on volunteer opportunities, crafts, and building relationships with peers.

Understanding the Nutritional Quality of Food Pantry Items Selected by Individuals with Type 2 Diabetes, Hypertension, and Cardiovascular Disease Using the Healthy Eating Research (HER) Nutrition Ranking System

Abigail Keens, Combined B.S./M.S. in Dietetics; None
Faculty mentor: Danielle King, Health, Hospitality, Nutrition & Dietetics

Consumption of healthful foods is one of the first lines of defense for prevention and progression of several diseases. Yet, many individuals face food insecurity, defined as the limited access to adequate nutritious and culturally appropriate foods. Food pantries, a form of nutrition assistance program that distributes food to individuals and communities, may not meet the needs of individuals managing chronic disease. Thus, the purpose of this study was to explore the healthfulness of food pantry items provided to, or selected by, individuals managing chronic disease. Participant recruitment occurred at choice (pantry clientele select items) and non-choice (pantry clientele are provided pre-selected items) food pantries in Buffalo, NY. A cart inventory was conducted with each participant to quantify the food item, brand, and amounts obtained at the pantry. The Healthy Eating Research (HER) nutrition ranking system for charitable food systems was used to quantify items into three categories: green (choose often), yellow (choose sometimes), and red (choose rarely). Of 84 food items analyzed amongst participants' (n=12) cart inventories, 82.14% met the criteria for the "choose often;" of these items, 94% were fresh vegetables. Additionally, 8.3% and 9.52% of foods were "choose sometimes" and "choose rarely," respectively. Understanding the nutritional adequacy of food pantry items in relation to chronic disease management may assist in identifying barriers to obtaining and consuming healthful foods. Given the HER was developed for charitable food systems and has ease-of-use, findings may support future community nutrition interventions.

The Hidden Hunger of Buffalo: Unequal Plates in Buffalo's Food Landscape

Alexa Krauss, Social Work
Faculty mentor: Amy Manning, Social Work

What does poverty and food insecurities look like in Buffalo, NY? Food insecurity in America means a household or person doesn't have accessible resources to get adequate food. Looking at recent statistics, the food insecurity rate rose in late 2025 by 16 percent in November driven by inflation, rising food costs, and unstable federal nutrition programs. Methods used to approach and collect data are using photos to collect physical evidence of this issue and using articles that provide local data on Buffalo and Erie County food insecurity. In conclusion, these findings provide evidence of the growing food insecurity crisis in Buffalo, NY. The number of those affected by this issue is astonishing and it can happen to any one of us at any time. This poster raises community awareness and encourages the community to engage in conversations about this issue. This can bring attention to city officials so those affected by food insecurity can see effective and immediate systemic change and policy change.

Decolonizing Music Education

Maya LaMacchia, Music
Faculty mentor: Emily Boyce, Music

The primary curricular focus on Western Art Music in the U.S. perpetuates and normalizes the post-colonial racial hierarchy—white European music is prioritized over all other forms of music, reinforcing colonial ideals that equate whiteness with intelligence and superiority. White supremacy has no place in this world, and unless changes are made in music programs across the country, a vast majority of students will not see themselves or their lived experiences reflected in the music they are told to learn—and what is music for, if not self-expression, connection to community, and protest? My research is focused on historical patterns in western music education that have contributed to the normalization of exclusivity and inequality.

Changes in Sediment Load in Eighteenmile Mile Creek Throughout Early Spring

Jonathan Lebron, Earth Sciences; Sidney Morris, Earth Sciences; Samuel Adornetto, Earth Sciences; Benjamin Axberg, Earth Sciences
Faculty mentor: Kevin Williams, Geosciences

Eighteenmile Creek is located in Erie County, New York, and runs through Upper Devonian (419-359 million years ago) shale and limestone bedrock. The creek is affected by flow and water conditions that may influence sediment load. The purpose of this study is to determine if there are differences in sediment discharge based on time of season. We collected sediment samples from the stream bed and water samples to measure suspended load from 4 locations, each representing a different erosional environment: the mouth, north branch, south branch, and convergence of the north and south branches. With these samples, we measured the turbidity in Nephelometric Turbidity Units (NTU) as well as the Conductivity/Specific Conductance(SPC). With the stream bed samples we took photographs and compared the grain sizes and gave sections of the samples a percentage of makeup. Data from the USGS site was used to collect gauge height. Understanding possible seasonal relationships between time of season, discharge, conductivity, and grain size distribution data could help predict future conditions of Eighteenmile Creek through the early-spring snow melt by comparing the changes between pre-melt and post melt conditions. Seasonal snowmelt can increase stream discharge and velocity which may intensify streambank erosion, posing risks to streambank stability, affecting property and local infrastructure. Along with effects on the geology of the creek there may also be an effect on the biology of the creek.

Eat Well Live Well

Donnette Littlejohn, Social Work; Donnette Littlejohn. Social Work; MoeTeh Sein, Social Work; Nasteho Abshir, Social Work
Faculty mentor: Jessica Fitzpatrick, Social Work

What is the connection between healthy eating patterns and mental health outcomes? According to research, poor diet increases the risk of depression. Studies show that people who have a higher intake of carbohydrates and trans fats have a higher score on depression measures and a lower intake of nutritional foods. This is evidence for why healthy eating habits can cause better mental health outcomes. This research project handed out surveys to students at Buffalo State about their diet. Free organic fruit cups were handed out at the event site. A flyer was posted about healthy eating patterns and how they affect students' mental health. Students showed up at the event and took the survey. After reviewing the surveys, it shows that the majority of the students who had a poor diet had stress over their classes and did not like sports and exercise. The rest who had healthier eating habits usually were getting through their classes and were focused on self-care and sports. There are many resources available around the campus involving self-care, like the gym, sports arena, and Delaware Park. Additional information will be posted on the flyer.

The Cost of Care: Childcare Access and Poverty in Buffalo

Sophia Matamoros, Psychology
Faculty mentor: Amy Manning, Social Work

Childcare plays a major role in whether families can maintain stable employment, yet for many low income households in Buffalo, access to affordable care is limited. This project explores how poverty and childcare access intersect by examining both the cost and availability of childcare and how these factors impact families. Research across the United States shows that high childcare costs and limited availability can prevent parents from participating in the workforce and can also negatively affect early childhood development outcomes. These findings highlight how childcare is not just a personal issue, but a broader economic and social concern. To understand how this issue appears locally, this project combines national research with data from Buffalo and Erie County, including a report from the Partnership for the Public Good, which identifies significant shortages in childcare providers and affordability challenges for families. A short poll was also conducted to gather insight into how individuals perceive childcare access and cost in their own experiences. Local findings suggest that many families struggle to find reliable and affordable childcare, which can directly limit employment opportunities and financial stability. Overall, the results show that limited access to childcare contributes to ongoing cycles of poverty in Buffalo. Without affordable and available childcare, many families are unable to fully participate in the workforce, reinforcing economic instability. This project aims to raise awareness about the importance of improving childcare access and to encourage further discussion about solutions within the Buffalo community.

Representation of Disabilities in Children's Literature

Kathryn Matteson-Rosowicz, English
Faculty mentor: Katie McCabe, Exceptional Education; Kathy Doody, Exceptional Education

This project involved creating a database resource for educators based on inclusion and representation of students with disabilities in children's literature. This includes an organized guide in which educators are able to locate materials for instructional purposes. This project is designed to assist teachers in creating lesson plans that incorporate inclusive practices into their classrooms. The library that has been created through a university-school partnership and funded through a Buffalo State PDP Grant is home to a diverse collection of children's literature that has been organized into a searchable database that is broken down into categories based on significant components such as author information, story plot, and representation of classified disabilities. Within the database there are links to resources for educators to use when creating lesson plans that include; the summary of the book, suggested activities to do with students, discussion points as well as other resources that can be helpful when introducing the story to a group of students. The goal of this project is to share the resources broadly through local school partners and through an article we will prepare for publication. We plan to present at a local conference to share our database and the resources that will be available for educators.

Media Consolidation and Democratic Backsliding

Naida Mazloum, Political Science, 3+3 Pathway Program with UB Law
Faculty mentor: Patrick McGovern, Government, Planning & Philosophy

There has been a disturbing trend among both young and more established democracies over the past two decades known as "democratic backsliding." Nation-states backslide as a result of elite leadership attempting to separate government decision-making from broad, protected, and mutually binding decision-making. When reviewing the case of the United States, the peer-reviewed literature from the past decade suggests that the major contributing factors to backsliding are corporate ownership of media outlets, executive aggrandizement, and growing polarization amongst the electorate and elected officials. The research presented here looks at the impact of the concentration of corporate ownership beginning in the 1980s in the U.S. on the democratic performance of the media and the apparent subsequent decrease in democracy ratings of the U.S. Research presented here notes that ownership of the media now stands at roughly 80% of the media outlets being owned between five major corporations when it had been more than 50 different owners in the 1980s. U.S. Freedom House democracy scores are down from their projected high of 95 points out of 100 in the 1980s to roughly 80pts in 2025. Such a downturn supports, on its face, Noam Chomsky's concerns about the deleterious effects of corporate media on democratic health of the U.S. and warrants further research.

