CREATE

CELEBRATING RESEARCH EXCELLENCE & ARTISTIC TALENT AT EASTERN

April 19, 2024

EASTERN
CONNECTICUT
STATE UNIVERSITY

CREATE

CELEBRATING RESEARCH EXCELLENCE & ARTISTIC TALENT AT EASTERN

April 19, 2024

Schedule at a Glance

Time	Student Center Meeting Rooms	Student Center Theater	Betty Tipton Room	
8:30 - 9:00	Registration and Breakfast – Student Center Café			
9:00-10:30	Concurrent Sessions A		Poster Set Up	
10:30-12:00	Concurrent Sessions B		Poster Set Up	
12:00 - 12:45	Lunch – Student Center Café			
12:45 - 1:00	**President's Remarks and Awards Ceremony - Betty Tipton Room**			
1:00 - 2:00	Poster Presentations - Betty Tipton Room			Artwork Display Opening Reception **Wood Support Center Gallery** 3:00 – 5:00
2:00 - 3:45	Concurrent Sessions C	Performances		

CREATE stands for Celebrating Research Excellence and Artistic Talent at Eastern, and it is the University's annual conference showcasing student research and creative activity. The one-day conference includes talks, professional posters, live music, art exhibits, dance performances, documentaries, and panel discussions. CREATE displays the vitality of Eastern as Connecticut's premier public liberal arts institution.

In support of the University's current strategic plan, CREATE serves to:

- Showcase excellence across all academic programs
- Reinforce high-impact practices such as mentored research and creative projects
- Increase the percentage of students presenting their research and creative work
- Allow students to demonstrate our liberal arts employability skills – critical thinking, ethical reasoning, creativity, communication, and quantitative literacy
- Raise public awareness of Eastern's uniqueness and the accomplishments of our students
- Contribute to the intellectual richness of our campus community

Thank you for attending CREATE 2024 and congratulations to all of our participating students for their hard work and academic achievements!

Eastern Connecticut State University engages students from diverse backgrounds in a transformative, liberal arts learning experience that provides knowledge and skills to lead enriching, purposeful lives.

Artwork Abstracts

Yeah I'm Okay This Actually Happens To Me All The Time
Manderz Baranowski
Faculty Mentor: Afarin Rahmanifar
(Art and Art History)

The prompt of this project - "crowding the picture plane" - spoke to me as someone who loves layers. With an emphasis on brains, bugs, bubbles, & aquatic beasts and blooms, I used a multitude of materials (including paint marker, colored pencil, oil pastel, acrylic paint, and newspaper) to actualize my vision. The process was sporadic and solutions were improvised, resulting in a product that is almost as entertaining to look at as it was to create.

Come to Japan
Ariana Bradley
Faculty Mentor: Lora Lee
(Art and Art History)

"Explore Japan" is an advertising illustration that captures one of Japan's iconic landmarks, aiming to showcase the nation's breathtaking beauty and allure tourists. Crafted with precision in Adobe Photoshop, I employed a blend of dramatic lighting and a dreamy color palette to evoke the enchanting essence of Japan. This illustration is rendered with my love for Japan, paying homage to its cultural significance and historical prominence.

Character Design
Ericka Carranza
Faculty Mentor: Lora Lee
(Art and Art History)

The "Pretty Gross" project encompasses a captivating collection of original character designs, each infused with a delightful blend of cuteness, vibrant colors, and just the right touch of creepiness, all crafted from delectable sweets. Complementing these imaginative characters is a meticulously crafted packaging design—a charming cardboard box designed not only to house stickers featuring the characters but also to double as a clever and attention-grabbing advertisement.

Less Plastic. More Life.
Jacob Duga
Faculty Mentor: Tao Chen
(Art and Art History)

For my poster, I focus on the issue of climate change, and more specifically how it affects the ocean. I titled it "Less Plastic. More Life.". I think this topic is important because this is an issue that's been getting worse and worse, and not enough people seem to care about it. There are species of plants and animals in the ocean that will be extinct a few years from now if nothing is done to prevent climate change.

Hand Study
Emily Fajardo
Faculty Mentor: Robert Greene
(Art and Art History)

This sculpture is made of Alabaster rock with a wooden base and a braided piece of thin balsa wood. This piece is an experimental figure study on my hand. The process included taking multiple pictures of my hand for reference. Using tools including a chisel, hammer, electric sander, and a Dremel for the rock component of the sculpture. For the wooden base, the electric tools utilized were a miter saw, belt, and disc sander, and then painted with acrylic paints. Integrating a wooden braid adds more movement to the sculpture and makes it more dynamic. To achieve the braid portion wet bending technique was used and then secured with wood glue. This sculpture allowed new learning processes and problem-solving skills.

Thrasher Magazine Cover Design
Benjamin Giammattei
Faculty Mentor: Lora Lee
(Art and Art History)

Introducing an electrifying advertising illustration for Thrasher magazine—a dynamic concept blending skateboarding and pop culture. Crafted with a bold style and employing extreme perspective, this artwork pulsates with the adrenaline and excitement synonymous with the world of skateboarding. This cover design is intended to invite audiences to dive into the heart-pounding thrills captured within the pages of Thrasher magazine.

Moon and Sun (Meghan and Me)
Nina Grim
Faculty Mentor: Afarin Rahmanifar
(Art and Art History)

Acrylic Paint, embroidered beads, mod podge, glitter on canvas and 18x18 wood circle.
I was inspired by A Trip to the Moon (Star Film Company, 1902) to do two portraits of my friend and myself, as the sun and the moon. I started with painting the moon and sun portraits on canvas and then embroidered it with beads and cut out the shapes. I then painted them onto the wood circle and painted the clouds and finishing details. Finally, I mixed mod podge and glitter and painted it onto the whole piece. This was one of my favorite artworks I made this school year because of how well I think I executed my design and connected my piece to A Trip to the Moon.

Trapped Essence
Claudia Guerrero
Faculty Mentor: Robert Greene
(Art and Art History)

Trapped Essence: Discover my latest mixed media sculpture, crafted from stone and wet wood vent. It serves to convey the feeling of being trapped emotionally, physically, and spiritually. Designed to allow viewers to engage with its form from all angles and connect their feelings to it, the sculpture aims to provide a visual understanding of confinement. It also explores the theme of personal limitations and their impact on life fulfillment. Through this sculpture, we are prompted to reflect on the feeling of claustrophobia in our lives and how it can hinder us from reaching our full potential.

Trees
Lauren Kennedy
Faculty Mentor: Afarin Rahmanifar
(Art and Art History)

I chose to make this painting based off a reference picture I took of a river and trees in the fall. The various colors from the trees and the beautiful lighting encouraged me to paint it. I exaggerated the colors by making them more saturated to enhance the beauty of the colors in the fall.

Personal Animated Logo
Devin Krauss
Faculty Mentor: Soojin Kim
(Art and Art History)

I created a digital logo for myself and designed an animation along with it. I sketched out a logo depicting a cartoon zombie and was inspired by 2000's nostalgic video games, and video game websites for the logo, and the animation itself. The cartoon, and old school art style is something

that has inspired me ever since I was a child and is a style that I try to incorporate into all my works. I wanted the final animation to capsulate that type of nostalgic old school feeling.

Augmented Reality Interactive Character
Jenna Levesque
Faculty Mentor: Soojin Kim
(Art and Art History)

For my character design, I focused more on my animation and environment than making a complex character. I created a pixelated character to try a different style than I am used to. My goal for the project was to create a character that interacts with the environment more than user interaction.

Augmented Reality Interactive Character: Graph-esque
Jenna Levesque
Faculty Mentor: Soojin Kim
(Art and Art History)

Graph-esque is a made-up company that was named after the profession I want to go into (Graphic Design) and part of my last name (Levesque). For this project I wanted to make interesting animations and have it be fun and colorful. I picked fun and interesting colors and paired them with simple shapes to bring out the graph in the design. For the animation I wanted to make it as fun and playful as the colors.

Arachne
Kara Mahoney
Faculty Mentor: Robert Greene
(Art and Art History)

"Arachne" is a yarn-based sculpture composed of 11 individual woven tapestries, each with a different phrase. The tapestries are strung together to form a spiderweb-esque composition.

Australian Travel Poster
Nathan Melia
Faculty Mentor: Matthew Becker
(Art and Art History)

I created my poster under the theme adventure. I thought of the many adventures activities to portray like rock climbing, outback camping, and scuba diving. I decided that surfing would provide me with an excellent chance to create movement showing the thrill of riding a wave. My goal was to create movement through line and color showcasing Australia's beauty and thrill. The poster serves not just to invite people to visit Australia but to excite them about their potential experience.

Red Flowers
Megan Muzyka
Faculty Mentor: Afarin Rahmanifar
(Art and Art History)

I created this artwork in the landscape painting class with Afarin Rahmanifar. As my final project in this class, I chose this imagine because of the vibrant colors and glistening mountain range.

Fast Fashion
Kelsy Ng
Faculty Mentor: Tao Chen
(Art and Art History)

Poverty, persistence, and pollution, in a single industry. With a crisis staring at you in the face, it can be difficult to ignore, especially when it is reflected in the mirror. The current climate of the fashion industry requires, or rather, begs, for it to exploit the rapid shifting of trends, the availability of materials to support the trend—as well as the wage-slavery of a people—for a quick profit. On average, a great deal of clothes never gets worn in the first place before they are inevitably donated or placed in a landfill.

Ham Enamel Pin Set - Collect Them All Poster
Bellana Parungao
Faculty Mentor: Lora Lee
(Art and Art History)

Presenting the Ham Enamel Pin Set advertising poster, designed to showcase four iconic characters from my story while doubling as a collector's display board for the enamel pins. Among these characters stands Ham, a beloved original creation born during the 2019 Inktober challenge, capturing my heart ever since. Over time, I've woven countless tales and illustrations around the charismatic figure of Ham, making this pin set a delightful extension of our shared journey.

Trail at the Hollow
Kaycha Perez
Faculty Mentor: Afarin Rahmanifar
(Art and Art History)

Taking inspiration from Mansfield Hollow dam the trail, the trail outstretched creates a beautiful line. The dead grass creates a golden like color which captures the time in late summer and early fall. All these I took consideration with the beautiful colors in and around the main subject.

Game DVD Cover Design: Bigtop Bonanza!
Ivy Poulakos
Faculty Mentor: Soojin Kim
(Art and Art History)

This Game DVD cover design features a cat-like jester character in a circus setting and is formatted to look like cover art for a Nintendo Switch game cartridge's box. The front cover features art of the character with the title of the hypothetical game along with the Switch logo. The back cover has "screenshots" of the game with text vaguely describing what the player would be able to do along with a brief synopsis of the game's plot.

Hypnotized
Jillian Rappi
Faculty Mentor: Lora Lee
(Art and Art History)

"Hypnotized" is a mesmerizing digital illustration that transports viewers into a realm of sci-fi transcendence. Through the interplay of dramatic color schemes, abstract lines, and textured layers, I sought to evoke a surreal and enigmatic atmosphere. Crafted within the Procreate app on the iPad, utilizing the precision of an Apple Pencil, this piece embodies a fusion of technological prowess and artistic imagination.

Music Album Cover Design: Jimmy Buffett - Changes in Latitudes, Changes in Attitudes

Margaret (Maggie) Ritchie
Faculty Mentor: Soojin Kim
(Art and Art History)

Presented is an album redesign for Jimmy Buffett's Changes in Latitudes, Changes in Attitudes album. This redesign presents a more light-hearted composition that embraces what Buffett's songs are all about; living in the moment, enjoying life, and not taking anything too seriously. The illustrated images represent one of his more popular songs on the album titled "Margaritaville". The song talks about enjoying life in paradise with a margarita in hand, searching for a lost shaker of salt where nothing is anybody's fault. May Jimmy Buffett rest in peace.

Let your Feelings Out
Mackenzie Silk
Faculty Mentor: Afarin Rahmanifar
(Art and Art History)

This was supposed to be a self-portrait based off of something that made us want to scream. But I think it could be based off of whatever the viewer is feeling instead of what the artist was feeling. It could be a feeling of frustration or anger or just a release of tension. Everyone faces these feelings at

some point in their life so maybe this portrait is just a good reminder that your feelings are valid and it's ok to let those feelings be known.

Music Album Cover Design: Absolution
Salavanh Thongchampasy
Faculty Mentor: Soojin Kim
(Art and Art History)

Music greatly influences my creative process. This was around when I was getting into the English rock band Muse, and I knew I wanted to do a tribute to their Absolution and Black Holes and Revelations albums. Their style is a mix of space rock, hard rock, opera, and metal. When it comes to creating the posters, I mold, add, and subtract images to the piece until I reach a satisfying result. This type of workstyle draws influence from Storm Thorgerson's surrealist style of photography and Koji Yoda's collage and photo bashing technique.

The Eternity
Meghan Turco
Faculty Mentor: Afarin Rahmanifar
(Art and Art History)

The piece that I have created is surrealism of two ghostly people dancing in the street while the buildings behind them are on fire.

Recognition
Emily Vail
Faculty Mentor: Afarin Rahmanifar
(Art and Art History)

In my artwork, "recognition", I drew inspiration from both of my majors (Psychology & Art) by using the Rorschach Inkblot test as the foundation of this painting. The ink blot serves as a blank canvas that invites subjects to their own interpretation of the test. In this project I invited my friends to interpret the inkblot and share their visions with me. I then painted each of their interpretations on their own surrounding the original inkblot. To enhance the visual repetition and create a balance, I used complementary colors.

Visualizing the Environmental Impact of the Video Gaming Industry in Virtual Reality
Ian Valeta
Faculty Mentor: Soojin Kim
(Art and Art History)

Video games transport players into fantastical worlds yet developing and playing video games is ecologically destructive. Gaming consoles and personal computers rely on microprocessors which contain toxic chemicals and heavy metals. These materials are extracted from mines across the world

which disrupts natural habitats and pollutes air, water, and soil. Online gaming relies on internet infrastructure and data centers, which consume vast amounts of electricity derived from fossil fuels. Technological innovation drives rapid obsolescence, generating e-waste which is known to be sent to low-income countries, where it contaminates soil and water. This VR project will depict four interactive 3D environments: a copper mine, a semiconductor plant, a data center, and an e-waste station, showcasing the video game industry's ecological footprint.

Burning At the Edges
Lilian Vinsel
Faculty Mentor: Afarin Rahmanifar
(Art and Art History)

The collection "Burning At the Edges" is a series of paintings that depicts various perspectives of myself in my recent experiences with anger, grief, and loss. There is a running theme of personal insight, with symbols of consuming fire, death, and the human condition prevalent throughout the paintings.

Augmented Reality Interactive Character
Malik Watson
Faculty Mentor: Soojin Kim
(Art and Art History)

This art piece was inspired by video game characters. I took inspiration from the Sonic the Hedgehog games and created a character based off of that franchise. I wanted to create a cute yet dynamic character that was easily distinguishable. The AR element is an animated aura effect that I took inspiration from Dragon Ball Z. The character is "powering up" or charging their aura, each interactive action (such as tapping or walking close) causes the aura to get bigger.

Music Album Cover Design: Midnight Mirage
Malik Watson
Faculty Mentor: Soojin Kim
(Art and Art History)

I wanted to do something a little more nostalgic that entices the aesthetics of late 80s and early 90s music. The focal point of the poster I wanted something very vibrant that would be easily recognizable. The sun graphic in the poster was decided upon as it adds a nice vibrancy to the poster. The color pallet is a mix of gradients of neon sunset colors and night.

Convergence
Molly Wilson
Faculty Mentor: Rob Greene
(Art and Art History)

"Convergence" was a semester-long study of wood and stone for sculpture 1. This sculpture explores the occupation of space. Using the subtractive and additive process, the concept of volume is explored. Through the manipulation of negative space, there is a visual weight as the piece combines linear elements that converge to create a sense of harmonious movement. The joining of wood and stone creates a visually dynamic unified form. This abstract sculpture explores the notion of weight and weightless, dense to linear in a swirling sense of motion.

The Reality of Food Insecurity
Molly Wilson
Faculty Mentor: Tao Chen
(Art and Art History)

Food insecurity defined by inadequate food accessibility is important because it affects people worldwide who suffer from low income, disability, etc. With awareness of this issue, people can help make a change in food accessibility. My concept of this project is not only to visually list facts about the harms of food insecurity but also show how this problem can be reduced.