Integrated Web-Based Control System for Autonomous Solar Panel Maintenance

Jhasmin Mejia, Computer Information Systems; Andrea Galindo, Computer Information Systems; Micah Terry, Computer Information Systems; Anthony Tanevski, Computer Information Systems
Faculty mentor: Gary Hu, Computer Information Systems

This project presents the development of a multi-agent robotic system designed to automate the inspection and maintenance of solar energy infrastructure. Building upon a foundation of autonomous navigation, the system integrates a mobile rover, a specialized robotic arm, and a centralized web-control architecture to streamline solar panel cleaning. The core hardware consists of an autonomous rover equipped with an ultrasonic-based obstacle avoidance routine and a multi-axis robotic arm. The rover utilizes a calibrated sensor array to navigate complex environments independently, while the robotic arm is programmed with optimized motion strategies—including linear sweeps and oscillating paths—to maximize cleaning efficiency. The current phase of the project focuses on the development of a centralized web-control system hosted on a Raspberry Pi 5. Using a Flask-based API, this platform acts as the "brain" of the operation, coordinating communication between an aerial drone, the rover, and an AI-based image recognition module. The workflow begins with the drone capturing high-resolution imagery, which the AI processes to identify contaminated panels. Upon detection, the central server dispatches the rover to the precise coordinates.The web interface provides a unified dashboard for real-time teleoperation, mission monitoring, and data logging. By merging autonomous obstacle avoidance with high-level remote orchestration, this project creates a scalable solution for infrastructure maintenance, reducing manual labor and optimizing energy output through intelligent robotic cooperation.

Royal Injustice

Alexis Metcalf, Graphic Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

Art in all of its forms is a form of story telling even if it is just a single painting. I love storytelling as a way of escapism, although my stories usually aren't perfectly fine. For me, it's a way to see how people can get through painful times with a smile on their scarred face. I wanted to create my work with both digital and physical tools to get across the point of how pieces of artwork can be multifaceted. In the world of AI trying to replace humanness, I knew that if I didn't do something I was going to put my entire soul into, I wouldn't feel any better than a machine without any lived experience. I would feel like I didn't just fail myself but my grandmother who nurtured my creative spirit as a young child. I knew that in times where my soul wasn't fully in my work, it didn't turn out as well and I didn't want that for my final piece of work at Buffalo State.

Does Your Zip Code Decide Your Future?

Juliana Miller, Social Work
Faculty mentor: Amy Manning, Social Work

Does your zip code decide your future? Housing and neighborhood inequality in Buffalo is extremely racial and segregated. Buffalo is known to be one of the most segregated cities in the US due to a legacy of racism, including 1930s redlining, restrictive housing and "white flight" to suburbs. This has created a very heavily segregated East side, reinforced by highway construction cutting though black neighborhoods. Buffalos housing and neighborhood inequality problems are connected, this is because low-paying jobs make housing difficult to afford, and unstable housing makes it very difficult to be able to keep a job. To be able to fox this issue, the city would need better paying jobs and more affordable housing while also being able to protect residents from being pushed out. Overall, I hope to be able to explain the issues with housing and neighborhood inequality. I hope to be able to reach out to others or anyone in this situation to try my best to help them grow from here.

Paleoecology and Taphonomy of the Middle Devonian Bay View, Smoke Creek, & Adjacent Beds

Andrew Monteforte, Geology
Faculty mentor: Nicholas Sullivan, Geosciences

The fossil record provides a unique window to the evolution of environments and faunas across deep time. This ongoing research has focused primarily on the invertebrate paleontology in western NY, with a specific focus on Middle Devonian (Givetian) assemblages. Macrofossil collections have been gathered from undeformed strata exposed at Buffalo Creek, Penn Dixie Fossil Quarry, and 18 Mile Creek, comprising the Moscow Formation of the Hamilton Group. The famous sites are rich in fossils, comprising exceptional preservation and abundance, reveal distinct ecological changes across space and time. In these sites we have found a multitude of fossils including a diverse suite of brachiopods, bivalves, trilobites, crinoids, bryozoans, and corals common to the area during the Middle Devonian. Focused research has been conducted on the brachiopod-rich Bay View, the trilobite-rich Smoke Creek beds, and adjacent strata. This reveals a Middle Devonian shift from filter feeders to deposit feeders occurred during the middle Devonian. The beds mentioned also provide us an opportunity to study interspecies relationships among common taxa of the Moscow and Ludlowville formations. These beds provide us with a window of time in which the local fauna were preserved ~385 million years ago. With these snapshots they have provided us with a new interpretation and many more questions about the preservation and history of these beds.

Media Illiteracy: Satirical Content and Its Impact on the Masses.

Cameron Orzechowski, Media Production
Faculty mentor: Ann Liao, Communication

Media literacy has become an increasing concern in the United States, as individuals struggle to distinguish between credible information and satirical content. This study examines the relationship between media literacy and trust in media credibility, with a particular focus on why individuals misinterpret satirical sources such as The Onion. The research investigates whether higher trust in media correlates with greater difficulty in identifying false or satirical information, as well as how demographic factors influence media literacy. Data will be collected through surveys in which participants evaluate headlines from a range of media sources, identify them as real or satirical, and provide demographic information. This study aims to highlight how gaps in media literacy contribute to misinformation susceptibility and to identify patterns across different population groups.

Adaptive Machine-Learning for Clean Energy Investment in New York

Krish Patel, Mechanical Engineering Technology
Faculty mentor: Saquib Ahmed, Engineering Technology

This project analyzes county-level data across New York State to identify regions best suited for different types of clean energy investments. Instead of treating clean energy adoption as a single outcome, counties are segmented to evaluate where specific renewable technologies—such as solar or wind—are most viable based on local economic, geographic, and infrastructure conditions. The goal is to provide a data-driven framework that aligns clean energy investment strategies with county-level characteristics. Data were collected from publicly available federal and New York State energy and socioeconomic sources. Initial data organization was performed in Microsoft Excel, followed by data cleaning, standardization, and preprocessing in Python using a Jupyter Notebook environment. Core variables include median income, solar potential, and wind potential, with additional indicators such as subsidy availability, grid capacity, public awareness, energy prices, policy support index, and fossil versus renewable market share incorporated where relevant. Exploratory data analysis and spatial visualizations were conducted using Power BI to identify regional patterns across counties. Machine learning techniques were applied to evaluate and segment counties. Regression models—including Linear Regression, Logistic Regression, Random Forest, and Gradient Boosting—were used to assess relationships between county-level features and technology-specific investment suitability. Clustering methods such as K-Means, Hierarchical Clustering, and DBSCAN were used to group counties with similar investment profiles. Standard performance metrics were used to evaluate and refine model performance. The results reveal clear segmentation among New York counties, highlighting distinct groups that are optimal candidates for clean energy investment based on resource potential and socioeconomic capacity. These findings support targeted, technology-specific investment strategies and provide actionable insights for policymakers and investors aiming to optimize clean energy deployment across New York State.

Ink, Flesh, & Thought

Grace Przywara, Graphic Design; Grace Przywara
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

I create designs for physical and print media by turning ideas into tangible forms. My work explores how typography, image and composition work together to communicate thoughtfully with a viewer, shaping not just how something is read, but how it is experienced. For this exhibition, I focus on typesetting and cover design for A Room of One's Own and Frankenstein. Though different in tone and genre, both texts examine themes of creation, authorship, and identity. My process translates these ideas into visual form, using design to reflect the emotional and conceptual core of each work. Through this work, I position design as both interpretive and creative.

Understanding Space Rocks: Different Types of Meteorites and What They Mean for The Bigger Picture

Brooke Puffer, Geology
Faculty mentor: Kevin Williams, Geosciences

Meteorites are more than just rocks that come from outer space and hit Earth. There are numerous categories, some of which overlap. These different categories consist of iron, stony, and stony-iron meteorites - each of which contain different types of classifications and subcategories of meteorites. This project consolidates this information, making it possible to establish a broad picture of what meteorites are scientifically useful for. The most common type of meteorite is a stony meteorite. Subcategories that pertain to this are chondrites, achondrites, and carbonaceous chondrites. These are useful for dating the age of the solar system, including Earth. Meanwhile, stony-iron meteorites, such as pallasites and mesodirites, are used to understand the interior of planets and planetesimals. Similarly, iron meteorites give scientists a clear idea of how metallic cores are formed in planets. This project also explores Widmanstätten patterns, air bursts, and the presence of iridium to gain a deeper understanding of meteorites, including how they form and interact with Earth. This can reveal specific information about physics, chemistry, and the geologic timescale. The goal of this research is to expose the importance and complexity of meteorites, which will lead to a research question to be addressed in a future semester.

The Influence of Social Stress on Impulsivity in Undergraduate Students

Ellie Regensdorfer, Psychology
Faculty mentor: Gehan Senthinathan, Social & Psychological Foundations of Education; Psychology

Physiological responses to psychosocial stress can vary based on personality traits, such as impulsivity, leading to changes in decision-making. Impulsivity is associated with the brain's dopaminergic and serotonergic systems, as well as testosterone. As individuals age, impulsivity decreases, though stressors may promote these types of behaviors, and they may

manifest differently in men and women. This study is part of a larger experimental procedure that includes additional measures. This study aims to explore how social stress influences impulsivity in undergraduate students aged 18-26. Participants will be randomly assigned to one of two groups. Initial saliva samples will be obtained to analyze a biomarker of stress and following this, participants will complete the Core Alcohol and Drug Survey, which evaluates the prevalence of psychoactive substance use. Group 1 (the experimental group) will partake in the Trier Social Stress Test (TSST), where they experience an anticipatory period for a mock interview, delivering a speech, and performing a mental arithmetic calculation before two judges. Group 2 (the control group) will complete a simple reading and counting task for an equivalent duration. Final saliva samples will be obtained to investigate changes in stress induced by the TSST. All participants will complete the State Trait Anxiety Inventory and the Barratt Impulsiveness Scale-11. Preliminary data will be presented. This study will further our understanding of how decision-making is altered by impulsivity resulting from social stress in young adults, which is critical given the correlation between impulsive decision-making and engaging in maladaptive behaviors like substance abuse.

Reel Learning or Real Learning? How Format Influences Retention

Aiyana Reynolds, Psychology
Faculty mentor: Eyad Naseralla, Psychology

Previous literature suggests that short-form video use is frequently associated with attentional difficulties, memory disruption, and cognitive fatigue, particularly when engagement involves habitual scrolling or rapid context switching. However, emerging research indicates that when short-form videos are intentionally designed for educational purposes, they can enhance attentional engagement and improve immediate learning outcomes. Despite growing research on short-form media, few studies have isolated presentation format while keeping academic content consistent. The present study seeks to fill that gap by examining whether short-form educational content influences immediate retention and quiz performance. Participants will consist of undergraduate students recruited via flyers and from psychology courses. Participants will complete an online Qualtrics survey in which they will be randomly assigned to study two brief selections of information. Depending on the condition, the information will be presented via text only, audio only, or audio paired with an unrelated video (as is commonly seen on social media). After completing demographic measures and distractor tasks, participants will complete a quiz assessing their retention of the information presented to them. A one-way ANOVA will be conducted to examine whether retention quiz scores differ across the three presentation format conditions. It is hypothesized that participants who study the information using audio paired with an unrelated video will perform better than those who study with audio only or with traditional text. Potential findings would provide insight into the ways that presentation format may contribute to immediate learning outcomes.

In/Ex-clusive Politics: Democracy, Colonialization, & The Middle East

Giselle Rodriguez, International Relations
Faculty mentor: Patrick McGovern, Government, Planning & Philosophy; Mehwish Sarwari, Government, Planning & Philosophy

What effect does colonial experiences have on democratization? Democratization represents a complex transition from authoritarian governance to democratic systems, influenced by various factors including economic inequality and redistribution, modernization, structural conditions, international influence and diffusion, agency-based factors, and the historical context of colonization. This study investigates the relationship between democracy, colonial experiences, and extractive economics in Turkey, Iraq and Syria over the course of their modern development as nation states along with additional case studies to test the study's theoretical expectations. The exploration reveals that Turkey's unique historical trajectory, comes from its imperial past, encouraging a more democratic environment compared to its neighbors, Iraq and Syria, which struggle with the legacies of British and French colonialism. I put forth the argument that colonial legacy contributes to ongoing struggles for democracy. This applies to the case studies of Iraq and Syria. Turkey's secularization efforts and modernization, on the other hand, presents a contrasting narrative. By using a binary logistic regression analysis, the research examines the impact of imperial colonial experiences on democratization while controlling for economic factors, social structures, and agency dynamics. The discoveries emphasize the significance of historical context in shaping contemporary political landscapes. The analysis highlights the essential need of addressing historical injustices to pave the way for sustainable democratization in the region, aligning with Acemoglu's and Robinson's (2012) theory that states that the economic success of nations is determined by the inclusiveness of their political and economic institutions.

Hidden Hunger in Plain Sight: Food Insecurity and Homelessness in Buffalo

Yvette Rodriguez, Social Work
Faculty mentor: Amy Manning, Social Work

This project shows the relationship between food insecurity and homelessness in Buffalo, New York, and how these interconnected issues affect vulnerable populations. Based on national research, the study highlights how individuals experiencing homelessness often face barriers to consistent access to nutritious food due to poverty, unemployment, and lack of stable housing. Local data and community based insights were gathered from organizations such as Big Big Table and Taylor's Harvest to understand food insecurity, as well as Buffalo City Mission and observations of the downtown bus terminal to examine visible homelessness in the city. Additionally, a poll of ten individuals was conducted to assess community awareness of these issues. Findings suggest that food insecurity is widespread, with many individuals relying on meal programs and food distribution services, while homelessness remains highly visible in public spaces. Poll results indicate that although most community members recognize homelessness as a problem, less are aware of local resources available to help. This project will present a combination of research findings, local statistics, poll data, and visual documentation to illustrate how food insecurity and homelessness intersect in Buffalo, also highlighting community resources and encouraging awareness and engagement.

Economic Diminishment, with Less Than Meets the Plate

Jackson Scarpace, Social Studies Education 7-12
Faculty mentor: Kelis Swain, Academic Advising

A research paper bridging gaps between economic downturn, a cultural reaction, and a lead to more further economic change that would last up until modern day America starting with the Great Depression.

Gaps Between Knowledge and Practice: How Poverty Shapes Home Outcomes and Academic Achievement in Buffalo, NY

Elizabeth Schilling, Psychological Science
Faculty mentor: Amy Manning, Social Work

The impact of poverty has proven itself to be detrimental for the academic achievement of low-income students. How can a better understanding of healthy habits and support in the home combat this issue in Buffalo, NY? Across the Buffalo Public School (BPS) system, student weighted average performance fell below that of the entire state of New York (NYSED, 2025). According to the index applied by NYS to measure proficiency, the majority of BPS students scored at a Level 1 out of 4 which indicates the lowest level of proficiency across all subjects. This issue is exacerbated among economically disadvantaged students, which consists of approximately 87% of students across the BPS system (NYSED, 2025). A questionnaire will be distributed to the Buffalo Mutual Aid Network Facebook group to gather information on parents' understanding of healthy habits and support at home in comparison to their ability to live in accordance with these ideas. It is hypothesized that although low-income parents may have an understanding of how to provide health and support to their children, the barriers of poverty will prevent them from being able to do so. This research is intended to draw community awareness to the influence of poverty on academic achievement and increase availability of resources required to help students succeed academically.

Exercising Your Right to a Stress-Free Life?

Madison Sharp, Psychology
Faculty mentor: Naomi McKay, Psychology

Stress affects both the quantity and type of food that is consumed. Often when people are stressed, they binge eat unhealthy food such as M&M's and reduce consumption of grapes. However, there may be longer-term effects of stress on food intake. Participants who experienced stress ate significantly more calories later that evening compared to those who had not. Furthermore, acute aerobic exercise, a stress buffer, reduces blood pressure and heart rate. The purpose of this research is to conclude whether or not exercise relieves stress before the actual stressor occurs, aiding in less food intake. It is hypothesized that in participants who exercised before a stressor, food intake will decrease and the quality of the

food will increase. Participants came into the lab and were randomly assigned to exercise or to not exercise before the stressor. During the stressor participants completed a mock job interview in a tight room with emotionless judges for 10 minutes. Post stress, participants were instructed to fill out a dietary recall over the next two days. The dietary recall consists of what food and beverages were consumed throughout the day. It is expected that a possible decrease in food consumption may take place due to prior exercise. The significance of this study is to understand the complex but fascinating relationship between physical activity and stress management and how exercise is beneficial to the overall health of an individual.

We Want Answers (Answers): How Paranormal Reality Shows Portray Disability and Mental Illness

Cooper Shreves, Media Production
Faculty mentor: Ann Liao, Communication

Paranormal investigations often intersect with disability and mental illness topics. Mental hospitals, state schools, and poorhouses that housed those communities are oftentimes at the forefront of paranormal media. When investigators enter these places, they're communicating with those who would have been disabled and/or mentally ill. Grounded in framing theory, this study examines how these communities are represented, perceived, and treated. Shows like Ghost Adventures, Ghost Hunters, Tennessee Wraith Chasers, and Paranormal Lockdown provide insight into how paranormal media practitioners depict marginalized groups. Through media analysis, this study examines episodes from each show and documents both derogatory and more nuanced or meaningful representations.

Selective Clemency and Personal Restitution: A Forensic Evaluation of Mary I's Administrative Bias (1553-1558)

Dylan Simpson, Social Studies Education
Faculty mentor: Kenneth Orosz, History & Social Studies Education

This paper examines modern revisionist interpretations of the reign of Mary I of England and will evaluate whether recent scholarship has, in seeking to challenge earlier hostile and misogynistic portrayals of her reign, understated the severity of her policies. While modern historians in recent scholarship have began to emphasize the coherence and efficiency of Mary's government, this study will evaluate the extent to which modern interpretations may downplay the severity of her religious persecutions and her application of the Treason Act. By comparing Mary's treatment of prominent figures such as Frances Brandon and Princess Elizabeth, I will investigate how her response to potential rivals differed, and whether personal and dynastic factors may have influenced these outcomes. This papers seeks to intervene in the middle between historiographical debates by pivoting away from the modern misunderstood version of Mary I and reassessing the balance between contextualization and the events of her reign.