Oral Presentation Abstracts

CannaStay Suites
Alondra Abad, Alejandra Martinez-Soto, Vanessa Martinezcolorado
Faculty Mentor: Ashon Avent
(Business Administration)

Experience the next level of hospitality with CannaStay Suites, Boston's premier cannabis-inspired hotel. Our innovative establishment caters to the modern traveler aged 21-35, offering a fusion of luxury accommodation and cannabis-infused experiences. Immerse yourself in a world of relaxation and indulgence as you explore our three-story oasis. At CannaStay Suites, every detail is meticulously curated to provide a sanctuary for cannabis enthusiasts. From our CBD spa, where tranquility awaits, to our themed rooms designed to stimulate your senses, every aspect of your stay is crafted for your ultimate well-being. Elevate your experience with our rooftop bar and event space, offering CBD-infused drinks and a vibrant atmosphere for gatherings and celebrations. Our revenue model ensures that guests have access to premium amenities, including the option to indulge in our CBD spa services and enjoy a memorable stay. CannaStay Suites sets itself apart from the competition through its dedication to creating a truly immersive experience. With a deep understanding of the CBD market and a commitment to staying ahead of trends, we continuously evolve to meet the needs of our discerning clientele. Join us at CannaStay Suites and discover a new standard of hospitality where cannabis meets sophistication.

The Writer's Notebook
Malek Allari
Faculty Mentor: Karl Stocker
(Political Science, Philosophy, and Geography)

I worked on this novel to dive deep into the artistic form and craft of novels from an existentialist point of view and discover more about existentialist novels and how they are written, understood, and analyzed through communication and thought. Three authors—Jean-Paul Sartre, Albert Camus, and Fyodor Dostoevsky—most inspired the craft of this project.

Using Machine Learning to Estimate Readmission Rates
Allison Arling
Faculty Mentor: Fatma Pakdil, Steve Muchiri
(Business Administration)

This study investigated how machine learning tools can help predict readmission rates at hospitals. First, we analyzed relevant literature to obtain a general understanding of previous papers focusing on readmission estimation using a wide variety of machine learning tools. The Nationwide Readmissions Database generated by the Healthcare Cost and Utilization Project (HCUP) managed

by Agency for Healthcare Research and Quality (AHRQ) provided a variety of variables and classifications to help develop an estimation model using machine learning tools. Variables, such as length of stay and the Charlson Comorbidity Index, were employed using Classification and Regression Trees (CART) to determine the likelihood of a patient being readmitted. This method computed the measurement, Area Under the Receiver Operating Characteristic (AUROC), to understand the capability of these machine learning tools. While the literature points out that AUROC should be above .8, our best model achieved a .632 AUROC, reflecting the Charlson Index, number of chronic conditions, and age were the best predictors of readmission of a patient.

"A Garden of Lillies": An Exploration of Identity Through Fotonovellas
Liliana Baraybar
Faculty Mentor: Christine Garcia
(English)

Fotonovelas have been the way the Latinx/Chicanx community has expressed their stories in a variety of ways using media such as photos, videos, and more. They have used this method to provide a voice for themselves that has been silenced for so long. The Fotonovela that I have created is a series of photos from my own life, in combination with literature I have written to show not only the struggles with my own culture/identity based on experiences I have endured, but the growth that comes from all of it. My goal is to also show that growth isn't a "pretty" process. There are some ugly parts of growth and I want to highlight that as well. There is an overall theme of "flowers/plants", meaning that there are terms such as "blossomed" and "bloomed" but also terms such as "neglect" and "dried up".

Big Idea: Parking at Eastern
Matthew Bassett, Andrew T Cutter, Byron Scarpellini, Marcos Godinez-Hernandez
Faculty Mentor: Niki Kunene
(Accounting and Business Information Systems)

Eastern needs more parking and Windham Tech High School has more than enough parking. The gate at the bottom of the hill by High Rise would make parking easier for students and faculty, as well as keeping the flow of traffic during the times class gets out, much smoother. We would need Windham Tech to give the purchasing rights to Eastern's board of education to pursue this idea further. This would be a perfect opportunity for Eastern and Windham Tech, as there were talks of Windham Tech wanting to relocate anyway. The data needed for this interaction would be faculty and student related as to how satisfied/unsatisfied they are with the current parking situations, meaning there could not be just one single person in this deciding factor. We would also need to know the value of Windham Tech currently and the price of a newly constructed school building for them, for negotiation purposes. Some current potential flaws in this scenario would be that it would be too expensive for the new building just to upgrade parking or too many legal obligations blocking this transaction. However, on the other hand, students would be less likely to be late knowing that they have an option to park near the classroom buildings. We could see if any alumni or faculty would be willing to donate to solve this issue, and if not, then the students could start a charity or donation drive to help implement this idea. In a perfect world, a successful outcome would be that

Windham Tech receives a newly constructed school, while Eastern obtains their old lot and uses it to upgrade the parking around campus.

Permaculture Paradise: The Significance of Sustainable Agriculture in Indigenous Hawaiian Culture

Michaela Belden
Faculty Mentor: Ricardo Perez
(Sociology, Anthropology, Criminology, and Social Work)

Hawaii and the United States have had a long and tumultuous relationship spawned from centuries of colonial domination. Despite attempts to assimilate Indigenous Hawaiians over the decades, their culture is very resilient. My presentation explores how modern Hawaiians are using sustainable agriculture to keep their traditional culture alive, and in doing so restoring the island to its former glory. The methods that I used to explore this subject combined both fieldwork and personal reflection. In July of 2023, I participated in a hands-on, culturally immersive, educational workshop series at Big Island Farms in Honokaa, Hawaii. My research involved keeping detailed records of each workshop that I attended, conversations with Native residents, and reflections on Hawaiian history and culture. I found that, despite ongoing tension from exploitation of Hawaiian land and people, Indigenous Hawaiians are fighting to retain their traditional agricultural practices. Visitors and tourists can support Indigenous Hawaiians by being mindful of their rich culture and raising awareness about their current struggles. Much like sustainable farming aims to return nutrients to the soil from which food grows, cultural awareness and appreciation of Hawaiian culture and history can help promote a genuine understanding of the dynamic bonds between humans and nature.

Addressing the Risks of Manipulation and Deceptions in AI interactions: ChatGPT

Diana Bitzaya
Faculty Mentor: Christine Garcia
(English)

In this presentation, I will delve into the critical examination of deception risks inherent in AI interactions, with a focus on ChatGPT. Drawing from research in the realm of artificial intelligence and personal case studies, I aim to unveil the complex layers of ethical concerns that surface when engaging with entities like ChatGPT. My exploration is guided by a dual approach: first, through the lens of theoretical frameworks that address AI ethics and human-AI communication, and second, by analyzing the case studies, from my work with Dr. Garcia, that highlights instances of manipulation and deception in AI interactions. This investigation is motivated by the growing reliance on AI entities for information and decision-making, which presents an urgent need to understand and mitigate the risks of AI-induced manipulation and deception. During the semester, I worked with ChatGPT as a source to complete a series of assignments known as Dissoi Logoi. They were rhetorical exercises that involved arguing both sides of an issue related to AI technology to understand the complexity of an argument. I aim to be able to identify the mechanisms through which these AI systems may inadvertently or deliberately propagate misinformation or bias, thus influencing user perceptions and actions, by harnessing my own interactions with ChatGPT.

My Fotonovela
Lily Blair
Faculty Mentor: Maureen McDonnell
(English)

Fotonovela consists of the Spanish words "foto," meaning photo, and "novela," meaning novel. In short, it is a book filled with pictures. I started my fotonovela during a "Chicano y Chicana Literature and Culture" class. We spent the summer examining the culture, reading literature, and writing to prompts to create our novelas. Sometimes, I would follow the prompt, and other times, I would go off in my own direction (like with the poem and the essay on resilience). Since taking that class, I have slowly added more pieces to my novela. The novela is about me, which means it is also about intersectionality. My life - my experiences, my feelings, who I am, and all the intersections I cross shape how I see and move through the world.

The Transformation of Percy Jackson: An Examination of a Literary Series Throughout its Adaptations
Samantha Blanchette
Faculty Mentor: David Pellegrini
(Communication, Film, and Theatre)

Rick Riordan's best-selling series Percy Jackson and the Olympians is a five-book tale that weaves Ancient Greek myths with the coming of age of a young hero in the modern day. The first entry of the series, subtitled The Lightning Thief, was published in 2005, and sold over 180 million copies worldwide during its first five years. With the books quickly amassing a strong following, it wasn't surprising that 20th Century Fox acquired the rights for a film adaptation, putting it in the hands of Harry Potter director Chris Columbus. Fans, and even Riordan himself, would be disappointed by the film's poor representation of the novels. Ten years later, after the disappointment of the films, Disney and Riordan announced that a Percy Jackson television show was in development. With Riordan directly involved in this production, fans are confident that they will get the faithful adaptation that they were originally hoping for in 2010, but just how faithful is this show? This paper will explore the various adaptations of Percy Jackson, how they vary from the source material, and how they have brought this story forward to a new generation of fans.

An Empirical Examination of the Effects of Negative Racial Stereotypes and Microaggressions on the Self-Esteem of African American College Students: A Comparative Analysis of STEM and Social Sciences Majors
Tiana Brathwaite
Faculty Mentor: Cara Bergstrom-Lynch
(Sociology, Criminology, Anthropology, & Social Work)

This study explores how negative racial stereotypes and microaggressions affect the self-esteem of Black/African American students in higher education. Through interviews, participants shared narratives revealing the profound psychological toll of navigating environments where they are labeled as "ghetto" or "unintelligent." Findings show that exposure to racial stressors leads to feelings of inadequacy and lowers self-esteem among Black students, impacting their academic

performance and overall well-being. The study highlights the interconnectedness of racial dynamics, self-esteem, and academic experiences, challenging assumptions about differences across academic disciplines. Additionally, participants underscore the importance of support systems and institutional changes to foster a more inclusive and supportive campus environment. This research contributes to a broader understanding of the challenges faced by Black students in higher education and advocates for systemic shifts to address these issues.

Exploring Relations of Child Executive Functioning, Child Depression, and Academic Outcomes

Ori Busel
Faculty Mentor: Caitlin Vasquez-O'Brien
(Psychological Science)

Previous research has linked executive functioning (EF) to depression and academic outcomes separately. In this study, we hypothesized that higher levels of executive functioning and lower levels of depression would be linked to better academic outcomes in children. We also hypothesized that executive functioning and depression may interact in a cumulative risk model to predict academic outcomes. Child depression was measured using child report on the Center for Epidemiological Studies Depression Inventory (CES-DC; Weissman et al., 2013). Academic outcomes were measured using parent report. EF was measured using the Tower of Hanoi laboratory observation in a sample of 290 children. There was a significant interaction between EF and depression that differed by child gender. Girls were less likely than boys to be at the extremes in terms of academic outcomes. This supports the variability hypothesis (Johnson et al., 2008), which typically finds that males are overrepresented at both the top and bottom ends of the normal distribution of intelligence. Findings implicate EF as a differential susceptibility factor for boys.

Crippled Bastards: Trauma Response and Disability in Fantasy Literature

Emma Bussolotta
Faculty Mentor: Maureen McDonnell
(English)

While disability studies is rising in popularity among scholars, there's a distinct lack of research when it comes to the speculative fiction genre. This lack of research forces a false dichotomy that puts disabled characters like FitzChivalry Farseer and Sand dan Glokta into boxes like the harmful modern archetypes of the "evil cripple" and the "cripple mastermind." Here, there is a distinct difference between the dynamic representation of persons with invisible versus visible disabilities. Adjacently, modern fantasy authors often portray disability as repercussion and punishment, as well as something that needs to be escaped via magical curing. Can magic empower a disabled character, or can it only be abused? Further, is disability in only used as a metaphor for post-war social injustice in fantasy, or can Fitz and Glokta stand on their own?

Student Advising with Senior Mentors in the Major
Paige Carlson, Amani Jones, Sarah Haluch, and Anne Yee Zhang
Faculty Mentor: Niki Kunene
(Accounting and Business Information Systems)

When registration time comes around, one of the most dreaded requirements for students is meeting with advisors. Many students believe they know what they are doing regarding their degree path and class scheduling, so they just want their registration cod without sitting through a meeting with their advisor. Some advisors concede to this, just emailing their advisees the codes, though many require meetings. Though these meetings are meant to ensure students receive proper guidance to graduate on time, many students feel that these meetings are unnecessary. Can advising be more user-friendly. We propose a student mentor program where senior students offer advice to those in need and assist with registration confirmation for those who don't require or desire guidance from faculty or professional advisors. Involving seniors from every major to ensure personalized assistance with course selection and meeting program requirements. We believe a senior mentor program would benefit both faculty and students. We survey Senior students at Eastern to assess the feasibility/interest in such a program.

The Duality Between Health Disparities and the COVID-19 Pandemic
Oscar L. Concepcion
Faculty Mentor: Steve Muchiri
(Economics and Finance)

This study delves into the pervasive issue of health disparities in urban and rural areas of the United States, particularly focusing on their differential effects on populations based on factors such as income, education, and geographical location. It examines how systemic factors such as income inequality, limited healthcare access in rural areas, and disparities in educational opportunities have long contributed to these disparities. Further exploring the exacerbation of these disparities by the COVID-19 pandemic, which has highlighted their dire threat to public health. By shedding light on the differential impacts and the pandemic's role in magnifying these disparities, this research emphasizes the urgent need for comprehensive efforts to address health inequities. It advocates for targeted interventions that prioritize the needs of all individuals, regardless of socioeconomic status or geographical location, to create a more equitable healthcare system.

Automating Data Collection and Testing "Boat" Image Detection with YOLO
Zachary Davidson
Faculty Mentor: Garrett Dancik
(Computer Science)

Finding, collecting and preparing a training dataset for custom object detection can be a difficult and time-consuming process. Furthermore, inadequate training datasets have been observed to negatively impact the efficacy of recent research in shipwreck detection models. Because object detection can be necessary for identifying shipwrecks, inaccuracy of the detection model could result in a shipwreck and all its archaeological artifacts being lost forever. YOLO is a common object detection algorithm and has proven to be effective in shipwreck detection. Using a web scraper built

with Puppeteer in Node.js, the collection of various boat images was automated. YOLO detection was implemented on the collected dataset and proved to accurately detect objects using its standard "boat" category. The automation of data collection to be used with YOLO object detection is a first step in shipwreck detection and has the potential for NOAA bathymetric databases to be more accurately analyzed for previously unknown shipwreck locations.

Impact of Coding on Preschoolers' Math Abilities
Haley DelMonaco, Emberly Haughton
Faculty Mentor: Sudha Swaminathan
(Education)

Programmable robots, such as Beebots, have made coding a developmentally appropriate exercise for preschoolers. While research with older children has supported coding for enhancing problem-solving and math abilities, few studies have examined their impact on preschoolers. We studied the impact of coding with Beebots on preschoolers' Math abilities. Forty-two preschoolers of mixed age, gender, SES, and bilingual status were distributed into control and experimental groups. All children's math abilities were pre- and post-assessed with Tools for Early Assessment in Mathematics. The experimental group completed four progressively hard coding sessions. Results showed that all children demonstrated significant Math growth, regardless of gender or SES. Older preschoolers performed better than younger children. Monolingual children performed significantly better than bilingual children. Closer examination of bilingual children's demonstrated Math competencies revealed their strength in silent, yet deep, abilities such as comparison and subitizing. Our findings suggest additional research focusing on bilingualism and early Math.

Effects of Salamanders and Soil Moisture on Invertebrate Density and Diversity in Artificial Coverboard Arrays
Korey Dinowitz
Faculty Mentor: Kristen Epp
(Biology)

This study investigates salamanders' role in regulating invertebrate density and diversity. Six research plots with 50 cover objects each were established in Church Farm Preserve. Soil and leaf litter samples were collected from plots and surrounding forest, with moisture measured. Macroinvertebrates were sampled using Berlese funnels, assessing density and diversity with Simpson's and Shannon-Weiner indices. Moisture content was expected to be higher in plots due to cover objects. Salamander density was hypothesized to impact invertebrate communities, leading to greater diversity on plots. Fall 2022 soil showed low diversity, so only Spring 2023 samples were analyzed. Plot soil exhibited significant diversity compared to the forest, while leaf litter communities were similar between plots and forest. Salamanders likely exerted top-down effects on invertebrates, moderating species abundance. No significant difference in leaf litter indices suggests other abiotic factors may influence invertebrate composition. Future research should explore additional abiotic factors influencing salamander abundance and their effects on invertebrate diversity.