Sentiment Analysis and Text Summarizer System Using Natural Language Processing and Machine Learning

Saugat Siwakoti, Computer Information Systems
Faculty mentor: Sarbani Banerjee, Computer Information Systems

This project presents the development of an end-to-end AI-powered healthcare communication intelligence system designed to automate the analysis of clinical call transcripts through fine-tuned transformer-based models. Leveraging ClinicalBERT and BART, pre-trained on large-scale biomedical corpora and fine-tuned on real-world healthcare call transcripts, the system performs multi-task natural language processing including sentiment analysis, abstractive summarization, and clinical named entity recognition — extracting key information such as medications, diagnoses, symptoms, and patient concerns in a single unified pipeline. The system incorporates an automated speech recognition layer powered by OpenAI Whisper, enabling direct audio input processing without manual transcription. A risk-flagging classification module identifies high-priority calls based on detected patient distress, medication confusion, or urgent follow-up requirements, enabling healthcare professionals to triage and respond more efficiently. All outputs are surfaced through an interactive web-based dashboard, providing clinicians and administrative stakeholders with real-time, structured insights derived from otherwise unstructured conversational data. Evaluation results demonstrate strong performance across summarization metrics (ROUGE scores) and sentiment classification (F1), with the fine-tuned models significantly outperforming baseline LSTM architectures. This work contributes to the growing body of research on applied NLP in health informatics and demonstrates the feasibility of deploying AI-driven tools in real clinical communication workflows. The system serves as a scalable foundation for future integration with electronic health record (EHR) systems, longitudinal patient monitoring, and expanded multilingual support. This research will be presented at multiple undergraduate and graduate research conferences, contributing to scholarly discourse on the role of artificial intelligence in modernizing healthcare communication infrastructure.

Pneumatic Powered Cleaning Tools for Automated Solar Panel Maintenance Robot

David Stombaugh, Mechanical Engineering Technology; Zackery Ungaro, Mechanical Engineering Technology; Eric Duma, Mechanical Engineering Technology; Timmy Tran, Mechanical Engineering Technology
Faculty mentor: Jikai Du, Engineering Technology; Gary Hu, Computer Information Systems

The maintenance of solar farms on a large scale involves solving problems related to environmental debris accumulation. A platform based rover chassis, equipped with a four-degree-of-freedom robotic arm (payload capacity of around 0.5 kg at 0.5 m) has been developed to clean and maintain solar panels. The existing tools on this platform have been found to be crude and lacking in capability to clean solar panels effectively. The active project goal is to design and develop lightweight and modular tool mechanisms that can increase the current system's cleaning capabilities, without compromising the mechanical and electrical limits. The proposed mechanism consists of a compact DC powered air compressor unit and a small air tank that can be mounted to the platform of the chassis. The air pressure will be

regulated using an electrically controlled valve/solenoid and then directed up the robotic arm to a custom designed gripping attachment that will couple with interchangeable tool ends. A pneumatically driven rotating brush attachment is being developed by integrating a vane air motor within a lightweight housing to achieve high rotational speed with minimal mass. A tool attachment that uses airflow to displace loose accumulated debris (snow/dust) and a motorized tool rack are also being designed. This project presents the system design and integration strategy for improving the versatility and capability of the current robotic solar panel maintenance system.

Crack Open a Can of History: How Canned Food Fueled War and Home Fronts

Olivia Stotz, History
Faculty mentor: Kenneth Orosz, History & Social Studies Education

This project examines the role of canned food technologies in shaping military logistics and civilian food systems in the United States and Canada during World War Two and early postwar period. It investigates how wartime demand transformed industrial canning practices, integrated preserved foods into military supply chains, and reshaped domestic consumption under rationing and food shortages. By analyzing government publications, military procurement records, propaganda films, industrial manuals, and civilian cookbooks, this study explores how canned foods became embedded in wartime food management rather than assuming their importance as a given. The project also considers how wartime innovations in food preservation expanded reliance on canned goods influenced postwar consumer expectations and contributed to the rise of convenience foods. Situating canned foods at the intersection of technology, state planning, and everyday life, this research bridges economic, cultural, and military histories that are often treated separately in existing scholarships. The research will be presented as a historical analysis that synthesizes primary and secondary sources to demonstrate how preservation technologies supported wartime mobilization while permanently altering food production and consumption patterns in North America.

Still Evolving: A Look Into Anthropology Through Art

Sonya Strong, Art & Design
Faculty mentor: Shasti O'Leary-Soudant, Art & Design

Anthropology is one of the most misunderstood sciences, or is it a humanity? Most people believe it's the study of dinosaurs which is incredibly incorrect. My creative project is meant to make anthropology more understandable and accessible to people by creating a series of paintings that summarizes the field. By painting the 4 fields of anthropology and pictures that best answer the most common anthropological questions, I will make pieces that inform it's viewers. This will allow viewers to feel the same inflections about their humanity that anthropologists do and create a sense of self and/or cultural awareness.

Are there Enough Male Teachers?

Abigail Toomey, Childhood Education
Faculty mentor: Dianne McCarthy, Education

As someone who works in childcare, I have rarely seen a male educator until a few months ago. This made me question how many males are in the education field and the challenges they face. I decided to focus on the statistics and challenges males face. I also decided to compare the challenges woman face in the STEM field to the challenges males face in the education field. As a result to all my research, I created a hypothetical workshop for all educators, mainly male educators, to help get more males into the teaching field.

Endless Scrolling: TikTok Intensity and Psychological Well-Being

Aurora Trinkwalder, Psychology; Bridgette Johnson, Psychology; Jada Fracis, Psychology
Faculty mentor: Kimberly Kamper-Demarco, Psychology

Social media is a common part of daily life, particularly among college students, with platforms like TikTok encouraging high levels of engagement. While prior research has examined social media's effects on behavior and well-being, less is known about how the intensity of use influences mental health outcomes. This study examines the relationship between social media use intensity and indicators of psychological well-being. Participants from Buffalo State University will complete an online Qualtrics survey assessing social media use patterns, including frequency, time spent, and intensity of use, as well as mental health outcomes such as anxiety, depression, and anger. Correlational and multiple regression analyses will be conducted to determine whether higher social media intensity correlates with poorer mental health outcomes. It is hypothesized that increased social media use will be positively associated with higher levels of anxiety, depression, and anger, highlighting the potential psychological impact of high-intensity engagement with social media platforms.

Beyond Rent: The Reality of Housing Injustice in Buffalo

Krystal Wainwright, Applied Psychology
Faculty mentor: Amy Manning, Social Work

Housing injustice is an issue of great importance at the national level as well as at the local level in the city of Buffalo. At the national level, it is seen that evictions affect Black households, women, and the disabled in the United States. It is associated with negative consequences in health, education, and employment. This project focuses on the issue of housing injustice in the city of Buffalo with the help of reports, news articles, and information obtained from organizations such as the Partnership for the Public Good. In addition, a poll among 25 individuals in the city of Buffalo was conducted in order to determine the awareness of the community regarding the issue of housing instability and evictions. The findings show that the city of Buffalo is experiencing high rates of evictions along with poverty. The issue of housing instability is the main reason for the presence of poverty in the

city. The findings indicate that the majority of the participants believe that housing is an issue of great importance in the city; however, they have limited knowledge about housing injustice.

In-Vision Your Self Through Self-care Vision Boards

Brayden Wall, Social Work; Ashly Gibson, Social Work; Megan Stott, Social Work; Jennifer Dalimonte, Social Work
Faculty mentor: Jessica Fitzpatrick, Social Work

Will college students benefit from art therapy? Research shows that art therapy can reduce stress, improve self-awareness, support mindfulness, decrease anxiety symptoms, and improve overall well-being. Participants of art therapy report improvements in mood, feeling more relaxed, and emotionally balanced. This research project explored whether college students at Buffalo State University had similar experiences with art therapy. On April 1, 2026, an art therapy session was held on campus at the Student Union, open to all students. Students were able to create a vision board. The event was marketed with flyers posted around campus for two weeks prior to the event. A survey will be conducted with students after the art therapy session to see if their mood has improved. It is expected that students will report positive mood changes, feeling calmer and more relaxed, due to the research. It is expected that students will do another art therapy session if accessible. The poster presentation includes additional details about the project, including research and pictures from the event. Additionally, information about outside art therapy locations will be provided, along with alternative art activities students can complete independently.

The Efficacy of Convenience: An Analysis of Early Voting and Turnout in U.S. Presidential Elections

Kimberly Wallace, Political Science
Faculty mentor: Naomi McKay, Government, Planning & Philosophy; Peter Yacobucci,

Does early voting affect voter turnout in elections? As the way we vote keeps changing, it is important to understand if these convenience-based reforms actually get more people to the polls. By providing an extended voting period, early voting seeks to accommodate citizens' diverse schedules, potentially advancing greater inclusivity in democratic participation. This study hypothesizes that states with more expansive early voting options would exhibit significantly higher turnout rates compared to those with more restrictive policies. This study uses a quantitative approach to see how early voting options across the U.S. relate to voter turnout. Using data for presidential elections for the period of 2008-2024, empirical analyses show a strong positive link between early voting and turnout, suggesting that making voting easier does help mobilize people. However, strict voter ID laws have a negative correlation with participation.

The Voice of Hungary: Zoltán Kodály's Sonata for Violoncello

Anna Weinert, Music Education
Faculty mentor: Carolyn Guzski, Music

Sonata for Violoncello, Op.8 (1915), is the quintessential example of the compositional and aesthetic principles that guided Zoltán Kodály–a Hungarian composer and pedagogue– throughout his life and musical career. Kodály's Sonata for Violoncello is a sort of musical chimera, masterfully combining elements of Hungarian folk tradition and Western European classical technique to great effect. In particular, Kodály's three-movement Sonata is heavily influenced by the Hungarian folk lament–an improvisational vocal piece performed for funerals– which can be seen in the lyrical structure of the melody as well as the modal leanings of the harmonic progression. The "lamenting" quality is further enhanced by the scordatura tuning, which lowers the bottom two strings of the cello (C→B; G→F#), providing a darker, richer tone to the piece and supporting the tonal center of B minor. Additionally, this Sonata is composed for unaccompanied cello, and is one of the most significant contributions to this category–on par with the Six Suites for Violoncello by Johann Sebastian Bach. Like the Bach suites, Kodály manages to create a rich, polyphonic texture with a single-voiced instrument (although through different means than Bach). My presentation discusses the hybrid construction of the Sonata for Violoncello, as well as the historical context of the era it was written. Lastly, it offers comparisons to the Six Suites for Violoncello by J.S. Bach.