The CARES Act Effects on Marginalized & Poor Communities
Thomas Engle
Faculty Mentor: Steve Muchiri
(Economics and Finance)

The Coronavirus Aid, Relief, and Economic Security (CARES) Act was passed in response to the COVID-19 pandemic, and aimed to provide economic relief to individuals and businesses across the United States. However, its impact on marginalized and poor communities has been disproportionate due to pre-existing vulnerabilities. This paper examines the effects of the CARES Act on these communities, focusing on access to quality healthcare, economic support, and social services. Through an extensive review of existing literature, data analysis, and case studies, this research evaluates the extent to which the CARES Act addressed the unique needs and challenges faced by these marginalized, and poor populations.

Leveraging AI to Analyze Narratives around High-Speed Rail
Katherine Escalante, Christian Deras-Rodriguez
Faculty Mentor: Martin Mendoza-Botelho
(Political Science, Philosophy, and Geography)

We engaged in a cutting-edge project that leverages advanced AI technology, specifically the GPT 3.5 language model, to conduct a comprehensive analysis of narratives surrounding high-speed rail systems in the United States. This innovative approach involves processing extensive textual data from academic research, policy documents, and public discourse to extract key narratives, insights, and trends. We essentially built a new GPT model to be trained specifically on important high speed rail information and developments in order to analyze the state of affairs of the technology. Expanding upon our research, we were intrigued by the potential equitable applications of AI technology within discussions surrounding sustainable transportation systems. We employed a technique known as fine-tuning. This process and technique allowed us to develop and train a model to be able to identify and access real world equity failings. Our approach proves to be highly cost-effective. Unlike traditional, time-consuming manual content analysis, our AI-driven methodology significantly reduces the resource investment required for discourse analysis. This cost-saving aspect is particularly beneficial for projects in resource-constrained environments, such as academic research within higher education.

Exploring Early Childhood Education Teacher Candidates' Competence in Assistive Technology
Juliana Fabrizi
Faculty Mentor: Kwangwon Lee
(Education)

This presentation provides a descriptive analysis of a faculty-led research study that explored the impact of embedded assistive technology (AT) instruction on preparing early childhood education (ECE) teacher candidates to support children with disabilities. Through the descriptive analysis, this

presentation will explore the question: What is AT and how do ECE candidates learn about AT in their preservice education?

Impact of Parental Conflict on Child Depression Differs by Self-Regulation and Gender
Cailey Fay
Faculty Mentor: Vasquez-O'Brien
(Psychological Science)

Children's responses to interparental conflict vary by gender (Grych et al., 2003). Self-regulation protects against effects of interparental conflict on mental health (Thompson et al., 2020). We hypothesized that the effect of parental conflict on child depression would be moderated by children's executive functioning and effortful control. We also hypothesized that these effects would differ by child gender. Parents provided reports on conflict, children's depression, and self-regulation (N=145 family triads). Childrens' executive functioning was measured observationally. Multilevel multiple regression models controlled for sibling clustering. Controlling for child age, child sex, parent age, and socioeconomic status, parental conflict significantly predicted child task persistence and marginally related to parent-report of child effortful control. The effect of parental conflict on depression was significantly moderated by task persistence [$t(153) = 2.17$, $p = .032$] and the effect of task persistence on depression was significantly moderated by gender [$t(153) = -2.09$, $p = .04$]. There was a significant three-way interaction of executive function, conflict, and gender [$t(133) = -2.15$, $p = .035$]. Stronger executive functioning mitigated mental health effects of conflict for boys but amplified it for girls.

The Effect of Parental Divorce in Adolescence on Relationships in Emerging Adulthood
Cailey Fay
Faculty Mentor: Caitilin Vasquez-O'Brien
(Psychological Science)

Divorce is related to a variety of negative child-outcomes (Ausperg et al., 2019; Bernardi & Radl, 2014) and affects parent-offspring relationships into adulthood (Ahrons & Tanner, 2003; Lynn et al., 2022). The present study addresses relationship outcomes among adolescents of divorce (AOD; people whose parents divorced when they were in adolescence) during emerging adulthood. I hypothesized that the effects of divorce on adult attachment style, social relations, and parent-offspring relationships in emerging adulthood would be moderated by perceptions of interparental conflict during childhood. Participants (N = 209) aged 18 to 29 were included in the sample, 40.5% of whom were AODs and 59.5% had married parents. Participants self-reported their depression, social support, attachment, relationships with each of their parents, and perceptions of interparental conflict during adolescence. Overall, AODs had worse relationship outcomes during emerging adulthood compared to those with married parents. Attachment avoidance and anxiety appeared to exacerbate the negative effects of divorce on social relations. These findings suggest that observed dynamics between parents while in adolescence may go on to have consequences for an individual's social support system and attitudes towards romantic relationships during emerging adulthood.

Of Ghosts and Gates; Or, American Women Writers' Civil War Theologies
Eva Glaser
Faculty Mentor: Allison Speicher
(English)

Although modern perceptions of spiritualism tend to be colored by sensational images of knockings, seances, and mediums, the spiritualist movement in the nineteenth century offered solace to many Americans as they grappled with the aftermath of the Civil War (1861-1865). During this time of mass grief and upheaval, Christian women in New England began bridging the gap between traditional Protestant theology and the spiritualist assertion that our dead loved ones are ever present among us. Their bold reimagining of traditional beliefs about death and heaven demonstrated a remarkable degree of intellectual experimentation. Despite the revolutionary nature of the novels, memoirs, poems, and short stories these women penned, there is a regrettable lack of scholarship discussing the theological, literary, and feminist implications of their work. To rectify this gap, I have curated and analyzed an archive of literature written by renowned authors like Elizabeth Stuart Phelps and lesser-known authors like Lilian Whiting and Cora Linn Daniels, all of whom presented subversive theologies of the afterlife and encouraged women to be theologians. The impact of this captivating genre provides a compelling case for spiritualism's enduring impact in America and the power of laywomen to transform the nation's cultural and religious landscape.

Free in Body and Spirit: Spectral Liberation of Objectified Peoples in Victorian and Neo-Victorian Literature
Marcus Grant
Faculty Mentor: Allison Speicher
(English)

Ghosts in Victorian literature have been marked as conservative expressions, that is, when supernatural fiction is not entirely dismissed. This argument often overlooks the depiction of both specter and observer as belonging to two groups that were oppressed in society: women and children. In applying Bill Brown's Thing Theory and sociological research to texts such as The Turn of the Screw (1898) by Henry James and "The Lost Ghost" (1903) by Mary Wilkins Freeman, I will explain how the objectification of both ghastly figure and haunted person turns them into possessed objects. Paradoxically, these marginalized characters are more likely to be heard dead than alive. I will also point to various Neo-Victorian texts, such as "The Accursed Inhabitants of the House of Bly" (1994) by Joyce Carol Oates, The Lie Tree (2015) by Frances Hardinge, and Neil Gaiman's The Graveyard Book (2008), to draw attention to how this narrative has transhistorical reach. In doing so, I unveil that the ghost characters of the nineteenth century act progressively, revealing the symptoms of their oppression through their haunting and their hauntedness. This extends to contemporary times, where we see the hierarchies revealed in the Victorian era flipped as authors attempt to rectify prejudiced histories.

Who Will Have Me? Navigating my Biracial Identity in a White World
Joy Grillo
Faculty Mentor: Susan DeRosa
(English)

"Who Will Have Me?" follows the questions and issues that I grapple with daily as a biracial person who struggles to find their place in this white world. With a father from White Plains, New York with a European background and an immigrant Korean mother, I identify as a biracial person, however, I often struggle with feeling accepted by either of my races. Concepts such as "double consciousness" and "two-ness" that W.E.B. Du Bois discusses in his book, The Souls of Black Folk, have been instrumental in helping me navigating my experiences and the complex feelings that follow. The poem I wrote, while only related to my own personal struggles with my racial identity, is connected to larger issues, such as violence against Asian Americans, which lead to the March 2021 movement; "Stop Asian Hate," at one of the heights of the Covid-19 pandemic. Through my research of locating concepts such as visibility and otherization, I was able to identify the roots of many of the issues I grapple with that I address in the first poem.

The Mental Health of College Students and How They Manage It
Gabrielle Hemmavanh, Aleksandra Colbert
Faculty Mentor: Sara Newman Carroll
(Health Sciences and Nursing)

The college age population has been combating the mental health crisis for about a decade and its prevalence is still on the rise. The concern this crisis conveys towards this specific population influences potential risk factors and adverse health outcomes. College students who experience mental health struggles are vulnerable to their quality of life being toyed with. Students are confronted with adjusting to an unfamiliar environment that presents a high demand of performance in all aspects of their life including academics, community, and responsibilities. By understanding how college students manage their mental health to combat these stressors, the present study can be applied to mitigate the prevalence of this crisis. This research study used a qualitative method by interviewing a sample size of 8 college students. Results exhibit key themes that communicate the effectiveness of various coping mechanisms students utilize to aid their mental health quality. This study aims to dive into factors that cause mental health struggles within students and how they manage it during the academic year. Furthermore, this research acknowledges the limitations students experience from their coping mechanism styles and how they can improve this for their collegiate future. Lastly, recommendations, limitations, and strengths will be discussed.

Exploration of Relationships Between Length of Stay, Readmission, and Healthcare Costs for Pneumonia Patients Between 2010 and 2020
Joe Hines
Faculty Mentor: Fatma Pakdil, Steve Muchiri
(Business Administration)

United States healthcare expenditure has been steadily increasing. As these expenditures increase, however, healthcare performance has remained stagnant. Noted in relevant literature such as To Err

is Human, failures in the American Healthcare System have been linked to medical errors stemming from outdated infrastructure, lack of patient insight, and an overall lack of communication and information. Programs such as the Affordable Care Act and the Hospital Readmissions Reduction Program (HRRP) have been put in place to help reduce metrics correlated with poor hospital performance. Among these metrics are length of stay (LOS), readmission rates, and healthcare costs. Our research will explore data gathered from the National Readmissions Database (NRD) provided by the Healthcare Cost and Utilization Project (HCUP) to explore the relationship between LOS, readmission, and healthcare costs for patients with the primary diagnosis of pneumonia. We will perform a longitudinal study on the data from 2010-2020, using multivariate regression-based machine learning approaches to determine the driving factors behind the three metrics. Analysis of the determining factors behind these metrics helps inform healthcare stakeholders, practitioners, and academicians concerning pneumonia condition.

The Athletic Bar: Social Media Campaign

Mia Hwang, Gregory Katzman, Flor Cruz Ortiz, Grisell Martinez Gutierrez
Faculty Mentor: Mihyun Kang
(Business Administration)

The Athletic Bar is a local Willimantic establishment that we at GFM Marketing plan to advise in an integrated marketing campaign. Through digital marketing techniques and promotions, we are hoping to expand The Athletic Bars' reach from just a Thursday night location to the hot spot destination of the weekend. When researching the Athletic Bar online, we noticed that their social media presence on social media is quite limited. While they maintain profiles on Facebook and Instagram, their activity, profile organization, and following are not as strong as they could be, hindering them from maximizing their potential reach. GFM Marketing plans to resolve this issue by engaging with the locals and the college demographic through diverse marketing strategies. Our mission at GFM Marketing is to leverage innovative and personalized social media strategies to elevate our client's online presence, foster meaningful connections with existing and potential audiences, and drive sustained growth and engagement. We are committed to delivering measurable results through impactful digital marketing strategies. Today we see an increased use of social media apps like TikTok and Instagram, especially with our primary target audience of college students. Setting brand exposure through social media presence will create strong brand loyalty among the target consumers. Our media and promotional mix will focus on reaching college students where they frequently get their information, on social media and on campus. By expanding The Athletic Bar's social media presence, we will be able to engage more students and create a positive public image. This coupled with flyers advertising specialty events like extended student discounts and weekend-only promotions will encourage college students to participate in The Athletic Bar events. Our campaign period will run from March 1st to December 31st. This period will allow us to gain a good understanding of the marketing campaign to see our expected growth in business.

Effortful Control, Child Internalizing, and Child Resilience: A Mediation Model
Dana Arroyo Infante
Faculty Mentor: Caitlin Vasquez-O'Brien
(Psychological Science)

Effortful control has been linked separately to both child internalizing and resilience. We hypothesized that the relationship between child effortful control and child resilience was mediated by child internalizing behaviors. Families (N = 145) with two children completed questionnaires at two time points. Using multilevel regression models to control for sibling clustering and control variables including child age, gender, parent age and depression, and family socioeconomic status; the model revealed that child effortful control significantly predicted child resilience (C pathway: B = 1.29, $p < .001$). When the model included child internalizing, the relations between child EC and child resilience weakened (C' pathway: B = 1.06, $p < .001$), indicating that some of the effect was mediated by child internalizing (C - C' = .23, a medium effect size). Child EC significantly related to child internalizing (A pathway: B = -0.13, $p = .004$) and child internalizing significantly predicted child resilience (B pathway: B = -1.97, $p < .001$). The relations between child EC and subsequent child resilience can be, in part, understood by the mediating factor of child internalizing symptoms. In this case, lower levels of EC predict both higher levels of internalizing and lower levels of resilience, with higher levels of internalizing also lowering resilience.

Measuring the Economic Effect of Crumbling Foundations due to Pyrrhotite on Northeastern Connecticut
Matthew Kiernan
Faculty Mentor: Steve Muchiri
(Economics and Finance)

Connecticut began to enact legislation in July of 2015 to counteract the crumbling foundation crisis in Northeastern Connecticut caused by pyrrhotite. The remedial efforts have totaled over $100 million between state bonds and CT resident assistance through the Healthy Homes fund. The goals of these relief efforts were to stabilize the housing market in the region, limit comorbidities from loss of population gain, home renovations, etc., and aid the individual's experience in overcoming the problem. This paper seeks to evaluate the success of Connecticut in achieving its goals by assessing the causal effects of these subsidies on the housing market of the affected region using the synthetic control method, supplemented with an evaluation of accounts from those affected by the issue. The research found that the crumbling foundation crisis had a negative effect on the regions housing market, limiting potential growth, but the state avoided much of the potential losses that were originally feared, as the market did not collapse because the relief efforts helped stabilize the region.

Self-awareness, Curiosity, and Neurodiversity
Danielle C. LaSalle
Faculty Mentor: Caitlin Vasquez-O'Brien
(Psychological Science)

Neurodivergent (ND) individuals face stigma and discrimination, which can adversely impact their well-being. This study investigated how self-awareness and curiosity related to university students' attitudes toward neurodiversity. College students completed the Self-Reflection and Insight Scale, the Five-Dimensional Curiosity Scale, the Societal Attitudes Toward Autism Scale, and the Adult ADHD Stigma Questionnaire online. Higher self-awareness and curiosity are hypothesized to independently correlate with more positive attitudes toward neurodiversity. Students possessing heightened self-awareness and curiosity are also expected to view neurodivergence most favorably. Using Pearson's r correlations and multivariate regression, self-awareness and curiosity are expected to positively predict outcomes of attitudes toward autism spectrum disorder and ADHD. These findings would suggest self-awareness and inquisitiveness may counter stigma against ND individuals. Self-awareness training and encouraging curiosity could comprise impactful interventions promoting campus neurodiversity acceptance. Further experimental research tracking attitudinal development is warranted to establish causal mechanisms underlying these relationships.

Phenotypic Characterization and Analysis of Mutations in Symbiotic Nitrogen Fixation Mutants in the Model Legume Plant Medicago truncatula
Anne Le
Faculty Mentor: Vijaykumar Veerappan
(Biology)

Legume plants form symbiosis with the soil bacteria rhizobia and convert atmospheric nitrogen into biologically available ammonia by symbiotic nitrogen fixation (SNF). This is significant because agriculture depends on synthetic fertilizers as a major source of nitrogen. Synthetic fertilizer production is dependent on fossil fuels which is expensive and not sustainable. To discover novel genes that control SNF, I am characterizing Medicago truncatula Tnt1 retrotransposon insertion mutants defective in SNF including NFxxx44, NFxxx18, NFxxx06 and NFxxx39. Wild-type (WT) and mutant plants were grown on aeroponic chamber in the absence of nitrogen and phenotypes were characterized. WT shoots are green with roots containing large ovoid pink nodules indicating efficient nitrogen fixation. All the SNF mutant plants display reddish-purple shoots with roots showing small spherical white/light pink nodules indicating deficient nitrogen fixation. Root length, number of nodules and nodule ultrastructure were studied. Tnt1 insertions in each mutant were identified using the Medicago Mutant Database and mapped to different Medicago chromosomes using BLAST tool. Segregation analysis was performed to determine the mode of inheritance. Discovery of novel genes involved in SNF will help agriculture because farmers would use less artificial nitrogen fertilizers to grow essential non-legume crops such as wheat, rice, and corn.

What Does it Mean to be a Man?
Orion Levy
Faculty Mentor: Maureen McDonnell
(English)

Gender is an increasingly important and divisive topic in 2024. Clearly, it holds a lot of personal significance to us, but masculinity is underrepresented in gender studies. So, what creates masculinity?

New Marketing Strategies for Willimantic Beer Company - Enhancing Social Media Presence
Kathryn Lynch, Kyle Daley, Erin Walsh, Jon Barnes, Jason Ioli
Faculty Mentor: Mihyun Kang
(Business Administration)

Willimantic Beer Company is a well-known and loved restaurant in a convenient location in downtown Willimantic. With its vast and diverse menu of food and beverages, there is something that can be enjoyed by anyone. With this strong foundation of a business, our company plans to develop and strengthen this establishment by fixing the problem of the business' social media. There is a lack of social media exposure to the college student demographic, a valuable customer. We plan to target this demographic by utilizing social media platforms such as Instagram, Tik Tok and Facebook in a way that will get the attention from local college students and inspire them to engage with these accounts and be interested in the business. Through strategic use of hashtags and geotagging, Willimantic Beer Company ensures visibility within college communities both on and off-campus. Our mission is to expand upon social media as this is a very powerful tool and platform that younger individuals can be influenced by where they choose to eat. We will be posting interesting and eye-catching posts to get the attention of our intended audience. By adding college students to our posts in both pictures and videos, viewers can find it relatable and welcoming. This integrated approach to college students through social media marketing will drive foot traffic to the brewery and foster long-term brand loyalty among college students. Our goal is to make both the food and beer look appetizing as well as the atmosphere comforting and unique. Our campaign period will run from March 31st to January 1st, 2025. This will provide us with a ten-month period to reflect and analyze the results of the social media accounts throughout the campaign. For our media/promotion mix, we will be using the internet to reach potential and returning customers through two-way communication. This is aid in building a relationship with our followers to gain a strong number of college students and to gain exposure and followers on our social media platforms.

Sala and the Rune-Wielders
Sophia Markley
Faculty Mentor: Jordan Youngblood
(English)

My presentation will be about my fictional, fantasy short story of 100+ pages which showcases identity and how it is formed through both oppression and magical elements, such as crossing

dimensions and learning new types of magic. My intention is to represent women's voices specifically, and others that are not so often highlighted in YA fiction such as non-binary and lgbt+ identities. This is not intended to be strictly educational as a nonfictional work could do, but rather portray the ways people with these identities may confront problems and simply give a voice to readers who want to imagine themselves as a brave adventurer.

Shared Destinies or Fractured Paths? Exploring Vicariance Events and Co-diversification in Central Asian Deserts with Phylogeographic Analyses of Orthochirus Scorpions

Kelby E. McCooey, Kassidy Stewart
Faculty Mentor: Matthew R. Graham
(Biology)

This study explores phylogeographic patterns of Orthorchirus scorpions, inhabitants of Central Asia's harsh deserts known for their unique resting posture with a tucked tail resembling a shield. We generated mitochondrial DNA (16S and COI) sequences from Orthochirus specimens collected during a 2002 National Geographic expedition to the Karakum and Kyzylkum deserts. Using a time-calibrated phylogeny, we will investigate whether genetic variation within Orthorchirus reflects historical vicariance events, potentially mirroring biogeographic patterns of co-occurring desert fauna. By examining multiple Orthorchirus species, this research aims to improve our understanding of community assembly and diversification of arid-adapted scorpions. Ultimately, this study will illuminate whether desert scorpions in Central Asia shared a common evolutionary history, or if their distributions were characterized by distinct pathways.

How Social Media Creates Hostile Environments

Shawn McGuigan
Faculty Mentor: Michelle Michael-Kang
(Communication, Film & Theatre)

In our modern, social media-dominated world, many have experienced heightened levels of hostility during online communications when compared to in-person interactions. In recent years, a vast amount of research has focused on the causes and effects of such hostility present on social media. Despite these efforts, the novel and ever-changing nature of social media has made researching this topic very difficult, leaving us with more questions than answers. To answer how social media creates an often-hostile environment and consolidate the knowledge on the topic, this paper systematically reviewed available literature. This review argues that hostility is a phenomenon fueled by elite interest in interaction-focused algorithms and filter bubbles. The consequences of broken filter bubbles and the role of contact hypothesis are also discussed. Taking on the Darwinist perspective, this paper concludes with a more positive outlook on social media anger.

Visualization and Comparison of A* and Dijkstra in Unity
Sean Mitchell
Faculty Mentor: Garret Dancik
(Computer Science)

Artificial intelligence's pathfinding in game environments has been using the same methodology for a long time. Popular game engines, like Unity and Unreal, are designed to use the A* search algorithm, which uses a cost-based heuristic to guide its search. Dijkstra, another common search algorithm, is less commonly used in games, and A* has set itself as the industry standard. Dijkstra's search algorithm can be visualized against A* to help understand why A* is preferred. In this project, we compare A* and Dijsktra using Unity Engine's Navigation Mesh system and two identical maps each with an agent moving towards a target, one agent using A* and another using Dijkstra. The movements of the agents are compared visually to determine if one method is more desirable for content development than the other.

Encouraging College Students to Dine at the Local Business Gingers'
Alyssa Monroe, Kayla Gaudreau, Kelly Pompa, Ally Arling, Michael Wilson
Faculty Mentor: Mihyun Kang
(Business Administration)

The local diner offers a wide variety of breakfast and lunch items at a reasonable price. Gingers' has been open since 2015, working to provide quality food to all their customers. The primary problem of Gingers' is their lack of social media presence, something that is increasingly important to reach new audiences. At AdVantage Agency, our mission is to develop new social media posts to gain more exposure, specifically targeting college students. Being active on social media is the fastest and most effective way to reach this demographic, allowing information to reach our audience on platforms they already frequent. Our goal is to attract college students by promoting certain menu items, reasonable prices, fast and friendly service, as well as a comfortable environment. We plan to utilize Instagram, Facebook, and TikTok to convey this message. We expect Gingers' to develop a stronger relationship with the college community, boosting customer attendance.

Impaired Neurogenesis Following Simulated Microgravity
John O'Connell
Faculty Mentor: Barbara Murdoch
(Biology)

As NASA strives to advance the reach of human space exploration, astronauts are spending longer durations exposed to microgravity. Astronauts returning from space show cognitive deficits, like attention lapse and lower reaction times. With commercial spaceflight becoming more common and soon accessible to the public, understanding the mechanism of such deficits is imperative. How these changes occur in the brain is unknown, but one possibility is that microgravity causes the loss of brain cells. We studied whether microgravity exposure could cause the loss of neurons, the communication cells of the brain. We found that neural stem cells exposed to simulated microgravity produced less neurons compared to control, and the neurons that were produced had altered morphology. To investigate the underlying mechanism of these changes, we performed

quantitative polymerase chain reaction (qPCR) to test for changes in gene expression of proteins known to drive neurogenesis (HES1, MASH1, NEUROD1, and NEUROG1) and found many to be reduced under microgravity compared to control. Reinstatement of these proneural transcription factors to their normal expression levels may overturn the decline in neuron production and reverse cognitive impairment after space flight.

Marketing Campaign for That Brunch Place Business' Social Media Presence
Jillian Parenteau, Skylar Evans, Gabriel John Sayers-Dalgar, Alyson Payan, Makahlia Harris
Faculty Mentor: Mihyun Kang
(Business Administration)

This local restaurant offers a wide variety of different breakfast meals. That Brunch Place has been in business for 15 years, with new ownership taking over in 2018. That Brunch Place offers various high-quality products and shows a welcoming environment for everyone. While working to create a reputation in the area as there are so many great restaurants in Willimantic and this one has been swept under the rug, the primary problem of That Brunch Place is their lack of a social media presence. The opportunity is to utilize their social media platforms on Facebook, Instagram, and TikTok to expand their business to the college demographic. At Beyond Brand Marketing Public Relations, we aim to develop a new campaign to gain more exposure. Today, it is vital to be able to adapt and utilize new platforms to attract new and lasting clientele. Being active on social media is the most important objective for our team to expand the business to surrounding college populations. The restaurant itself sits between Eastern Connecticut State University and the University of Connecticut. Our goal is to translate comforting and positive messages through social media to expand That Brunch Place to our primary target audience (college-age students). To reach this audience, we will post memorable, engaging, and appealing content to increase exposure and pay more attention to That Brunch Place. The goal of this is to make the products look appetizing and compel our audience to want to visit the business. Our campaign period will run from February 1st to April 15th, 2024. This gives us a three-month period to analyze the expected growth to benefit That Brunch Place. For our media/promotional mix, we will use the internet as two-way communication between That Brunch Place and their current and prospective public. This will allow us to communicate, create brand awareness, and increase revenue for That Brunch Place. We expect That Brunch Place to form a stronger relationship between their business and the college-age demographic. Simultaneously, we hope to improve their exposure and image to the public through a strengthened social media presence.

Pell's Equation & its Applications in Cryptography
Amy Pinargote
Faculty Mentor: Mehdi Sarikhani Khorami
(Mathematical Sciences)

We introduce Pell's equations, tracing their historical significance and explaining their fundamental definition. We explore the explicit formulas and recurrence relations governing the general integer solutions. Additionally, we introduce an innovative RSA-type cryptographic scheme rooted in Pell's equations, evaluating its efficiency and providing illustrative examples.

English Perceptions of Louis XIV in the Late 17th Century: The Cynic behind Popery and Arbitrary Power in France
Andrew Raymond
Faculty Mentor: Jamel Ostwald
(History)

This presentation explores English views of Louis XIV, building on Tony Claydon and Tim Harris's work through digital history methods analyzing the Early English Books Online database of primary sources. The thesis argues that England's historical experiences with popery and arbitrary rule laid the groundwork for a prevailing fear, influencing late 17th-century perceptions of Louis XIV as a cynical figure committing atrocities against all Christians in Europe and within his realm, and amplifying existing anti-Catholic sentiments in the English identity. Primary sources from native English and Huguenot refugee writers, mainly from the 1680s and 1690s, support this argument. The presentation shows how these narratives constructed Louis XIV as a symbol of moral transgressions, providing insights into the socio-political dynamics shaping his contentious image in the English consciousness and more broadly.

Cross-cultural Synthesis: Soviet Romanticism and Azeri Tradition in the Music of Fikret Amirov
Aidan Reiss
Faculty Mentor: Timothy Cochran
(Music)

"I adore the West. But I am a proud son of the East." These were the words of the twenty-six-year-old composer Fikret Amirov when defending his contribution to the Easternization of music in Soviet-occupied Azerbaijan. In the wake of increased political pressures, unstable global landscapes, and reemerging national identities, the young Amirov endeavored in 1948 to stimulate the then nascent East-West synthesis movement, balancing stringent Soviet pedagogy with colloquial Azeri tradition. As a promising and eager ethnomusicologist, Amirov conducted several ethnographic campaigns in the distant corners of both Azerbaijan and the Middle East, employing his discoveries to bring Western attention to Eastern ideas. As a result, he created a series of enduring national masterpieces, including the famous Piano Concerto on Arabian Themes (1957) (in collaboration with Elmira Nazirova). This paper focuses in on conflicting ways this concerto could be understood as we interpret Amirov's unlabeled musical influences and vaguely stated goals in relation to the broader context of Soviet political pressure and Western indoctrination.

Rebranding Champ's Tavern Social Media Presence
Margaret Ritchie, Emily Gossman, Madison Cromwell, Brianna Duffy, Gabrielle McWhirt
Faculty Mentor: Mihyun Kang
(Business Administration)

Champ's Tavern is a recently opened bar in downtown Willimantic. Champ's showcases legendary people, music, movies, and sports. They opened their doors in 2022 to those who reside in Willimantic and their local college students at Eastern Connecticut State University. They offer a small affordable food menu with rotating specials, and a full bar with that offers drinks that can fit

everyone's preferences. The primary problem of Champ's Tavern is it is a newly established tavern with an active but disorganized social media presence. At first glance of their social accounts, they have lots of posts over a thousand followers, but they have low engagement on their posts. Their methods of content creation is spamming their account with several premade designs that do not fit their brand identity and lack cohesiveness. They have themes that do not match, all different color schemes and designs, along with reposts of the same post's multiple times. Continuing to keep their presence alive on social media, we hope to rebrand Champ's Tavern to have a cohesive design among all their social media platforms and introduce content to TikTok to engage the college student demographic. To reach this audience, we use a branded color scheme for all our posts to match our logo and display more of what Champ's Tavern has to offer through pictures and videos. Our campaign period will run from November 15th, 2023, to May 15th, 2024. This provides us with a six-month period to analyze the anticipated growth of social media engagement. For our media/promotional mix, we will be using social media as a communication vehicle between Champs Tavern and their current and potential customers. This will allow us to communicate with social media users, create a cohesive brand image, and hopefully increase revenue for Champs Tavern. We expect Champs Tavern to thrive among both demographics of college students and Willimantic locals, while simultaneously creating a new brand image on social media.

The Korean Idol Industry and Process
Nayelli Rodriguez
Faculty Mentor: Okon Hwang
(Music)

The Korean wave, or Hallyu, is more than meets the eye. It has begun to take the world by storm, alongside K-Beauty, K-Dramas, and K-Pop. This research delves into the idol industry within Hallyu, identifying commonalities and evolving trends. It highlights areas needing improvement and progress made over time, offering insights for enthusiasts and newcomers alike. My research not only helps define what an idol is for those unfamiliar with the term but also demonstrates what that experience can be like. Becoming part of the idol industry is not only a lengthy process but also very complex, with rules, tasks, and differing expectations for those pursuing their aspirations to become idols. This presentation investigates how these demands impact Koreans and foreigners aspiring to enter the industry by providing a nuanced understanding of the challenges and opportunities for aspiring idols worldwide. This research contributes to a deeper comprehension of the Korean wave's impact and the complexities of pursuing a career in the idol industry, both for those within Korea and for international hopefuls.

"Is There A Brook Anywhere Near Green Gables?": The Power of Descriptive Language and Setting in Anne of Green Gables
Margaret Rousseau, Eva Glaser, Paige Stegina
Faculty Mentor: Allison Speicher
(English)

Anne of Green Gables remains, over a hundred years after its first publication, a seminal work of literature, charming old and new readers alike with its vibrant protagonist, comedic adventures, and bittersweet ending. But I argue it is L. M. Montgomery's use of setting and descriptive language that

is the strongest aspect of the novel. While readers may gush about Montgomery's descriptions of Avonlea, the fictional town in Prince Edward Island which serves as the novel's primary setting, critical academic texts about what exactly Montgomery is doing can be difficult to come by. I used the works of Joy Alexander, Andrea F. Szabó, and Marilyn Solt to argue that the detailed descriptions of scenery and setting in Anne of Green Gables serve several crucial functions: first, they connect to the characters' personalities and provide context to Avonlea society; second, they place Anne in a specific cultural-political moment in relation to Canadian identity; and thirdly, they control the reader's sense of the passage of time, which is vital to the book's transition from children's adventure story to mature coming-of-age novel. This multi-faceted setting usage is a testament to Montgomery's skills as a writer.

Effects of the Odd-1 Transcription Factor in C. elegans

Alyssa Sirianni, Delcy Lopez Garcia
Faculty Mentor: Amy Groth
(Biology)

Odd-skipped genes are transcription factors, which control the expression of other genes. The human odd-skipped genes OSR1 and OSR2 are cancer suppressor genes. Downregulated OSR1 can be a potential biomarker for gastric and ovarian cancer. C. elegans has related odd-skipped transcription factors (odd-1 and odd-2), which make it a good model organism. We developed a list of genes that contain possible ODD binding sites and have high or very low expression in the intestine. Using qRT-PCR, the expression of these candidate genes was compared in normal worms and worms that do not express odd-1 (ACG4). Five genes have been shown in replicated experiments to be downregulated in the ACG4 mutant strain, indicating they are normally activated by odd-1 (dhs-3, ntl-2, and gly-5, K0911.1 and C24G6.61). Results also show gpd-4, mex-6, and prdx-3 are downregulated by odd-1. When dhs-3, a gene that works in response to oxidative stress, is not expressed, cells start dividing uncontrollably, which can lead to cancer progression. We created a strain with an odd-1 mutation and a fluorescent protein reporter for dhs-3. Currently, we are using a confocal microscope to quantify DHS-3::GFP fluorescence in a wildtype background compared to when odd-1 is mutated.