Streamlining the System: Automation and Business Process Efficiency in Banking

Caitlin Wilhite, Computer Information Systems
Faculty mentor: Sarbani Banerjee, Computer Information Systems

This project examines how automation, specifically Robotic Process Automation (RPA), can improve business process efficiency in banking environments. Financial institutions manage high volumes of repetitive, rule-based tasks every day, including data entry, record updates, and transaction processing. Because these processes must be completed quickly and accurately, efficiency and reliability are essential for maintaining effective operations. As automation technologies continue to grow in use across many industries, it is increasingly important to understand their measurable impact on organizational performance, cost management, and overall workflow efficiency. My interest in this topic is informed by my internship at a bank, where I work with application programming interfaces (APIs) and have gained exposure to the systems that support daily banking operations. Through this experience, I have observed how automation tools can assist with system integration and help streamline routine workflows that would otherwise require significant manual effort. This research uses quantitative data analysis in Python to evaluate efficiency metrics related to automation. Public datasets from sources such as Kaggle and industry reports will be analyzed using Jupyter Notebook within Anaconda Navigator. The pandas library will be used for organizing and analyzing the data, while Matplotlib will be used to create visualizations that highlight trends and comparisons within the dataset. Expected results include measurable improvements in processing time, accuracy, and operational performance associated with automated processes. The presentation will feature data visualizations that illustrate these findings and help demonstrate the potential impact of automation in banking systems.

Improving Access to care for Non-English-speaking individuals

Triona Williams, Social Work
Faculty mentor: Kimberly Zittel-Barr, Social Work

How do language barriers affect access to care, and does this impact residents in Buffalo, NY? Across the United States, there are common issues surrounding dental care in non-English speaking communities. Families whose first language is not English can often experience inconsistencies in attending appointments, creating gaps in routine follow-up with providers, and inconsistent oral hygiene. This project is to explore the challenges that non-English speaking families may face around the United States when accessing dental care and how to close those gaps. After reviewing the challenges, we will explore strategies that will improve the trust and communication between the providers and patients who are non-English Speaking. By observing and assessing the patients and providers satisfaction, experience, and the effectiveness of the support tools used during dental visits.

Modest Fashion In Modern Society

Lindsey Wood, Fashion, Textile & Technology; Megan DeGlopper, Fashion, Textile & Technology; Esperance Mmbamba, Fashion, Textile & Technology; Jaden Luper, Fashion, Textile & Technology
Faculty mentor: Arlesa Shephard, Fashion & Textile Technology

This project explores modest fashion and how it appears in both religious communities and mainstream fashion today. Modest clothing is often connected to religions such as Islam, Judaism, and Christianity, where clothing is designed to provide more coverage while still allowing individuals to express personal style. In our research, we looked at several designers and brands who focus on modest fashion, including Dian Pelangi, Batseva Hay, the brand SANET, and TR Runway. Each designer or brand represents modest fashion in a different way. Dian Pelangi blends traditional Indonesian culture with modern Muslim fashion through colorful fabrics and patterns. Batseva Hay draws inspiration from Orthodox Jewish traditions and vintage styles, creating clothing that is modest but still fashionable. SANET focuses on sustainable Muslim fashion that balances faith, comfort, and modern design. TR Runway also contributes to modest fashion by creating stylish clothing options that provide more coverage while remaining contemporary and wearable for everyday life. As we investigated this topic, we conducted internet research on a variety of modest fashion designers that represent different belief systems and cultures. To experience all modest fashion you must explore multiple designers from around the world. Modest fashion is a way of dress that allows for self-expression while also accommodating for personal beliefs. Modest dress is a movement that will always reflect what is happening in mainstream media. It has been brought into mainstream fashion by many designers showing that you don't have to sacrifice style while still dressing modestly.

Plundering for Pyrite: Paleoenvironment of Western New York and Its Fossil Preservation Conditions

Alexander Wysocki, Earth Sciences; Brooke Puffer, Geology; Kelly Normandin, Geology; Madine Djibrine, Earth Sciences; Alyssa Chase, Environmental Geography
Faculty mentor: Kevin Williams, Geosciences

Fossil preservation in carbonate sediment depends on paleoclimate environments during organism burial and the sediment trace element chemistry during deposition and decay. Trace transition metals like iron, and other elements like sulfur, can contribute to potential replacement of organic material by FeS2 (pyritization) after sediment becomes rock (lithification). In Western New York state, there are documented locations of pyritization. This uncommon process can provide clues to the depositional environment during the Mid Devonian period (~390 million years ago), when this area was a shallow sea near the paleoequator. This depositional environment would be low oxygen and carbonate rich. Our focus is to use samples collected along Buffalo Creek in Elma, NY, of the fossiliferous Tichenor Limestone (of the Moscow Formation, Hamilton Group), and to analyze the geochemistry of the bulk rock using X-Ray Fluorescence (XRF) spectrometry. Pyrite was not found in our samples, although we found high enough iron concentrations for pyritization (11,000-33,000 ppm), but sulfur concentrations are relatively low (1,000-1,900 ppm). Pyritization likely did not occur, since the chemical formula for pyrite requires double the amount of sulfur to iron (FeS2).

Strength & Serenity Fitness, Pilates & Yoga

Marquita Young-Copeland, Social Work; Yvette Rodriguez, Social Work; Alicia Watson Coke, Social Work; Tyisha Pinkston, Social Work
Faculty mentor: Jessica Fitzpatrick, Social Work

The answer is yes! Research shows that any kind of physical fitness can be used as a form of self-care. This event focuses on 3 of the most used forms of physical fitness in the world. They are Yoga, Pilates, and Core-Strength Training. It is believed that these 3 types of exercises can improve physical health and mental health. Yoga, a 3000-year-old tradition, is practiced by many people of the western world today. Many people also practice Core-Strength Training and Pilates. All 3 of these forms of physical fitness reduce stress, improve mood, and strengthen the body. A physical fitness event was hosted at Buffalo State University on April 14th at 12 noon in the fitness center. The campus community was invited to participate. Flyers about the event were posted in the campus student union. A brief survey was given at the end of the event, asking the participants if they believed that any of these types of exercise would be good forms of self-care for daily practice. The prediction is that all will love these forms of self-care. The Poster will include data and pictures from the event.

"Stop the White Genocide!" Mediating Effects of Conspiracy Theories on Threat and Behavior

Daisy Zhanay, Psychological Science
Faculty mentor: Eyad Naseralla, Psychology

The present research examined the effects of realistic and symbolic threat on racialized demographic conspiracy theories and anti-immigrant behavioral intentions. Racialized demographic conspiracy theories, such as the Great Replacement theory, are theories or beliefs related to the intentional replacement of a majority group through immigration, race-mixing, and policies meant to enhance diversity. In Study 1, 148 participants read a newspaper article that included either realistically or symbolically threatening information. Results revealed that participants in realistic threat conditions reported more anti-immigrant behavioral intentions, which were mediated by conspiracy theory endorsement. Study 2 built upon findings from Study 1 by examining the role of artificial intelligence on prejudice. Specifically, the study examined the role of artificially generated media and misinformation on anti-immigrant prejudice and perceptions of immigrants. Participants read a newspaper article that included AI-generated photos designed to arouse a sense of symbolic or realistic threat. Participants then completed a survey assessing behavioral intentions, threat perception, and endorsement of conspiracy theories. The images generated in Study 2 failed to arouse feelings of symbolic or realistic threat, leading to no effects of condition on prejudice. Potential reasons for this discrepancy and practical implications will be discussed.

Oral Sesssions

Oral Session I, 10:00-11:30, SAMC 151

10:00-10:15, SAMC 151

Prodigiosin Reduces Viability in Triple-Negative Breast Cancer Cells

Adiari Vergara Diaz Biology
Faculty mentor: Sandra Borbor-Sawyer, Biology

Triple-negative breast cancer (TNBC) is an aggressive subtype of breast cancer with limited treatment options, highlighting the need for new therapeutic approaches. Prodigiosin, a natural red pigment produced by Serratia marcescens, has shown anticancer potential, but its effects in TNBC are not fully understood. This study evaluates the cytotoxic effects of purified prodigiosin in the MDA-MB-231 TNBC cell line. Prodigiosin was extracted using acidified alcoholic solvents and purified through silica column chromatography. Cells were treated with increasing concentrations, and cell viability was measured using the Alamar Blue assay. Preliminary results show a dose-dependent decrease in cell viability, with higher concentrations associated with reduced metabolic activity compared to untreated controls. These findings indicate that prodigiosin has cytotoxic effects in TNBC cells. Additional studies are in progress to better understand how prodigiosin affects cell death and overall cellular responses, including apoptosis and changes in cell cycle progression. This work supports the potential of prodigiosin as an anticancer agent and provides a foundation for further studies exploring its therapeutic applications.