Academic Department Funding For Student Success

Brandon Steen, Ryan Noll, Edgar Escutia
Faculty Mentor: Niki Kunene
(Accounting and Business Information Systems)

At Eastern Connecticut State University, we are led to believe in equity. Academically, do students in different departments enjoy equal or comparable resources to enable success? From different observations, we assumed not. We investigate if academic departments receive the funding necessary to equip their students with the skills and competencies needed for a fulfilling career beyond the university? We aim to gather and analyze specific data: the allocation of funds to each department, student enrollment figures (including majors, minors, and undeclared students), and the student-to-faculty ratio. Our goal is to establish a clear, objective criterion for identifying any underfunded departments. Yet, our endeavor is not without its challenges. The potential for biases of or sources as well as our own, the difficulty in accessing comprehensive financial and enrollment

data, and the risk of misinterpreting the information can undermine our data's validity. The objective of our work is a fair and equitable distribution of resources across academic departments. By doing so, we not only champion the cause of educational equity but also safeguard the future of our students, empowering them with the knowledge and skills necessary to succeed in their chosen majors and careers.

Testing the Accuracy of Self-Organizing Mapping on Cancer Data
Aidan Stewart
Faculty Mentor: Garrett Dancik
(Computer Science)

In the modern world, data has become extremely valuable to almost every field and business. The more data that is collected, the more that can be learned, at least in theory. Unfortunately, more data means more complexity, making visualization and pattern recognition more difficult. For instance, in biology, gene expression data can consist of thousands upon thousands of genes (dimensions) for each sample. The Self-Organizing Map (SOM) is an algorithm designed to reduce the dimensionality of complex data sets into a 2D maps while still theoretically maintaining the data's important features. The objective of this project was to evaluate how well SOMs preserved clusters in simulated and genomic bladder cancer datasets. Specifically, clusters were first identified using the k-means clustering algorithm before and after SOM was applied to the data, allowing us to compare how well the SOM preserves clusters. We found that SOMs + k-means generated interpretable maps without losing a significant amount of information when applied to simulated data. SOMs + k-means also proved to be effective when real genomic data was examined. These results supports the efficacy of SOMs for the visualization and analysis of high dimensional datasets.

Philosophical Paths to Transformation: Exploring Logic-Based Therapy
Francis G. Suzuki
Faculty Mentor: Karl Stocker
(Political Science, Philosophy, & Geography)

Philosophical Counseling, as promoted by The National Philosophical Association (NCPA), utilizes Logic-Based Therapy to provide counseling through qualified philosophical counselors. This modality, rooted in rational-emotive behavioral therapy (REBT), involves a six-step process of: emotional reasoning, identification and refutation of cardinal fallacies (faulty thinking errors), identification of a guiding virtue, adopting a philosophy that promotes this guiding virtue, and constructing a plan of action. This presentation will discuss the origins of the modality, how it works and how to become a philosophical counselor.

Such a Beautiful Thing – Explorations in Theatre with Queer Students: Using Moment Work to Inspire Community, Dialogue and Reflection
Kyle Tinker-Palaia
Faculty Mentor: J.J. Cobb
(Communication, Film, & Theatre)

Theatre student Kyle Tinker-Palaia embarked on a journey to create an original piece in collaboration with a team of student volunteers. Inspired by her involvement in The Laramie Project several years ago, Kyle researched the existing canon of theatre for social change, assembled a team, and experimented with different exercises in two semesters of rehearsal. The end product, a 40-minute performance piece titled Such a Beautiful Thing, is the result of the diverse perspectives and shared experiences of seven queer young adults, and addresses the struggles and triumphs of the queer community. This presentation serves as a retrospective of the creative process. It includes the artistic context of the project, a review of foundational literature including works by Bertolt Brecht, Augusto Boal and the Tectonic Theater Project, the methodology and findings of the rehearsal period, and the results of the final performance. Such a Beautiful Thing was an earnest celebration of queerness and an incredibly rewarding experience for the performers. Ultimately, the presentation serves as a testament to the potential of theatre as a tool for empowerment and advocacy, demonstrating how collaborative storytelling can pave the way for a more inclusive and compassionate society.

Violence Against Women in Early Modern Drama: A Present Problem
Samantha Vertucci
Faculty Mentor: Maureen McDonnell
(English)

When analyzing four plays from the early modern period, certain patterns of violence against women become apparent. The different violence typologies at play in these works reveal that the female body is perceived as a dangerous weapon that must be policed and trafficked to uphold patriarchal worldviews at women's expense. The violence that these female characters experience exemplifies the oppression of patriarchal systems, many of which are still relevant today. Then and now, it is evident that the traffic and desecration of female bodies act as outlets for male anxiety about female agency and sexuality. In my research, I argue for alternative staging practices that either emphasize the pain the victims went through or elevates the irony of the men focusing on their emotions in the face of women's dismemberment and death.

Show Me the Value: A Data Analysis of STEM Gender Discrimination
Robyn Vetterkind
Faculty Mentor: Steve Muchiri
(Economics and Finance)

This study employs multiple linear regression analysis within Microsoft Excel's data analysis function to investigate wage discrimination between males and females in STEM careers, focusing on salaries where the job requires one of the following college majors as an employee's educational background: computer science, data science, information systems, or business analytics. The analysis aims to

determine the extent to which gender influences salary, controlling for other relevant variables. By holding all other variables constant, the research assesses the average impact of gender on salary. Furthermore, the study evaluates the likelihood of gender discrimination occurring by chance within the dataset, providing insights into the significance of gender as a predictor of earnings disparities. Additionally, it examines the percentage of missing variables within the dataset to ensure a comprehensive analysis. Findings from this research contribute to the understanding of gender wage gaps in these related STEM fields and offer valuable insights for policymakers, employers, and educators, while identifying the shortcomings and weak points in the findings yet still providing value to the topic at hand.

Analyzing The History and Impact of Western Regimental Military Fashion During the Napoleonic Wars

Kane Waggoner
Faculty Mentor: Anya Sokolovskaya
(Communication, Film, & Theatre)

Though the study of military uniform in fashion is dissuaded due to its blatant "uniformity", this qualm does not exist for the Western military dress of the later-18th century and the very start of the 19th. Considered to be the most fashionable era of military dress, the Napoleonic Wars spanned vast countries, all with different, sporadic, and highly unique regimental specific uniforms. France, England, Prussia, Russia, and Spain found that it might not only be viable to exercise their superiority over one another on the battlefield, but that it could in fact be done based on what uniform, hairstyle, and accessory each soldier adorned. Using primary research from period reflecting articles and books, I aim to prove why this brief period in history is incredibly rich and diverse in its many types of attire. The Western uniforms of the Napoleonic Wars are an excellent reflection of how societal fashion norms find their way into not only how military dress was made, but how it was worn by many soldiers of multiple nations.

Revamping East Side Boba Cafe's Marketing Strategy

Oliva Zumpano, Charlotte French, Melissa Poinelli, Ceili Roberts, Jessica Saucier
Faculty Mentor: Mihyun Kang
(Business Administration)

This marketing campaign is working with East Side Boba Café and looks to utilize communication tactics such as advertising and digital marketing to increase brand awareness. East Side Boba Café is a new business local to the Willimantic area. Established in September of 2023, East Side Boba Café strives to create delicious and unique boba tea drinks and pastries for everyone to enjoy. Currently, the primary issue with East Side Boba Café is its lack of social media consistency and engagement across platforms, including Instagram and Facebook. We intend to solve this issue by establishing a stronger online presence on both Instagram and Facebook in hopes of reaching our defined primary audience. Our main goal is to generate a supportive and intriguing message that can increase brand awareness among our primary target audience (women in Connecticut ages 18-25) as well as our secondary audience (college students). East Side Marketing Group intends to use these social media platforms to our advantage so that users can gain further knowledge on East Side Boba Café as a business and the products it offers. We want social media users who come across our new posts to

feel drawn to East Side Boba Café for a delicious drink and pastry. Our campaign period will run from March 31st to December 31st, 2024. This gives us nine months to properly grow the online presence of the café, as well as analyze this growth. For our media/promotional mix, we will use the Internet as a way to connect East Side Boba Café to its customers. Using this resource will allow us to post information to mass groups of people regarding hours, prices, and menu items. The Internet can also allow two-way communication to occur between the café and its customers. This way, we can expect East Side Boba Café to strengthen their relationship with customers, as well as generate a positive image for the business online.

Panels, Performances, & Screenings

Bridging Digital Innovation and Campus Life
Faculty Mentor: Ashon Avent
(Business Administration)

As technology increasingly influences every aspect of academic and campus life, we will be integrating innovative digital solutions to enhance student experiences by creating a platform for the Eastern Connecticut student body. Our goal is to enrich and make a more vibrant campus life for all. Students present their tech solutions for addressing a range of issues associated with campus life and activities.

Tech Forward-Camp Us
George-Ann Christie, Renecia Rhoden, Zack Doncet, Jake Thompson, Niall O'brien

College Compass
Grace Majowicz, Kelly Pruss, Ryan Djurkovic, Daniel Maslowski

Everything To Know @ ECSU
Ian Harrington, Hannah Bosse, Sebastian Spencer, Jacob Berger

Simplify Campus Life: The All-in-One ECSU App
Nikolas Bailey, Eddie Monegro, Lindsey King, Tim Lichack, Eve Pelletier

CampusConnect
Alyson Payan, Dylan Rice, Ingrid Taute, and Erin Playdon

Eastern Go
Elizabeth Forrest, Cecilia Melendez Perez, Lilly Simpson

Techforward: The Future of Networking for College Students
Mia Hwang, Stefan Chervenkov, Mardoochee St Cyr, Destiny Velez-Valeza, Connor Landon

Beyond Eastern
Yina Godina, Maddox Pingree, Braeden Murausk, Ashley Moore

EZYConnect
Sydney Goyette, Enmanuel Acosta, Jacob Shook, Caiden Hettrick-Rivera, Lucas Tamsin

Campus Connect
Gage Duarte, Arimae Gagne, Connor Willett, Jose Navas, Xiomara Martinez

TechFoward
Nicholas Furino, Logan Huzi, Connor Lentocha, Austin Ouellette, and Joe Hawkins

---

Documentary Film Screening
Faculty Mentor: Brian Day
(Communication, Film, and Theatre)

Bantam – 8 minutes 49 seconds
Earthbound – 11 minutes 59 seconds
The Ribeiro Family – 11 minutes 41 seconds
Melody Lacombe

The Anxiety Attack – 6 minutes
Amber Sehl

Eastern Student Poets Read and Discuss Their Work
Faculty Mentor: Daniel Donaghy
(English)

Laura Bidwell, Madelyn Collins, Noeliany Cosme, Sierra Madden

Four Eastern student poets read and discuss work from their capstone creative writing projects.

Video Essays
Faculty Mentor: Steve Ferruci
(English)

A Radical-Cultural Feminist Analysis on World of Warcraft
Sophia Markley

In the video essay, I talk about world of Warcraft using the lens of radical cultural feminism. Radical cultural feminism is a form of feminism that seeks to dismantle the patriarchy through radical cultural change, and analyzes cultural and societal practices as contributing to sexism and the patriarchy, which is an ingrained sense of men's control and power and the feeling of women having less power. I used a more intersectional view to consider all minority perspectives such as people with disabilities, people of color, etc. Using this lens, I look at world of Warcraft, a MMORPG which is a massively multiplayer online role-playing game. This game has a massive community and I analyze both the community's response to game decisions/design and the game's evolution in its culture, from clearly labeled male/female sexes to "body type 1" and "body type 2" as well as several morally questionable storylines like one about sexual assault that got extremely negative feedback.

Exploration into Autism and Video Gaming
Cole Manasia

In this video essay, I discuss my experience of growing up with my brother who has autism, and the difficulties he faced as he grew up. I also explore this idea I had where video games had potentially helped my brother understand himself and the world better and I did research to discover if this is a common phenomenon. I read scientific articles, interviewed two professors on campus, one specialized in autism and the other specialized in video game studies, and I also interviewed three people with autism to see if there were similar experiences. Towards the end of this video essay I also explore the idea of representation of autism in video games but, more specifically the lack of it, and how this lack of representation is saddening and the potential benefits of there being more representation in video games for people with Autism.

Navigating New Horizons: Insights from Student Teams in the CAPSIM Strategic Management Simulation
Faculty Mentor: Nahyun Oh
(Business Administration)

Strategy lies at the heart of most successful businesses. Join us for a session where six student groups from their Strategic Management course will share their experiences navigating the business landscapes within CAPSIM, a virtual business simulation. This simulation provides a unique opportunity for students to immerse themselves in the realities of corporate leadership, functioning as integral members of senior management teams. Throughout the simulation, students act as senior management, making critical choices regarding production, marketing, R&D, and finances. They will demonstrate how their decisions impact the business within a competitive market environment. The six teams composed of Eastern Seniors in Business Administration will share their journey, discussing how they applied their learnings to gain a competitive advantage, the challenges they encountered, and the insights they gained. This session promises to enlighten all enthusiasts eager to enhance their strategic acumen across diverse contexts.

Allison Arling, Evan Baptista, Jonathan Barnes, Timothy Bielaczyc, Joshua Bourgoin, Seth Bratcher, Domenick Bukowski, Douglas Cassarino, Noah Chokas, Justin Collins, Finn Doherty, David Harrold, Greg Katzman, Aston Lewis, Sarah Michaud, Ocion Mollison, Nolan Molloy, Alyssa Monroe, William Murkette, Eli Nanni, Ryan Noll, Amanda Pedro, Luis Perez, Jillian Santana, Kennedy Shippee, Jacob Silverman, Derek Stebbins, John Walker, Michael Wilson

---

Global Field Study: Puerto Rico 2024
Faculty Mentor: David Stoloff
(Education)

Emily Tarbox, Nicole Pepe, Laila Wilson, Sandra Boakye, Nina Garcia-Cyr, Delaney Kudron, Colleen Garrity, Kathryn Kauffman

Our CREATE presentation will show our findings and experiences in Puerto Rico through our Global Field Study course. We visited three schools and two universities: UPR-RP, The

Interamerican University - Metro's laboratory school and its lab school, and two private schools - St. John's School and Robinson School. Before we left, we used our quantitative literacy skills to compare statistics between Connecticut, Puerto Rico, and the United States. We also analyzed the UN sustainable development goals in Puerto Rico. During the visits we learned about the different learning environments in Puerto Rico and compared that to the learning environments in the United States. Our CREATE presentation will explain our findings, experiences, and added research. The presentation will show our communication skills and creativity through a video, posters, write-ups, and panel for questions about our experience. There will also be individual experiences presented. This will not only include experiences that we had in schools, but also some of our other excursions. This tested our critical thinking skills in analyzing the differences in education between Puerto Rico and the United States despite Puerto Rico being a United States territory.

A Celebration of Eastern Fiction Writers

Faculty Mentor: Christopher Torockio
(English)

Dana Arroyo Infante, Emma Bussolotta, Savannah Eldridge, Sierra Madden, Colin Morrison, Muriel Stankeviciute

This group presentation will feature six talented Eastern fiction writers sharing the original work they've created over the past year. The panel consists of published authors; students headed to graduate school to study creative writing; students who have studied, or will be studying, fiction writing abroad in Florence, Italy; and will feature a broad range of styles, themes, subjects, and voices that reveal all the various complexities of the human condition.

Performances

Faculty Mentor: Alycia Bright-Holland
(Communication, Film, and Theatre)

Be the Voice

Meganlyn Delaney, Liam Jonas, Allison Thebeau, Eric Roesler, And Tajmarnie Appolon

Be the Voice is a dance piece with the hope of portraying the importance of being the voice for those who struggle with advocating for their own mental health. The Piece tells the story of five friends struggling with their own mental health, such as anxiety, depression, OCD, and schizophrenia. One of the dancers will portray the idea that we do not know what someone is going through until it is brought to our attention. Follow this dancer as they go on a journey, trying to help their friends get the resources they need. Through this piece, I hope to raise awareness about easy access to mental health resources and being an advocate for those who struggle to advocate for themselves.

Red Line Dance Collective
Zavier Garcia, Zolah Daley, Allison Thebaeu, Celeste Petrowsky

Red Line: A Collaborative Multidisciplinary Performance, featuring original choreography, music and poetry by six artist/scholars (Alycia Bright Holland, Kwamena Blankson, James Holland, Venlo Odom, Iddi Saaka and Shirley Sullivan). This project was made possible through Wesleyan University's Embodying Antiracism Initiative (EAI) Fellowship program (2022-2023).Red Line was performed at Eastern Connecticut State University in Fall 2023 and at Connecticut College Spring 2024. These are original excerpts from Red Line performed by Eastern CFT (Comm, Film + Theatre) Performance students.

Missa Brevis- by José Limón
Liam Jonas

This piece is from the award-winning, innovative pioneer of modern dance, José Limón. Jose Limón created this majestic yet powerful piece after hearing Zoltan Kodaly's Missa Brevis in Tempore Belli, a score written at the end of World War II. The backdrop of Limón's performance is of a bombed-out church in Budapest. Like much of Limón's work, this piece articulates enduring through the hardships of war.

---

3 O'Clock Jazz Combo
Faculty Mentor: Frederick O'Neal, Anthony Cornicello
(Music)

A Student Jazz Combo Band co-led by two Student Directors, Evan Gianfriddo and Grace Michalowski.

Taegan Botti, Carter Bouchard, Evan Gianfriddo, Ian Harrington, Grace Michalowski, Antonio Ponte, Dylan Schore, Jason Skoog, Noel Teter, Jacob Wurst

---

Photography – Dance Studio Collaboration
Faculty Mentor: Thomas Hurlbut

Daniel Ciffelli, Joseph DeCarlo, Ryan Djurkovic, Aaron Kelly, Elani Marrero, Andres Mayuri, Emma McCormack, Samuel Perez-Lopez, Sylas Stanly-Barham, Jared Tofil, Reginald Veillard, Zachary Cunningham

An opportunity for students to use various photography concepts learned in class during a photography session with Professor Bright-Holland and some of her students. Concepts illustrated: Varied point of view, shutter speed and moving subjects, choice of lens, depth of field, rule of thirds, askew composition, repetition of shape and form and more.

Poster Abstracts

Parenting Styles and Childhood Outcomes
Christeena Aaron
Faculty Mentor: Melanie Keyes
(Psychological Science)

Past research has found that parenting styles impact children in a variety of ways. This literature review examined the relationship between parenting styles and childhood outcomes of academic achievement, both internalizing and externalizing behaviors, self-esteem, and prosocial behaviors. Future directions and implications of this research will be provided.

The Effect of Content Interaction and Product Exposure on Brand Trust
Stacey Addo
Faculty Mentor: Jehoon Jeon
(Business Administration)

The purpose of this research was to take a look at influencer marketing and learn if there was a correlation between content interaction and product exposure on brand trust. We hoped to learn if parasocial interactions would lead to more trust in a product and increase the likelihood in purchases. The independent variables for this study are the content interaction and the amount of product exposure. The dependent variable was brand trust. The first hypothesis is that when social media users frequently engage in content, it will create more brand trust through recommended products. The second hypothesis is that more product exposure would lead to more brand trust. The research question is: How do content interaction and product exposure impact brand trust? To collect data, social media users answered survey and interview questions measuring how much they interact with their favorite content creators, how often they are exposed to products and ads, and on brand trust. Hypothesis 1 was not supported but Hypothesis 2 was supported. Survey participants stated in their interview questions that they do feel connected to certain creators and trust their recommendations if they feel they are honest. Users tend to be annoyed by the advertisements they receive but these are often products they would be interested in.

Using Rock Tumblers to Mechanically Scarify Seed of Honey Locust (Gleditsia triacanthos) Fabaceae
Raymond Asch
Faculty Mentor: Bryan Connolly
(Biology)

The honey locust tree (Gleditsia triacanthos) Fabaceae is a tree native to eastern North America, it is commonly used as an ornamental shade tree in cities, towns, and on college campuses. This species

has thick seed coats and requires some form of scarification for germination. The scarification or breaking of the seed coat can be achieved mechanical either by nicking the seeds with a sharp blade or with sandpaper. Additionally, seeds can be treated with acid to dissolve the seed coat. This experiment was performed to determine if a rock tumbler could be used to scarify honey locust seed coats and increase the percentage of germination. Un-scarified seeds were used as the negative control, while nicked seeds clipped with pruning shears served as the positive control. Treatment groups of 100 honey locust seeds per replicate were placed inside of a rock tumbler with either playground sand, dry rock tumbling grit, or a combination of rocks and grit. No liquid was added in any of the tumbling processes. After treatment times varying from 1-7 days, the seeds were removed from the rock tumbler and planted, and compared to nicked, and non-scarified seeds. After the plants grew, they were counted to determine percent germination. The clipped positive control has shown a high percentage of germination. We are still in the process of conducting the experiment, and need to replicate 1, 2, 3, or 7 days treatments. We expect the samples with longer durations in the rock tumbler to show a greater percent germination.

Investigating the Composition and Function of Bacterial Communities in the Brain
Alexa Boone, Pearl Kwadzi
Faculty Mentor: Kurt Lucin
(Biology)

The human body is a habitat for numerous bacteria that have consequences on bodily functions. Four bodily areas, or microbiomes, including the skin, gut, mouth, and vagina have been widely established. Here, we are interested in testing whether the brain may be a potential fifth microbiome. While microbial communities in the gut and skin have been extensively studied, little is known about the brain. To identify bacteria in the brain and rule out potential contamination, we sequenced bacterial 16S rRNA from different bodily areas in mice, including skin, blood, and brain and compared the bacterial genera found. Our results suggest that unique bacterial communities reside in the brain. We then tested whether bacteria could break down glutamate, a widely used communication factor in the brain. To do this, we first had to establish assays by measuring glutamate metabolism by E. coli, a known bacteria that metabolizes glutamate. E. coli demonstrated an ability to metabolize glutamate, which did not occur without bacteria. These results suggest that glutamate levels may be affected by bacteria within the brain. Given that glutamate imbalance can cause seizures, if these bacterial communities are disrupted, glutamate levels may rise, promoting seizure activity.

College Student Perceptions of Homelessness in Relationship to Academic Major
Sarah Burnett, Katherine Sarra, Alexis Valentine
Faculty Mentor: Sarah Nightingale
(Sociology, Anthropology, Criminology, and Social Work)

The purpose of this study was to determine if there is a relationship between a student's major and their perception of homelessness. The method of data collection was through an online survey that was distributed virtually and in person. Our results showed no significant relationship between a student's major and their perception of homelessness after testing the responses from social science and non-social science majors.

The Chicken Nugget Study - Relations Between Brand Recognition, Price, and Perceived Food Quality

Ori Busel
Faculty Mentor: Caitlin Vasquez-O'Brien
(Psychological Science)

This study examines the links between brand perception, price, and perceived quality. Previous research would suggest that people eat fast food because it is cheaper than other options. Research has also found higher price results in higher perceived food quality (Zhong & Moon, 2020). Research has not looked at the interactions between perceived food quality, price, and brand recognition together. Using a combination of questions from two empirical surveys and manipulating the brand of chicken nugget presented to the participant by brand name packaging, I hypothesized that brand recognition would positively correlate with perceived food quality, and that price and brand recognition were correlated, with higher prices resulting in higher perceived food quality. Data was gathered from a sample of 34 current students at Eastern Connecticut State University and the model was tested with a two-way ANOVA in SPSS. Implications for obesity are discussed.

The Study on Culture and Substance Use

Janyi Byrd, Dulio Osea Bolenos, Shianne Stannat-Laflamme
Faculty Mentor: Sarah Nightingale
(Sociology, Anthropology, Criminology, and Social Work)

This study explored the association between culture and substance use habits. Cultural values and socioeconomic status were the two main cultural components the study focused. Data was collected through an online survey that was posted on researchers' social media platforms. We found statistically significant correlations between cultural values of familism and machismo and substance use habits. The study indicates that people with more traditional cultural values and strict gender norms use alcohol more frequently. The research also suggests that those with more traditional values use THC products more frequently.

Mental Health First-Aid Knowledge and Intention in Social Work Students: An Exploratory Study

Paige Cadogan, Shannon Cody, Grace Gallo
Faculty Mentor: Sarah Nightingale
(Sociology, Anthropology, Criminology, and Social Work)

The topic of this study was the exploration of the effectiveness of Question, Persuade, and Respond (QPR) training on social work university students' knowledge of mental health first-aid, their intention to engage in it as well as students' baseline of knowledge in those areas. The method for data collection was three online surveys via google forms to be distributed to the students prior to the training (pre-test), immediately after the training (posttest 1) and two weeks after the training (posttest 2). Based on our data there was no significant increase from the pre-test to posttest 2 in the following measures: students perceived mental health knowledge, mental health recognition, efficacy providing mental health first aid and intervention intention.

No statistical significance was found between personal responsibility and past intervention behavior, crisis recognition or past intervention behavior, or knowledge of campus resources and crisis intervention efficacy. However, there was a statistically significant change in students' comfortability reporting classmates and/or friends concerning behavior to campus mental health resources. Additionally, a statistically significant positive correlation was found between perceived knowledge of mental health and illness and mental health first aid and intervention intention. Due to the small sample size of social work students, all findings, even statistically significant ones, would benefit from further research as they are low in statistical power.

Testing Hybridization with Solanum bahamense (Solanaceae) as a Threat to Conservation efforts of Solanum ensifolium (Solanaceae)

Natasha M. Durand Castrodad
Faculty Mentor: Bryan A. Connolly
(Biology)

Solanum ensifolium (Solanaceae) or Erubia, is an endemic critically endangered Puerto Rican plant that may be extinct in the wild. Conservation efforts are being made to reintroduce and help reestablish Solanum ensifolium back into its natural habitat. We wanted to test reproductive compatibility with the closely related Solanum bahamense (Solanaceae), a species found throughout the Caribbean. Endemic species can be threatened by frequent hybridization or "genetic swamping" by common congeners. In order to test this, three treatment groups were made (interspecific outcross group (S. bahamense x S. ensifolium), intraspecific outcross-within species group (10 S. bahamense individuals cross pollinated with each other), self-pollination group (pollen from the same individual manually placed stigmas) and one control group (no pollination). In total, one hundred and forty crosses were made, 35 per each group. In order to test for compatibility, pollen from two Solanum ensifolium plants (A9 x Utah, B3 x Utah) were used to pollinate ten Solanum bahamense (1-10) plants for the Interspecific outcross group. Pollen from 10 Solanum bahamense (1-10) plants were used for the intraspecific outcross group within the same species. One Solanum bahamense plant was successfully self-pollinated with its own pollen. These crosses resulted in 49 successful crosses (interspecific outcrossing group: 15; within-group: 27; self-pollination group: 7) and 953 seeds (interspecific outgrossing group: 285; within-group: 614; self-pollination group: 54) (no seeds from the no pollination control group). To test for seed viability, ten pots for each pollination treatment group were filled with ProMix soil and 5 seeds were placed in each, for a total of 30 pots with 150 seeds.Out of all the pots, we have seen 3 seed germinate from the interspecific outcrossing group, 12 seeds from the within-group, and 2 seeds from the self-pollination group.

The Relationship Between Gender and Perceptions of Domestic Violence Myths Among College Students

Layla Cesar, Lydia Perron, Emma Ford
Faculty Mentor: Sarah Nightingale
(Sociology, Anthropology, Criminology, and Social Work)

This study explored if there was an association between gender and domestic violence myths and bystander intervention. The method that was used for data collection was through an online survey

given to college students across New England. Based on our data we found that men significantly believe in domestic violence myths more than women. We also found that there was no statistical significance involving gender and bystander intervention. Based on our results, we concluded that there are gender disparities between the perceptions of domestic violence involving and or concerning college students.

The Relationship Between Trauma Experience and Attention as Explored Through Posner Cueing Tasks

Danielle Chaput
Faculty Mentor: Lyndsey Lanagan-Leitzel
(Psychological Science)

Traumatic experiences can have a large impact on cognitive processes, and in turn can cause severe mental health disorders such as PTSD, depression, and anxiety disorders (Straussner & Calnan, 2014). Studying attention patterns of individuals who have had traumatic experience can reveal adaptive processes such as hypervigilance and globalized attention. This study administered two scales of trauma experience and two Posner cueing blocks to a sample of 30 undergraduate students. The results of this study did not support the hypotheses that threat stimuli and trauma experience affect the distribution of attention. Examining the relationship between trauma experience and attention patterns remains worthy of future research.

Consumption of Alcohol and Cannabis in College Students

George-Ann Christie
Faculty Mentor: Gregory Kane
(Business Administration)

The research was based on alcohol and cannabis consumption among college students, drawing from studies by Le et al. (2018), Holm et al. (2022), and Goodhines et al. (2019). Findings reveal demographic trends, substance misuse patterns, and associated negative consequences. The study includes hypotheses on academic performance, substance use frequency, and sleep-related cannabis expectancy among 30 college students, using measurement instruments like the CLASS questionnaire and SR-CEQ. Statistical analyses uncover differences in positive sleep-related cannabis expectancy based on class rank and behavioral variations between residential and commuter students, offering insights into substance use trends in colleges.

Digit Ratio and Mating: A Literature Review

Raya Cruse
Faculty Mentor: Alita Cousins
(Psychological Science)

2D:4D, also known as digit ratio or finger ratio, is the ratio between the index and ring finger. It is thought to be a signal of the amount of prenatal testosterone exposure a person received. Several studies show that 2D:4D may be related to a number of mating behaviors and perceptions in humans. These include mating strategies, perceived dominance, mate choice, sexual orientation,

mate guarding behaviors, and responses to sexual cues, among others. Research in some areas related to digit ratio and mating has yielded inconsistent results, meaning that more research in this area would be needed to have a full understanding of the topic.

Sliding Quantum Round Robin (SQRR): A CPU Scheduling Algorithm to Decrease Process Waiting and Turnaround Time

Zachary Davidson
Faculty Mentor: Sarah Tasneem
(Computer Science)

As CPUs continue to advance in physical capacity, optimizing CPU utilization is becoming increasingly more important for OS schedulers. The traditional FCFS, Round Robin algorithm is commonly used in CPU scheduling but can be further optimized to decrease waiting and turnaround times of scheduled processes. Optimizations to the algorithm aim to reduce overload by incoming processes that waste CPU resources on avoidable context switching. By adopting a dynamic SJN and FCFS approach, establishing an optimal quantum time for each queue cycle, and prioritizing nearly completed processes based on criteria evaluating burst time and current cycle quantum relationship, the proposed SQRR exhibits improved efficiency and performance metrics in average wait and turnaround times. The results of SQRR with their corresponding visualizations aim to assist OS developers to ensure efficient resource allocation and minimize latency.

Mitigating Osteoporosis in Dialysis Patients: A Proposed Tailored Physical Therapy Approach for Enhanced Bone Formation and Function

Kerry Donohue
Faculty Mentor: Paul K. Canavan
(Health Sciences and Nursing)

Up to 63% of dialysis patients have incidence of osteoporosis in the femur and are at risk of bone fracture, e.g., femoral neck fracture. Statement of the Problem: To date there are no known research articles that provides an evidenced based approach to help improve bone mineral density via therapeutic exercise. The objective of this review of literature across multiple disciplines (engineering, medicine, rehabilitation) to provide a framework to help improve bone mineral density for dialysis patients. The secondary aim is to prevent hip fractures through a tailored therapeutic exercise regimen to help reduce femoral neck fractures. Key words used; Wolffs law, osteoporosis, therapeutic exercise, bone mineral density, dialysis, osteoblast and osteoclast. Databases searched; Medline, EBSCO, BioMed, PubMed, MedScape Years searched 2006-2024. Therapeutic exercise such as gradual resistance training, and weight-bearing activity can stimulate the muscle and bone surrounding the femoral neck. This mechanical stress promotes bone growth which could lead to decreased risk of femoral neck fractures. More multi-disciplinary research collaboration and dissemination of findings is needed to help foster optimal bone loading via targeted therapeutic exercise for individuals on dialysis who have osteoporosis.

Opinions on Abortion Post Roe v. Wade World: Factors Besides Gender That Affect the Way College Students Form Opinions About abortion

Michaela Ellis, Gianna Stoico
Faculty Mentor: Marin Mendoza-Botelho
(Political Science, Philosophy, and Geography)

On June 24th, 2022, the US Supreme Court overturned Roe v. Wade, the piece of legislation that made it a federal right to protect access for women to receive abortions in the United States. This decision took away the prior fifty years of legal protection of abortions and made it possible for individual states to ban abortion rights. Since the Supreme Court decision, more than half of the country's fifty states are expected to ban or heavily restrict access to abortion. The consequences of unsafe abortions include physical complications that are more severe among adolescents than older women and can increase the risk of harm and death. Using a sample of over a hundred college age students, the paper discusses not only different trends on public opinion but also some of the factors affecting the results, including gender perspectives, political tendencies, and others. Therefore, this paper tries to provide further information on different elements that impact college students' views on abortion. We will further study the argument of whether the issue of abortion should be revisited by the Supreme Court considering the strong views of this new generation.