Oral Session I
10:15-10:30, SAMC 151

Evaluating the Anti-Tumor Effects of Lycorine in Triple-Negative Breast Cancer Cells

Nakelia Taylor, Biology
Faculty mentor: Sandra Borbor-Sawyer, Biology

Lycorine, a naturally occurring isoquinoline alkaloid, has gained attention for its potential anti-cancer effects, but its impact on breast cancer cells is not yet fully understood. This study investigates the effects of lycorine on triple-negative breast cancer (TNBC), an aggressive cancer subtype with limited treatment options. Cells were treated with increasing concentrations of lycorine for 24, 48, and 72 hours, and cell viability was measured using a fluorescence-based assay to determine dose- and time-dependent effects. To assess whether reduced viability is associated with programmed cell death, treated cells will be stained with Annexin V and propidium iodide and analyzed by flow cytometry to distinguish viable, early apoptotic, late apoptotic, and necrotic populations. Together, these experiments

aim to determine whether lycorine reduces cell survival and suppresses aggressive cellular behaviors. This study provides insight into how lycorine affects cancer cells and supports its potential as a candidate for developing alternative therapeutic strategies.

Oral Session I
10:30-10:45, SAMC 151

Fungal Communities Associated with Historic Seneca-Iroquois Baskets

Brooke Formaniak, Biology
Faculty mentor: Olga Novikova, Biology

Seneca-Iroquois basketry, a longstanding tradition of the Haudenosaunee people, represents a vital expression of cultural identity, craftsmanship, and ecological knowledge. Constructed from black ash and sweetgrass, these artifacts are both artistically and historically significant. A substantial collection is housed at the Seneca-Iroquois National Museum in Salamanca, New York; however, like many plant-based heritage materials, these baskets are highly susceptible to fungal colonization. Microbial growth can lead to discoloration, fiber degradation, and structural instability, posing a serious threat to their long-term preservation. Despite the vulnerability of such materials, woven plant-based artifacts remain underrepresented in conservation research, limiting the development of effective, evidence-based preservation strategies. This study aims to characterize fungal communities associated with historic Seneca-Iroquois baskets and evaluate their potential role in material deterioration. To achieve this, we integrate culture-dependent isolation, microscopic analysis, and DNA barcoding for accurate taxonomic identification. In addition, we assess the functional potential of isolated fungi through enzymatic assays targeting cellulose and lignin degradation. By linking microbial identity with degradative capability, this work provides a foundation for understanding biodeterioration processes in culturally significant materials. The findings will support the development of targeted conservation approaches and contribute to the long-term protection of these irreplaceable cultural artifacts.

Oral Session I
10:45-11:00, SAMC 151

Antifungal Activity of Novel Heterocyclic Dipeptide Isosteres Against Candida albicans

Elizabeth Raji, Forensic Chemistry
Faculty mentor: Olga Novikova, Biology; Sujit Suwal, Chemistry

Antimicrobial resistance among pathogenic fungi has emerged as critical global health threat. The limited arsenal of available antifungal drugs, combined with rising resistance to existing classes such as azoles and echinocandins, poses serious challenges to managing invasive fungal diseases. This underscores the pressing need to identify structurally novel compounds with antifungal potential. This study evaluates the antifungal activity of several novel

heterocyclic dipeptide isosteres against Candida albicans ATCC 10231 using a Minimum Inhibitory Concentration (MIC) assay. Compounds are tested in vitro via broth microdilution, in which serial two-fold dilutions are prepared in microtiter plates and fungal growth is monitored by measuring optical density following incubation. Fluconazole serves as a positive control. We anticipate identifying compounds with significant antifungal activity at low concentrations, representing promising candidates for further susceptibility testing and structure-activity relationship analysis. This study aims to contribute preliminary data toward the development of novel agents targeting drug-resistant fungal pathogens.

Oral Session I
11:00-11:15, SAMC 151

Unified Framework for Distributing Objects into Bins: From Combinatorial Recurrences

John Schiro, Mathematics
Faculty mentor: Jeffrey Morton, Mathematics

From different assumptions about labeled and unlabeled objects and bins, distinct combinatorial counting functions arise. These functions motivate creation of a unified framework connecting four classical combinatoric structures. Beginning with foundational functions, permutations and binomial coefficients, this presentation looks into Pascal's Triangle, The Stirling Numbers of the Second Kind, Integer Partitions, and the Stars and Bars Method. Each of these can be defined as recursive functions. These structures are examined both algebraically and visually through their corresponding tabular array. The central finding is that all four counting functions share a common recursive form, differing based on whether the objects and bins are labeled or not. Labeled objects into labeled bins yield Pascal's Triangle; labeled into unlabeled yields Stirling's triangle; unlabeled into unlabeled yields the Partition Triangle; and unlabeled into labeled yields the Stars and Bars table. Notable difference among the four functions is the multiplier k in the Stirling recurrence that is absent from the others, directly from having unlabeled bins. Attendees will come away with a clearer understanding of how a single distributional question unifies seemingly distinct areas of combinatorics.

Oral Session I
11:15-11:30, SAMC 151

How and Why Should We Impose Lattice Structure on Coxeter Groups

Macey Fredericks, Mathematics
Faculty mentor: Jeffrey Morton, Mathematics

This presentation will explore Coxeter Groups through the use of lattice structure. Coxeter Groups are described by the symmetries of polyhedra. It will develop some foundations of Coxeter Groups including a brief history, the root system, words, reduction of words, and the

definition of a lattice. These foundations will be explained through simple examples. Lattice structure on Coxeter Groups is built upon their words and inversion sets. One such lattice is the weak order on Coxeter Groups, which will be verified through a sketch of a proof. Finally, the broader importance of lattices to mathematicians will be touched on.

Oral Session II, 10:00-11:00, SAMC 170

10:00-10:15, SAMC 170

Empowering BPS Student's Through Digital Sports Media

Arie Dorsey, Media Production
Faculty mentor: Dorothea Braemer, Communication

This independent study project addresses the promotional and engagement challenges within Buffalo Public Schools (BPS) Athletics by implementing a student-led sports media production program. Initially, the project entailed me covering events and activities for BPS, so the Athletics department could be reassured by my experience and so I could get the ball rolling, so to speak. In addition to capturing photos and videos, and conducting interviews, I also assisted in establishing a district media club, developing a structured curriculum on fast-paced production and social media reporting, and providing on-site mentorship during the Spring 2026 sports season. With this project, the main goal of the athletics department includes the creation of an official BPS Athletics TikTok account that will serve as a main home for the digital content that the students produce. By reinforcing media production skills through interactive activities and lecture-type lessons, this project establishes a sustainable, potential framework for the school district, while reinforcing my own skills and abilities in digital sports media.

Oral Session II
10:15-10:30, SAMC 170

A Balm for the Soul Animation

Beth Stang, Media Production
Faculty mentor: Ruth Goldman, Communication

I will present my journey in learning animation history and process. My motivation in learning animation is to realize my concept, currently titled “Balm for the Soul,” for a fantasy animated series about deities, humans, and the ideas we choose to follow. This is a multimedia concept, with characters created using different animation styles. The styles I have studied and practiced during my fellowship are hand-drawn, claymation, and silhouette animation. I will briefly explain their history and process with examples of character animation tests I made for each style. I will also explain the pre-production process of creating two scenes that will be the proof of concept for my project. Each scene combines two animation styles. I will

end with my plans for building on what I learned and created during my summer research fellowship.

Oral Session II
10:30-10:45, SAMC 170

Modern Christianity in Media: Representation, Reality, and the Shaping of Public Perception

Kiesha Adamczyk-Bennett, Media Production
Faculty mentor: Ann Liao, Communication

This paper examines how modern Christianity is portrayed in contemporary media and how these portrayals may influence public perception and social attitudes. In recent decades, media representations of Christians have increasingly highlighted themes such as hypocrisy, political extremism, and moral rigidity. These portrayals are often rooted in real and visible behaviors within Christian communities. However, they frequently fail to capture the full reality of Christian life, overlooking the humanity, growth, and imperfection that are central to lived faith. As a result, media narratives tend to present a narrowed and often distorted understanding of Christianity. Drawing on sociological perspectives and behavioral psychology, including social cognitive theory and cognitive bias, this study explores how repeated exposure to selective portrayals shapes audience beliefs. By analyzing examples from television, film, news media, and social media, this paper identifies recurring stereotypes and examines how they become reinforced over time. Additionally, this study considers the role of Christian media creators in reshaping these narratives. As both a participant in a Christian community and a student of media production, the author brings a dual perspective to the analysis, recognizing both the internal challenges within Christianity and the external forces that shape its image. Preliminary findings suggest that the media both reflect and amplify certain realities while simultaneously limiting a broader understanding of faith. This study highlights the need for more balanced portrayals that acknowledge both the shortcomings and sincerity within modern Christian communities.

Oral Session II
10:45-11:00, SAMC 170

Narratives of War: Media Framing and Representation in the Coverage of the Israel–Palestine Conflict

Lorenzo Felix, Public Relations and Advertising
Faculty mentor: Ann Liao, Communication

This presentation examines how major media outlets frame and construct narratives surrounding the Israel-Palestine conflict. Using framing theory, this study analyzes how headline construction shapes audience perceptions of the conflict. Focusing on two contrasting sources, Al Jazeera and i24NEWS, alongside a broader sample of news

headlines, this study categorizes the coverage of these events into three categories: pro-Palestine, pro-Israel, and unbiased. The findings reveal distinct patterns in how each outlet presents the conflict, based on a sample of 100 news articles published since 2023. The data demonstrate that headline construction is a powerful tool in showcasing events positively or negatively, reinforcing political and ideological perspectives through terminology, and contextualizing historical narratives to influence public understanding of the conflict. These findings show the importance of critically evaluating media sources, as well as helping the public recognize how media outlets use framing to report different narratives of the same events.