Lower Extremity Isokinetic Assessment of a NCAA Division III Swim Team: Comparing Previous Lower Extremity Injury Status and Swimming Style

Kyle Heard
Faculty Mentor: Paul K. Canavan
(Health Sciences and Nursing)

Lower extremity muscular strength and endurance has been shown to significantly contribute to swimming propulsive forces and is related to injury. The purpose of this study was to determine the relationship between lower extremity muscular strength, (quadriceps vs hamstrings) and swimming styles, previous lower-extremity injury, and gender exists. Thirteen male and nineteen female NCAA Division III Swimmers participated in this study. The swimmers were tested for knee extension-flexion isokinetic strength for five repetitions at 60 degrees/sec and strength endurance at 20 repetitions at 180 degrees/sec. Swimmers of both swimming styles showed greater right quadriceps strength levels than swimmers of primarily symmetric or asymmetric styles ($p=0.02$), with left quadriceps muscle strength trending in the same direction ($p= 0.076$). Results demonstrated three athletes with > 20% difference in strength from left to right quadriceps femoris strength and five athletes with > 20% difference in left to right hamstrings strength. There is a need for lower extremity muscular strength analysis in the potential prevention of injury and improved sports performance in a Division III men's and women's swimming program. Resolving identified strength deficits/imbalances in the lower extremity muscle groups could lead to increased propulsion and improved swimming performance.

Is Katie Recognized with Eating Disorder Symptoms More Often than LaKiesha or Esmeralda? A Vignette Study on Racial/Ethnic Discrimination

Dana Arroyo Infante
Faculty Mentor: Caitlin Vasquez-O'Brien
(Psychological Science)

Past research has indicated that eating disorders have been disproportionately underdiagnosed in ethnic minorities. While vignette studies have been done to test eating disorder symptom recognition, not many have focused on participant ethnicity as a variable (Gordon et al., 2002; Gordon et al., 2006; McAshan, 2018). In the current study, college students (N = 43) were recruited from Eastern Connecticut State University (ECSU) to assess eating disorder symptom recognition using the Eating Disorder Identification - Drive for Thinness subscale (EDI- DFT) after reading an Anorexia Nervosa (AN) vignette differing in ethnicity. I hypothesized that White vignettes would be recognized with eating disorder symptoms more often than BIPOC vignettes. Additionally, White participants were hypothesized to recognize eating disorder symptoms more often than BIPOC participants. Finally, participants were hypothesized to be more likely to recognize eating disorder symptoms in their own race/ethnicity than another race/ethnicity. These hypotheses were tested using a Two-Way ANOVA. This study contributes to the literature regarding the underreporting of eating disorders in Black Indigenous People of Color (BIPOC), as it is debilitating and creates a barrier in access to treatment. Findings highlight the need for further research on eating disorder diagnosis among ethnic minorities.

How Neurobiological Development, Neurobiological Processes, and Mental Health are Impacted by Childhood Abuse

Josephina Keith
Faculty Mentor: Melanie Keyes
(Psychological Science)

Childhood abuse is a pervasive issue that is understood to be detrimental to children's development. The psychological impacts of abuse are generally understood, but there is limited knowledge concerning the impact childhood abuse has on neurobiological development. Further, there is less knowledge surrounding the consequences of specific forms of abuse. This literature review highlights the impact of different forms of childhood abuse on neurobiological development, neurobiological processes, and mental health. Additionally, current practices for prevention and intervention strategies of child abuse, future directions, and implications will be provided.

Explorations in Cycle Sort: Running Time at the Cost of Memory Usage

Carter Kelly
Faculty Mentor: Garrett Dancik
(Computer Science)

Cycle sort is a sorting algorithm centered around the idea that for a finite set, the set can be decomposed into disjoint "cycles" such that successive swaps return each element in the cycle to its correct location. When all cycles are complete the set is sorted. Cycle sort is used to minimize writes since it uses O(1) auxiliary space and sorts in place. For a set where all values are [1, n]; time

complexity is O(2n-1); once a cycle is complete, the algorithm iterates through the set until a misplaced element is found, thus initiating a new cycle. The idea of a "run" (consecutive sorted elements) was used to try and improve time complexity. By tracking the end points of runs, the next untouched element will be q+1 where the run is from zero to q. A hash table was used to store the end points of runs using index as the hash function input. Statistical analysis was performed for n=10k,100k, and 1mil (with 10k replicates). We report various metrics such as the most values stored simultaneously in a hash table of size n, number of collisions for a hash table smaller than n and other relevant statistics.

Using Magnetic Data to Constrain Geological Bedrock Mapping of the Rocky Hill Anticline, Hartford Rift Basin, Connecticut

Kristian Kowalski
Faculty Mentor: Peter Drzewiecki
(Environmental Earth Science)

The SE-plunging Rocky Hill Anticline (Rocky Hill and Glastonbury, CT) is defined by the outcrop distribution of the Early Jurassic Hampden Basalt Formation. Basalt on each limb of the anticline is well exposed on the northwestern side of the NE-SW trending South Lamentation Mountain Fault (SLMF). South of the SLMF the nose of the anticline is buried by Quaternary sediment. We conducted a ground based magnetic survey to constrain the subsurface position of the Hampden Basalt SE of the SLMF and hypothesize the configuration of the nose of the Rocky Hill Anticline. A Geometric G-858 magnetometer was used to collect magnetic field strength data in the study area. Identifying the exact location of the nose and limbs of the anticline was hindered by complex interference from dense residential infrastructure (power cables, drainage conduits) and variations in the thickness of unconsolidated Quaternary sediment overlying the bedrock. Modeling of the magnetic field strength based on overburden thickness derived from well data in the study area is inconsistent with measured magnetic results. Despite these limitations, a map of the best possible position of the nose and flanks of the Rocky Hill Anticline is presented, honoring all magnetic, outcrop, and well data.

The Effect of Temperature on Junonia coenia Densovirus Infections of Euphydryas Phaeton, the Baltimore Checkerspot Butterfly

Billi Kozak
Faculty Mentor: Jonathan Hulvey
(Biology)

A better understanding of insect-virus relationships is presumably valuable for pollinator promotion and pest control, as well as conservation efforts. Euphydryas phaeton (Nymphalidae), the Baltimore checkerspot butterfly, has a conservation status rank of S2 or 'imperiled' in Maryland, meaning it is considered rare due to its limited population size, with one contributing variable perhaps being infection with Junonia Coenia densovirus (JcDNV). To gain a better understanding of how this virus impacts E. phaeton larvae, caterpillars were infected with a lethal concentration of virus and maintained using Plantago lanceolata leaves. This was performed at three distinct temperatures, simulating the effects that global warming may have on the viral-host relationship. The cadavers and frass were measured for virions using qPCR. It was found that many frass and cadaver samples

contained measurable levels of JcDNV, sometimes at lethal concentrations, though not all of the samples had detectable virus (post-inoculation). Variables such as size and temperature treatment were significantly correlated with survival and viral measurements. These data suggest that both frass and cadavers could serve as effective routes of transmission, and this may change with global warming trends.

Investigating Preneoplastic Cells and Neutrophil Interactions Utilizing Tissue Specific ICAM1 Knockouts

Pearl Kwadzi, Marissa Paquette
Faculty Mentor: Derek Laux
(Biology)

Cancer is a disease characterized by uncontrollable cell division, leading to tissue and organ destruction. The multiplication of cancer cells from a single cell to a full-blown tumor requires the interaction between cancer cells and the cells of the host. Innate immune cells, neutrophils, and macrophages are recruited to the tumor microenvironment (TME) and have been shown to provide trophic signals. However, the cellular signaling pathways that underlie this abnormal behavior are yet to be uncovered. The nuclear factor kappa B (NFKB) pathway is important in immune cell responses and has been shown to be upregulated in neutrophils within the TME. NFKB has been shown to regulate the cell surface adhesion receptor ICAM1, but the role of ICAM1 in the interaction between neutrophil and cancer cells has not yet been discovered. Here, we utilized gateway recombination and CRISPR/Cas9 technology to generate neutrophil specific icam1 knockouts in zebrafish embryos. We also performed in situ hybridization to detect icam1 expression in the TME. We have begun troubleshooting laboratory procedures to detect proliferating, apoptotic, and senescent cells in the TME. Our hope is that these experiments will shine new light on the NFKB pathway and provide additional targets in cancer therapy.

Efficacy of Inspiratory Muscle Training in Athletes

Noah Linton
Faculty Mentor: Paul K. Canavan
(Health Sciences and Nursing)

Inspiratory muscle training (IMT) improves the quality of life for patients with chronic breathing difficulties (e.g. bronchitis & asthma).strengthening the diaphragm and intercostal muscles in these patients results in improved respiration capabilities. The medical field has proven the efficacy of IMT. However, in the sports science field there is a dearth of literature relating the effectiveness of inspiratory muscle training to improved performance in athletics. The objective was to review high quality literature that investigated the efficacy of IMT in athletes. Sports Discus, Scholar Google, Cinahl, Medline were the databases searched. Key words included; Inspiratory muscle training/Muscular strength/Muscular Endurance/Maximal Inspiratory Pressure/Respiratory Endurance Time between 2000-2023. Results: Swimmers that utilized IMT improved times in events of 100m, 200m & 400m 1.7%, 1.5% and 0.6% respectively. Cyclists were able to decrease their time in a 25km time trial by 2.7%. The difference between first place and 10th place at the NCAA 10000 meter Final in 2022 was only 9 seconds. NCAA swim time differences between 1st and 3rd place in

the 100m and 200m events can be less than 0.2 seconds. Small percent changes in time with endurance and short distances could be improved with the addition of inspiratory muscle training.

Identification of Novel Inhibitors Against Alzheimer's Disease Using Multi-Task Neural Networks-Based QSAR

Djenerly G. Massena
Faculty Mentor: Kedan He
(Physical Sciences)

Alzheimer's disease (AD) is a multifactorial neurological disorder with a complex pathophysiology. Protein targets contributing to the disease have been identified. Recent research has focused on the discovery and development of multitarget-directed ligands (MTDLs) capable of inhibiting multiple targets simultaneously. Traditional Quantitative Structure-Activity Relationship (QSAR) methods, based on Single-Task Learning (STL), struggle due to insufficient compound activity data. In contrast, Multi-Task Learning (MTL)-based QSAR models overcome this limitation by simultaneously considering multiple similar biological targets, enhancing prediction accuracy through shared information across tasks. The Instance-based MTL formulation utilizes a quantitative similarity measure between task pairs at the variable level, achieved by adding n extra attributes representing similarity values to other targets, with n being the number of targets. Our aim is to learn embedded vector representations of target protein sequences, leveraging the extensive amount of available unlabeled sequence data. We trained unsupervised doc2vec embedding models on 524,529 protein sequences from UniProt, used to infer encodings of target sequences for generating the n target similarity attributes. ChEMBL datasets which include annotations of bioactivity on 29 AD-related targets, encompassing 48,322 molecules were used. We compared STL and MTL strategies, incorporating Random Forest and Deep Neural Networks, to screen for effective AD MTDLs.

Relationship between Physical Activity and Quality of Life of College Students

Diana Mazza
Faculty Mentor: Gregory Kane
(Business Administration)

The purpose of this study was to investigate the association between physical activity and quality of life of undergraduate students. Physical activity (PA) is known to be beneficial for human health and psychological health is a growing field correlated with many factors. PA and various factors of quality of life should be studied to better understand their relationship. Participants were obtained with convenience sampling and were asked to respond to a quality-of-life survey (Gill et. al, 2011) as well as demographic questions. Statistical data analyses were calculated by SPSS 26 to determine statistically significant relationships. The results revealed (a) intensity levels of PA with respect to social quality of life revealed higher intensity PA increases social quality of life. (b) the amount of PA per week had a positive relationship with cognitive quality of life. (c) the number of hours of PA per day had a positive relationship with integrated quality of life. The research reported here contributes to health psychology, which could advance overall health. Based on these findings of PA's overall positive relationship with quality of life in undergraduate students, there is opportunity for further research like the relationship between PA on students' attitudes to schoolwork.

Study of Socio-Emotional Behaviors of Preschoolers During Coding

Didismay B. Yedra Mena
Faculty Mentor: Sudha Swaminathan
(Education)

Research on coding with tangible robots has affirmed its value for nurturing computational thinking in preschoolers. Recent studies have also acknowledged its value for nurturing socio-emotional growth in young children, but not elaborated on the specific socio-emotional competencies. The purpose of our study was to identify the specific socio-emotional behaviors exhibited by preschoolers while coding. We engaged 22 preschoolers (aged between 3 and 5 years of age) in a series of four increasingly complex coding sessions with a tangible robot. All sessions were recorded, transcribed, and analyzed to identify socio-emotional behaviors and expressions. Across the sessions, children exhibited seven socio-emotional behaviors including exhibitions of trust, self-concept, expression of emotions, regulation of emotions, responding to a peer's emotions, regulation of their impulses/behaviors, and collaboration. Spontaneous expressions of appropriate emotions in response to the robot enacting their codes was the most frequently evinced behavior. Expressions of their self-concept and responding to a peer's emotions were other frequently seen behaviors. Expressions of trust and collaboration were seen to increase in frequency as the children advanced in their coding sessions. The results offer validation of the value of coding for socio-emotional growth in preschoolers.

The Influence of Counterspaces on Mental Health and Belongingness Among Ethnic and Racial Minority Groups

Didismay B. Yedra Mena
Faculty Mentor: Caitlin Vasquez-O'Brien
(Psychological Science)

Black, Indigenous, and People of Color (BIPOC) college students often experience unique obstacles to their well-being at Primarily White Institutions (PWIs) compared to their non-BIPOC classmates. While past research has studied their overall mental health, the impact of counterspaces to these individuals is not as well-researched. The current study asked college students (N = 40) of various races and ethnicities to self-report their feelings of belongingness on campus, their feelings of positive and negative affects, and how frequently they experience discrimination towards their race and/or ethnicity on a daily basis. Additionally, awareness of these counterspaces and use of them was assessed and used to determine if there is a correlation between the use of these resources and student levels of belongingness, positive and negative affects, and discriminatory daily life experiences. The data for the study was gathered using self-report questionnaires and Likert scale measurements on Qualtrics, and statistical analyses were conducted in SPSS. The findings help create a better understanding of counterspaces for racial and ethnic minorities in predominantly White environments.

Tomorrow Needs You
Jory Mills, Jamaal Bruzual, Matthew Gregory, Cade Wolak, and Conor Hennessy
Faculty Mentor: Gregory Kane
(Business Administration)

Due to the tremendous impact suicide has had on our group members' lives we strived to increase awareness and raise money to help prevent suicide. We distributed flyers, sold lanyards, and held meaningful and in some cases life altering discussions with people in the local community. By engaging the public's support, we raised $661 towards the veteran charity Objective Zero to aid in services for struggling veterans. The fight is not over, and everyone can help be a part of the solution. So, remember to check in on loved ones and know that tomorrow needs you!

The Impact of White-Tailed Deer on Understory Plant and Soil Seed Bank Diversity in a New England Successional Forest
Isabel Mund
Faculty Mentor: Brett Mattingly
(Biology)

Agricultural land use may alter plant diversity by disrupting associations between the seed bank and its overlying vegetation. To evaluate this, we selected three forest stands representing early-, mid-, and late-successional stages of reforestation following agricultural abandonment. Within each stand, we established 24 10-m2 plots that contained deer pellets. For each plot, we surveyed understory vegetation and collected deer pellets and seed bank samples, which were maintained in a greenhouse to stimulate seed germination. We then compared patterns of plant diversity and abundance among the understory, seed bank, and deer pellet samples. Thirty-four percent of plant species germinating in deer pellets were non-native. Measures of understory plant and seed bank diversity were similar between mid- and late-successional stands but significantly greater in the early-successional stand. Additionally, the early-successional stand had the greatest concentration of non-native species in the understory. Further, the early-successional stand exhibited the greatest difference in species composition between the understory vegetation and seed bank samples, driven in part by the increased presence of non-native species in the understory. Our results indicate that early-successional forests with a history of agriculture are prone to the establishment of non-native plants, particularly when combined with the foraging activities of white-tailed deer.

Scenic Design for Carrie: The Musical
Ethan Pervere
Faculty Mentor: Kristen Morgan
(Communication, Film, and Theatre)

This presentation will focus on the scenic design for the Fall 2023 Communication, Film, and Theatre production of "Carrie: The Musical". The scenic design was a long and complex process which began in the previous spring semester. My design process included research, creativity, communication, and technical skills. This presentation will feature visual research, a 1/4" scale model of the set, the packet of CAD drafting used to build the set, and photos from the production.

As many people don't fully understand what goes on in the process of creating theatre productions, this presentation will bring to light what is done behind the scenes.