Oral Session III, 10:00–11:00 AM, SAMC 172

10:00-10:15, SAMC 173

Embodied Cosmos: Consciousness, the Body, and the Night Sky

Skyler Gore, Communication Studies
Faculty mentor: Staci Newmahr, Sociology

Stargazing, publicly and formally, is typically framed as objective, detached, instrument-mediated, and universal, wherein the human body disappears as a part of the process. Yet, when we look up at the night sky with bodies literally made of stardust, we look at our material origins and make meaning of our cosmic encounters through interaction, narrative, mythology, and philosophy. As a citizen science and recreational activity, stargazing includes millions of global participants and was listed in 2025 as a top travel and tourism trend. Tourism studies have begun to compile and analyze empirical, qualitative data on stargazers, but to date, there exists little literature on the qualitative, social ways we make meaning during this ancient practice in our modern world, and more specifically, who has access to the night sky. This project reframes cosmic observation as an embodied, interactional process, built on symbolic interactionism and its adjacent fields of feminist epistemology, sociologies of the body and senses, and anthropologies of consciousness. Using multidisciplinary, qualitative materials from dark-sky observation and public astronomy, I address: how does stargazing emerge as a socially situated practice through which individuals make meaning? How do we negotiate emotional and sensory responses with the night sky? How do internal experiences such as awe, fear, and curiosity emerge through meaning-making processes between our bodies, the cosmos, and cultural-scientific narratives? In asking these questions, this research seeks to advance accounts of consciousness as situated, embodied, and co-produced through sensory experience, scientific knowledge, and the universe.

Oral Session III
10:15-10:30, SAMC 173

Unequal Medical Treatment Among Overweight and Obese Patients

Jennifer Kowalik, Health & Wellness
Faculty mentor: Leah Panek-Shirley, Health, Hospitality, Nutrition & Dietetics

Over 40% of adults in the United States are obese. According to research these individuals are subject to negative bias by the medical community, which leads to unequal treatment and inadequate care. Obesity has not always been an issue that doctors have focused on. Both the medical field and current day society have made obesity a top issue to solve, as opposed to focusing on other chronic illnesses and their causes. This has come with anti-fat and anti-obese bias. Due to this bias the cost of medical care has increased as individuals are less likely to participate in routine/preventative doctor appointments since they experience being dismissed by their doctors, or doctors refusing to run diagnostic tests until the patient has lost weight. Not only is the cost of medical intervention at a later stage of disease higher, the quality of life for the patient is significantly diminished. Assessment will review programming that is currently in place to mitigate these negative attitudes and outcomes, as well as ideas for such programming.

Oral Session III
10:30-10:45, SAMC 173

Frequent Emergency Department Use in Urban Populations: The Impact of Health Literacy, Language Barriers, and Patient Navigation

Sherille Williams, Health & Wellness
Faculty mentor: Leah Panek-Shirley, Health, Hospitality, Nutrition & Dietetics

Frequent emergency department use remains a persistent challenge in urban healthcare systems, particularly among populations with low health literacy and limited English proficiency. These intersecting barriers contribute to misunderstandings of discharge instructions, poor care navigation, and increased reliance on emergency services for non-emergent needs, ultimately driving preventable utilization and higher healthcare costs. The purpose of this review is to evaluate current strategies, including interpreter services and discharge education methods, such as “Teach-Back,” that are intended to improve patient understanding. Findings indicate that gaps in communication and care coordination negatively impact documentation accuracy and mid-revenue cycle outcomes. To address these challenges, the integration of bilingual patient navigation programs alongside standardized “Teach-Back” protocols has the potential to improve patient comprehension, reduce avoidable emergency department utilization, and strengthen revenue cycle performance through improved care continuity, reduced readmissions, and decreased financial loss.

Oral Session III
10:45-11:00, SAMC 173

The Supermodel Project: The Life, Death, and Re-Birth of a Pop Icon

Tallulah Gordon, Individualized Studies
Faculty mentor: Catherine Ansuini, Individualized Studies

Supermodel, known by many as the singing robot, was a world-famous pop star active from 2012 until 2019, when she was deactivated following the gruesome murder of her manager, [redacted]. The incident was shocking and remains one of the most disturbing events in entertainment history. All existing media of Supermodel was deleted and pulled off shelves following her deactivation, her memory quite literally wiped form the public's consciousness. In June of 2025, a small group of urban explorers discovered lost media that had been hidden away in the abandoned office building of her former record label. The following work has been recently uncovered from Supermodel's archive.
"Supermodel" is the fictional character created and portrayed by artist Tallulah Gordon as a part of their senior thesis. By drawing inspiration from real life celebrities whose lives have been torn apart by the media and by fans themselves (Brittany Spears, Kesha, Megan Thee Stallion), The Supermodel Project utilizes the genre of "unfiction" to explore themes of exploitation, hyper sexualization, and loss of agency over one's own body by immersing their audience in an alternate reality that mirrors our own.

Oral Session IV, 11:00 AM–12:00 PM, SAMC 170

11:00-11:15, SAMC 170

Competitive Video Games and It's Effects on Society

Tavis Watson, Media Production
Faculty mentor: Ann Liao, Communication

Competitive video games first began making an appearance around 1972 with the start of at-home consoles. The start of esports began with the creation of Spacewar! at Stanford University's Artificial Intelligence Laboratory, hosted by Rolling Stone magazine. As the quality and frequency of games progressed through history, so did the emotions that were felt by those playing them. With the rise of competitive games, there was also a rise in the effects on adolescents playing them. The effects differed, varying by the sex of the players, with males appearing to have a higher rate of anxiety, whilst female players showed higher signs of depression. The goal of this study is to examine how these games, in all different facets (MOBAs, first-person shooters, hero shooters, etc.), affect people from an overarching lens of emotional and psychological perspectives.

Oral Session IV 11:15-11:30, SAMC 170
11:15-11:30, SAMC 170

Investigating the Role of Judicial Attitudes in the Initiation of Intercircuit Conflict

A. Gabriel Becerra, Political Science
Faculty mentor: A.K. Shauku, Government, Planning & Philosophy

In the United States, the application of national law can vary considerably by region. Due to limited review by the U.S. Supreme Court, the United States Courts of Appeals have the final say in over 90 percent of federal cases. But these courts are organized into 12 regional jurisdictions, and they often disagree over how federal law should be interpreted and applied. Building on Shauku (2018), Shauku (2025), and Mason (2025), this study examines circuit splits across three legal subject areas—search & seizure, employment discrimination, and labor law—to determine the extent to which these conflicts are driven by the varying ideological compositions of the randomly-assigned three-judge panels on the US Court of Appeals. Using Judicial Common Space scores, a widely used measure of judicial ideology developed by Epstein et al 2007, logistic regression analysis is employed to compare the ideological composition of each three-judge panel which takes a position in an intercircuit conflict and the dichotomously coded liberal/conservative position (Segal and Spaeth 2002) taken by each panel with respect to the controversy.

Oral Session IV
11:30-11:45, SAMC 170

Mental Health Awareness in Buffalo Communities

Ja'Nique Guerra, Social Work
Faculty mentor: Bythovens Almonor, ACE

This project is about mental health in Buffalo, New York, and how it affects people in the community. Mental health is something that a lot of people struggle with, like anxiety and depression, but it's not always talked about or taken seriously. In Buffalo, many people have a hard time getting help because of things like cost, not knowing where to go, or feeling judged. This project looks at how these problems impact people, especially in communities that don't have as many resources. For my presentation, I will talk about mental health issues that are common in Buffalo, share some statistics, and explain the challenges people face when trying to get support. I will also include information about local resources like counseling services and community programs that people can use. Lastly, I will talk about ways we can improve access to mental health care and make people feel more comfortable speaking up. The goal of this project is to spread awareness and help people better understand mental health in Buffalo.

Oral Session IV
11:45-12:00, SAMC 170

Escapism: A Short Film

Tyler Lawson, Art & Design
Faculty mentor: Shasti O'Leary-Stoudant, Art & Design

This presentation showcases a selection of my creative work in animation, visual storytelling, and digital world-building, culminating in my senior thesis short film, Escapism. The talk begins with an overview of earlier projects that helped shape my artistic voice and technical skills. These include the Cruiseum project, which reimagines Lawson's archive through immersive escape-room-style animations; the Boomstone Videorama; a detailed vanity card study; and an ink blot animation experiment exploring organic motion and abstraction. The core of the presentation is a screening and discussion of Escapism, my senior thesis short film. Set in a surreal digital reality, the story follows a protagonist tasked with the simple goal of collecting wood. Through relentless trials and tribulations, he finally completes his mission; only to discover that the reward is far from what he anticipated. The film explores themes of expectation, disillusionment, and the blurred line between purpose and futility in a constructed world. Drawing from the original concept of a virtual reality in which a human brain is uploaded into a robotic digital consciousness, Escapism carries a layered meaning. It serves as both a literal escape from a deteriorating physical body and a broader commentary on society's increasing reliance on technology as an escape from everyday reality. The protagonist's desperate attempt to break free from this virtual insanity mirrors our own complex relationship with digital worlds. Following the film screening, the presentation offers behind-the-scenes insights into the creation of several of the film's more technically complex scenes. It concludes with a look at recent work, including character animations created for Buffalo Bison, demonstrating continued growth in animation technique and storytelling. Through this body of work, the presentation highlights my evolving practice at the intersection of animation, narrative design, and critical reflection on technology and human experience.

Global Studies Institute Symposium

11:00 AM–12:00 PM, SAMC 173

11:00-11:15, SAMC 173

Indigenous Residential Schools

Carissa Stone, Anthropology
Faculty mentor: Roy Bakos, College Writing Program

My presentation explores the history and lasting impacts of Indigenous Residential Schools, focusing on how these institutions were used to forcibly separate Indigenous children from their families, languages, and cultures. Through historical research, I examine how Residential Schools functioned as tools of assimilation and how their effects continue today through intergenerational trauma, cultural loss, and ongoing efforts toward healing. This project also highlights Indigenous resilience by recognizing the survival and revitalization of language, traditions, and community despite these harms. In my presentation, I will discuss the purpose and operation of Residential Schools, the lived experiences of Indigenous children, and the work of survivors and communities in sharing their stories and pursuing truth and reconciliation. By addressing both the harms and resilience, this project aims to raise awareness and encourage a deeper understanding of this history and its continued relevance.

Global Studies Institute Symposium
11:15-11:30, SAMC 173

Mehmet and Bellini:
The Imperial Portrait of Mehmet II, the Great Sultan and Emperor, the Conqueror, the Lord of the Two Lands and the Two Seas, Caesar of the Romans

Domenico Bindig, Art History
Faculty mentor: Martin Ederer, History & Social Studies Education; Frances Gage Art & Design

Mehmet the Conqueror is a contentious figure in High Renaissance history, who has been characterized in wildly different ways. His identity is one full of paradox. At the age of twenty-one, Mehmet had subdued and captured the city of Constantinople and set about immediately conquering the rest of the Greek world, expanding into the Balkans and eastern Europe over the course of a few years. He dominated the Eastern Mediterranean and, for a short time, held Europe in such terror that they were completely incapable of denying him his wishes for fear of his imminent invasion. The instance of Gentile Bellini's voyage to Constantinople and the accounts of his time with Mehmet as well as the production of the imperial portrait of the Ottoman Sultan stands out as an moment of cultural interaction and exchange between the Christian West and the Muslim East during a period of extreme tension and anxiety as Mehmet's conquests moved closer to the heart of Europe, and the Ottomans had taken possession of an assortment of previously Venetian colonies in the Mediterranean. Gentile's portrait presents a view of Sultan Mehmet through the eyes of a Venetian. This Venetian view of the Ottoman Sultan makes a collection of implicit qualities of the Conqueror explicit, chief among them his hybrid identity as a Muslim Sultan who claimed the title of Caesar, and with this claimed the legacy of both the Byzantine Empire and the Roman Empire of classical antiquity. The Portrait of the Sultan Mehmet was not intended for the eyes of his Ottoman subjects, but rather as a message to the people of Europe. Mehmet used the language of European Imperial power to impress upon the people of Europe his ambition to conquer and rule them, as “Mehmet: the Great Sultan and Emperor, the Conqueror, the Lord of the Two Lands and the Two Seas, the Father of Conquest, Caesar of the Romans, the Shadow of Allah in this World and the Next.”

Global Studies Institute Symposium
11:30--11:45, SAMC 173

Understanding Genocide: Can Lessons From Rwanda Prevent Tragedy in America?

Cadence Aguilar, Social Work
Faculty mentor: Andrew (Drew) Kahn, Anne Frank Project

In over just one hundred days, nearly one million people were killed in the 1994 Genocide against the Tutsi ethnic group in Rwanda, Africa, brought on by increased tensions of ethnic division over several decades. Despite the genocide happening as recently as 32 years ago, Rwanda now boasts a secure and stable government following the genocide, with the key

being the focus on reconciliation. Rather than relocating survivors away from people who played an active role in the violence during the genocide, they were made to live next to one-another and process what they went through. It takes an incredible amount of strength and resilience as a country to face people who may have slaughtered your family, neighbors, or friends, and being able to say that you truly forgive them. According to Genocide Watch, the United States has already exhibited 6 out of the 10 stages of genocide. There is no better time than the present to bring the lessons of Rwanda home to us. In the United States, there is no minority group that has not been the target of a hate campaign, with a current focus targeting mainly Hispanic, Latino, and immigrant populations. In the United States, it is unthinkable to practice the Rwandan way of reconciling hatred and differences as a deeply punitive country with citizens that are raised to hold grudges. However, if the United State continues down this path of persecution on a road to genocide, what will be left of our country?

Global Studies Institute Symposium
11:45-12:00, SAMC 173

Miyawaki Method's Global Impact

Camryn Coughlin, Social Work
Faculty mentor: Susan McCartney, Small Bussiness Development Center

The Global Impact of the Miyawaki Method, this paper details the astonishing environmental work of Dr. Akira Miyawaki. A botanist whose revolutionary approach to forestation has touched nearly every continent. Miyawaki Forests consist of a large sum of native plants grown closely within a small amount of square footage. This project depicts the varying use of the Miyawaki method in Asia, Europe, South America, Africa, Australia, and North America. Highlighting not only the regions' ecological advancements, but also the social enhancements to the surrounding community. Providing educational opportunities from adolescents to university students, creating multiple jobs for community members, and encouraging neighbors to connect with the natural environment.

Artistic Presentations

Planetarium 11:00 AM–12:00 PM

Directing Scene Presentations: Almost, Maine

Bryan Harris, Theater
Samantha Tocke, Television Film Arts
Matthew Scott, Television Film Arts
Faculty mentor: Jennifer Toohey, Theater; Kevin Williams, Geosciences

Creative presentation of student directed scenes from Directing I class. Research into directing for the stage and camera.

Scene: “Getting it Back” (Bryan Harris, Director)
- Manny Mejia (Lendall)
- Carissa Ewing (Gayle)

Scene: “Sad and Glad” (Samantha Tocke, Director)
- Myshawn Sikes (Jimmy)
- Sequoia Fazzary (Sandrine)
- Emily Shabazz (Waitress)

Scene: “Where it Went” (Matthew Scott, Director)
- Julia Lynch (Marci)
- Dylan Janish (Phil)

SAMC Atrium, 9:00 AM–12:00 PM

Everyone Dreams

Zoe Harris, Art & Design
Faculty mentor: Marguerite Kellam, Art & Design

These projects collectively express my interests of the mystical and the weird through the use of salvaged media and tactile sculpture. By creating with a diverse array of "low-cost" materials—including scrap metal, clay, fabric, paint, paper, cool glowing paint, and wire—the gathering explores the potential of discarded objects to build immersive, imaginative beings. Drawing heavily from the visual properties of puppetry and dark-fantasy animation (such as The Dark Crystal and Mirror Mask), the sculptures serve as narrative vessels that prioritize curiosity and the "uncanny" over the mundane aspects of our modern world. The work intentionally leans into the uncomfortable and the odd, aiming to provoke a sense of bold chaotic excitement in the viewer. Ultimately, these works functions as an open invitation to the audience to engage with the mysterious, to get anyone and everyone inspired by the odd, transforming the act of viewing into a shared exploration of vibrant motion and surreal wanderlust.

Waterfalls of Past and Present: A Look into the Rhetorical Collapse of Niagara Falls

Ariel Joyce, Art & Design
Faculty mentor: Salem Browning, Art & Design

There has been a major economic drop within the city of Niagara Falls, New York. The decline has rapidly taken place starting in the late 20th century and has steadily been going down since making it seem as if the city will disappear and only become an attraction due to the Falls. Niagara Falls in the mid-20th century was a booming city that thrived with guests from around the world that came to see one of the great world wonders, the Niagara Falls. In the current day, it is not as vivid and filled with guests as it used to be. The same factories that arrived in the city during the mid-20th century and created great job opportunities started to create a toxic environment and living area for the residents. The chemicals that the factories were producing were being disposed of in an unethical way. They were being dumped into an unfinished abandoned canal called Love Canal. These chemicals seeped into the air, into the water, and into the homes and living space of the residents around the Love Canal causing sicknesses and death in some cases. With the departure of these factories due to The Clean Water Act, it has created condemned buildings that were left to rot. Having small amounts of businesses in the city has created less job opportunities making the residents abandon their homes creating even more abandoned homes that are not being sold. Having no more businesses to capture the attention of visitors, the economy of the city has plummeted creating the present day of the city. This project is bringing awareness to the rapid decline of a city that used to be a thriving one.

Margaret Eschner Bacon Gallery

10:00 AM–5:30 PM; reception 3:00–6:00 pm.

Visualizing Lake Erie: Where Art and Data Meet

Kathleen Witnauer, Art Education
Paige Ciezki, Art Education
Mikalyla Kempski, Art Education
Jameson Alea, Art Education
Faculty mentor: David Mawer, Art & Design

This project was dedicated to understanding data collected from Lake Erie and transforming it into a series of meaningful artistic representations through data visualization. With our team's multidisciplinary background, our team was able to incorporate different means of visually representing this data including fiber arts, digital arts, and software engineering. The use of data in our artwork connects to natural phenomena and their qualities either literally or representationally to convey meaning through design elements such as color, space, movement, balance, rhythm, and contrast. We had the privilege of working with the SUNY Buffalo State Great Lakes Center to explore major events that take place in Lake Erie, including lake stratification and seiche events. The specific variables of environmental data that we used to guide our program were explored through multiple means, such as

incorporating sound waves or digital image files sourced from our audio and photographic data. Our localized approach endows the work with immediate significance for local Buffalo and Western New York communities and individuals as we display local climate data in aesthetic works. We hope our interdisciplinary artwork is approachable for both scientific and artistic minds alike.