The Influence of Gender and Social Media Exposure on Self-Esteem
Melissa Poinelli
Faculty Mentor: Jehoon Jeon
(Business Administration)

The purpose of this study was to investigate the influence of gender on self-esteem levels and to explore the impact of social media usage on these levels. A total of 9 participants were surveyed to gather data on gender, social media usage, and self-esteem levels. Gender was treated as a categorical independent variable with two groups: boys/men and girls/women. Social media exposure was measured as a continuous, ratio independent variable, ranging from 0 hours a day to 10+ hours a day. Additionally, participants were asked two open-ended questions to assess the relationship between social media usage and self-esteem/confidence levels among males and females. The survey responses revealed that female participants who were social media users tended to have lower self-esteem levels compared to their male counterparts. The results also indicated a correlation between heavier social media use and lower self-esteem levels. Qualitative analysis of the data identified reasons why young adults and adults perceive social media as detrimental to their self-esteem. Overall, these findings suggest that an individual's self-esteem levels are influenced by the amount of time they spend on social media platforms.

Determination of Detection Methods For Polyfluorinated Alkyl Substances Within Drinking Water Using Surface-Enhanced Raman Spectroscopy
Antonio Ponte
Faculty Mentor: Syed Islam
(Physical Sciences)

In this study, we report the development of a sensitive and easy-to-use analytical technique known as surface-enhanced Raman spectroscopy (SERS) to test the presence of man-made harmful chemicals known as PFAS in the Connecticut drinking water system. In our Preliminary investigation, we were able to identify ten different toxic PFAS found in the drinking water system using the SERS technique. Our investigation showed the strongest enhancements of the PFAS when 30 nm size silver particles were utilized as SERS substrates. In addition, this study showed the maximum enhancements of the PFAS in the presence of different salts (MgCl2, AlCl3 and KCl) used during SERS measurements. Our study also established the Limit of Detection (LOD) as low as femtomolar concentrations for these chemicals using SERS. The results obtained in this study show that SERS is an effective technique that can be used for trace detection of PFAS found in water.

Rooting Response of a Fast-Flowering Cannabis Strain to Different Rooting Hormone Treatments

Logan Prempeh
Faculty Mentor: Bryan Connolly
(Biology)

Cloning via stem cutting is a standard propagation method in the Cannabis industry. Cannabis cultivars or strains vary in their response to propagation by cuttings. Typically, photoperiod or daylength sensitive Cannabis cuttings root easily. While auto-flowering Cannabis or non-daylength sensitive strains are difficult to propagate with this method. Here we investigate a hybrid of a traditional Cannabis photoperiod strain and an auto-flowering strain ('Auto Tsunami' x 'Wife'). These photoperiod x autoflowering hybrids are called fast flowering strains. There are many advantages to cultivating this type of hybrid, including shorter flowering times and more vigorous growth. We believe this is the first study investigating a fast-flowering strain. Typically, cuttings are treated with the hormone Indole-3-butyric acid (IBA), this hormone induces root formation. We evaluated root growth using four treatments with 30 reps each. The treatments were Clonex purple gel (3,000 ppm IBA), Hormodin 1(1,000 ppm IBA), Hormodin 2 (3,000 ppm IBA), and Hormodin 3 (8,000 ppm IBA). Our preliminary results showed that Hormodin 3 had the highest root count while clonex had the highest percent rooted, and Hormodin 1 had the greatest root length.

Study of Programming Behaviors of Preschoolers

Ella R. Pitman
Faculty Mentor: Sudha Swaminathan
(Education)

Tangible robots have expanded programming into a developmentally appropriate and supportive exercise for preschoolers. Programming with robots has supported the growth of children's math abilities, especially in their number sense, turns, and shape recognition. However, research hitherto has not examined the behaviors exhibited by young children or tried to understand how exactly children program. In our study, we examined the behaviors of preschoolers while programming with tangible robots in order to identify the types of programming behaviors that they exhibit. Twenty-two preschoolers, of mixed gender and age, were partnered in groups of two or three, and led through four programming exercises. All programming exercises were recorded, transcribed, and analyzed to identify key behaviors. Results indicated that children engaged in planning, sequencing, recognition of the problem (bug), solving the problem (debug), explaining their programming, explaining the robot's movements, and representation. Planning and sequencing were the most frequently seen behaviors. Recognition of the bug occurred more frequently than debugging, and children evinced these more often as expressions rather than as behaviors. These results suggest structuring the early childhood programming curriculum to purposefully include planned opportunities for debugging and interpreting codes, to further sharpen children's programming abilities.

Efficacy of Multi-disciplinary Approaches to Improve Prenatal Care within Low-Income, at-Risk- Populations: A Review of Literature

Christina Randazzo
Faculty Mentor: Paul Canavan
(Health Sciences and Nursing)

The goals of this paper are to outline the disparities in prenatal care within low income expecting mothers and to provide proposed solutions based upon best practices through a review of literature. This paper highlights the infant and maternal mortality rates in the U.S. and the increased rates for those in low-income compared to higher income communities. The objective of this study is to review literature in support of multi-disciplinary approaches to improve prenatal care within low-income populations; including the use of nurses, midwifes, physicians, public health officials and more. Methods include search years 2013-2023, key terms: multidisciplinary best practices, nurse and midwife impact on prenatal care, low-income at-risk pregnancies. Results demonstrated that women need access to high quality prenatal care to not only increases fetal outcomes, but it also decreases hospital readmissions and improve direct and indirect costs. This review suggests prenatal care to be a women's right, as it is in other developed countries, and to support low-income mothers regarding transportation costs and insurance costs.

Relationship Between Sleep Quality and Technology Use within College Students

Christina Randazzo
Faculty Mentor: Gregory Kane
(Business Administration)

The purpose of this study was to investigate how sleep disturbances and technology use within college students are related. The subjects in this study were 31 college students from New England. There were 24 females, five males and one nonbinary participant that ranged from 18-24 years of age. Subject school ranking included: four first year students, 10 sophomores, 10 juniors and seven seniors. The researcher used convenience sampling at the University by going to groups of college students at the local student center at each table with an informative script to interest the students in the study. Results included 90% of subjects reported being on their phone one hour before bed 87.6% of subjects reported sleeping with their phone in their bed. The majority of subjects slept less than 8 hours a night. In conclusion, a relationship was found between sleep disturbance and cell phone use within this population.

Interventions on Improving Prenatal Care in At-Risk Populations: Best Practices

Christina Randazzo
Faculty Mentor: Paul K. Canavan
(Health Sciences and Nursing)

There is a high correlation between low socioeconomic status and poor fetal outcomes. Providing optimal quality prenatal care can decrease future direct and indirect costs and improve the health outcomes of the baby. The objective was to review the literature to determine best practices to improve prenatal care for the expectant mother within low-income populations. Review of literature using Medline, PsychInfo, Researchit CT were used between 2013-2023 with key words; "Low

Income/PrenatalCare/Multidiscipline/Best Practices/Nurses/Transportation/Effective Care. Collaboration of an interdisciplinary approach between physicians and nurses increased patient satisfaction and birth outcomes including with difficult deliveries. Epidemiologists, social workers, nurse midwifes, psychologists have developed best intervention programs to improve care and lower costs for women in the United States. Nurses have been ranked as the most trust health care profession for 22 years in a row due to the care and support that patients receive. Obtaining administrative support and ensuring the patient receives familiar care from a health team member for each visit is optimal. Conclusion: The development of a specialized multidisciplinary team for pre and post-natal care for a mother and baby is needed to help improve overall outcomes.

Extending Hurley Hours

Ray Flegert, Sydnee Smith, Michael Hernandez, and Sara Marrufo
Faculty Mentor: Niki Kunene
(Accounting and Business Information Systems)

Many students have activities, sports, events or late-night classes that do not allow them to eat at a usual dinner time. With some classes ending at 9:45pm, and some extracurricular activities ending past dining hall hours, it would benefit students to have the hours extended so that they can have a meal after everything is done. Unfortunately for them, because of their commitments, they miss the cutoff of 8pm at hurley which means they must either already have food or buy food elsewhere. This can pose some safety concerns as well as financial concerns on behalf of the students. By forming and distributing a survey to the student body, we hope to see student sentiment about dining hours and extending them. Not only that but going to bed hungry, can have adverse health consequences which we hope to conduct further research on. We know Eastern may not have the budget to make dining options 24/7, which is why we propose extending Hurley services as late as 11pm and determine the actual time by looking at the density of student activities and classes after 8pm. Doing this would allow students to be able to enjoy a meal at the end of their busy day and wake up ready to be academically successful.

Relationship Between Screen Time and Sleep Deprivation on GPA in University Students

Renecia Rhoden
Faculty Mentor: Gregory Kane
(Business Administration)

This study aims to investigate the impact of screen time and sleep deprivation on academic performance among university students. With the increasing prevalence of electronic devices and the widespread availability of digital media, university students are frequently exposed to prolonged screen time, often at the expense of adequate sleep. The effects of excessive screen time and sleep deprivation on academic performance have been a topic of growing concern in recent years. This research seeks to examine the relationship between these factors and academic achievement in university students. The study will utilize quantitative methods to collect data on participants' screen time habits, sleep patterns, and academic performance metrics. Statistical analysis will be employed to determine correlations and potential causative relationships between screen time, sleep deprivation, and academic performance. The findings of this study are expected to contribute to a better understanding of the impact of modern lifestyle factors on university students' academic

success and may inform the development of interventions aimed at promoting healthier screen use and sleep habits to optimize academic performance.

Eastern Connecticut State University Greenhouse Website
Erika Rohr
Faculty Mentor: Bryan Connolly
(Biology)

This poster highlights the development of a website dedicated to the greenhouse located on our campus within the David G. Carter Science Building. Despite being rarely discussed or promoted, the greenhouse houses hundreds of cultivated plants and serves as a valuable resource for students' personal and academic research. After a year of research and cataloging, I have curated a website that offers visual and written updates on the greenhouse, provides a platform for students to showcase their research, and shares information about upcoming events. The next steps will be making the website official and launching it to the community.

The Use of Plant Extracts from the Family Araceae as Potential Pesticides on Cannabis
Susan Round
Faculty Mentor: Brian Connolly
(Biology)

Herbivorous insects are a global issue damaging crops and reducing yields worldwide. The soft scale insects (Family Coccidae) are a major pest on many indoor and outdoor plants, including Cannabis (Hemp Cannabis sativa, Family Cannabaceae). Some chemical pesticides are known to contaminate soil, water, and air, harming the environment and reducing species biodiversity as they kill organisms outside of their target group. In the Eastern Connecticut State University greenhouse, we observed that plants of the arum family (Araceae), including dumb cane (Dieffenbachia seguine) and the corpse flower (Amorphophallus titanum), do not get scale infestations. This poster presentation demonstrates the effectiveness of extracts from dumb cane and the corpse flower plants as a possible pesticide against scale on Cannabis. The hemispherical scale (Saissetia coffeae) is an insect issue in Eastern's greenhouse, it pierces the phloem feeding on the food reserves of the plant. The insects also excretes a sticky substance called honeydew that increases the risk of sooty mold that can potentially kill the plant host. To study the effectiveness of Araceae plant extracts as a pesticide against scale, 35 grams of dumb cane and 35 grams of corpse flower were blended with 200 milliliters of water in two beakers, and were sprayed onto scale-infested Cannabis plants once weekly for three weeks The plant extracts appears to be useful agent in reducing insect pests, as the number of scale on Cannabis decreased substantially over the duration of the experiment, from an average of 50 scale on each plant to an average of 15 scale on each plant. It is not conclusively known but members of the Araceae contain calcium oxalate crystals that are the likely effective ingredient. These crystals are harmful to humans, it must be determined if this substance can be effectively washed off Cannabis or other plants before they are used by people. The application of these plant extracts on ornamental species may be the most appropriate use at this time.

How Popular Music Functions as Symbolic Communication to Connect Listeners with Personal Experiences

Noel Teter
Faculty Mentor: Terri Toles-Patkin
(Communication, Film, and Theatre)

This project examines how popular music acts as symbolic communication to bring listeners to associations with personal experiences and which musical elements within songs contribute to these associations. The data were collected from 18 students at a small liberal arts university in the Northeast, all aged 18-29, using individual, in-person interviews in which four selections from songs by popular artist Billy Joel were played. Reflexive thematic analysis was conducted to find patterned meanings that participants across the dataset derived from each song and used to make sense of their own life experiences. Responses were clustered into four themes: one relating songs to participants' ambitions, another concerning how songs reminded participants to relax, and a third examining social experiences participants have had with the selected songs. A fourth theme centered around the idea that if one musical element in a particular song were changed, the participant's personal association with the song may be altered in turn. The data extracts analyzed in these themes indicate that listeners use lyrics more than non-linguistic musical elements to associate songs with events in their lives; that meanings they attach to songs do not always relate to the lyrical message put forth by the composer; and that the central character in a particular song is not always relatable to a listener's association with a song. These findings expand upon research by Chesebro et al (1985), which found that young American adults listen to popular music as an expression of their attitudes and beliefs, and by Sellnow & Sellnow (2001), which presented an analytical framework for popular music as a mode of communication, including lyrics (discursive symbols) and musical accompaniment (aesthetic symbols).

Parks & Pours

Morgan Tirrell
Faculty Mentor: Merideth Metcalf
(Environmental Earth Sciecne)

In cooperation with the Capitol Region Council of Governments (CRCOG), a web application called Parks & Pours was developed to showcases activities available at state parks and forests In the capitol region. Parks & Pours was created to allow the public to have an all-in-one resource to plan a full day experience after visiting a local state park. This web application included other destinations of interest such as breweries, wineries, and farmers markets located in close proximity to local parks. Parks & Pours was developed using spatial data (geographic information) from DEEP, CT Parks, CRCOG, and ESRI. Data was manipulated in ArcGIS Pro and incorporated into one of Esri's ArcGIS Online tools to enhance the user experience. The web application allows users to select layers of interest (i.e., parks, breweries, wineries, etc.) and obtain additional information such as hours of operation, pictures, and access to local or associated websites. The concept and configuration of the web application are presented yet the completed product is accessible on the CRCOG's website.

The Effects of Pornography Usage and Romantic Media Consumption on Young Adults' Healthy Sexual Development

Kane Waggoner
Faculty Mentor: Jehoon Jeon
(Business Administration)

This study aimed to investigate both pornography usage and the consumption of romantic media, especially as to how it relates to healthy sexual development in young adults. The independent variables that were studied were both pornography usage and consumption of romantic media. The dependent variable was healthy sexual development, as it pertains to mental health and conceptualization of relationships/sex. The first hypothesis was that pornographic usage has a negative effect on young adults' healthy sexual development, and the second was whether romantic media consumption is likely to lead to a skewed & misguided understanding of what healthy sex/relationships should be. The ultimate research question was how do both pornographic usage and romantic media consumption affect the healthy sexual development of young adults? Data was collected randomly from 15 participants who were members of the student body of Eastern Connecticut State University. Young adults were the ideal candidates when first starting this study, considering the fact that they are media, but are also still developing their ideals and values. The data gathered from these participants will aid in understanding what sort of role specific types of media play in the healthy sexual development of young adults.

Standardizing a Patient Observations Process: A Process Standardization Proposal to Improve Patient Safety and Quality Care Within a Behavioral Health Network

Alex Warfield
Faculty Mentor: Fatma Pakdil
(Business Administration)

Providing an objective view to a local behavioral health network, this project aims to propose a standardized process across six behavioral healthcare facilities for performing routine patient observations, or "checks." An issue that the network has been facing is incomplete, untimely, and even missing patient observations at fixed intervals. This jeopardizes patients' safety as they are not being accurately monitored. This project aims to propose a standardized process and decrease variation across the entire network. Part of the project involved visiting one of the behavioral health facilities where we had the opportunity to observe the patient checks process in real time. This also allowed us to observe the step-by-step workflow of the process and identify areas of variation and improvement. After reviewing each of the six facilities' individual procedure documents, we prepared a master procedure that integrates all the facilities into one. We incorporated the best practices and removed ones that could cause variation. We focused on providing a humanistic approach to performing checks that align with the organization's values and mission by adding sensitivity to patient gender and preference. Our efforts in creating this proposal will help this healthcare organization implement a standardized process that redefines patient safety and quality healthcare for behavioral health patients.

Early STEM Research Abstracts – Newtown High School

Faculty Mentor: Laura Rodriguez
(Education)
Early STEM Research Program Lead: Megan Rader
Newtown High School Teacher: Timothy DeJulio

X-Ray Diagnosis Threshold Between Paget's Disease and Osteoarthritis
Kelsey Brennan

Osteoarthritis is a bone degenerative disease that results in bone with higher densities. Pagets Disease disrupts the body's bone growth process, causing bone to have increased density. Both diseases affect the pelvis and hip joint. On X-rays, bone that is denser appears a brighter white compared to a bone of normal or low density. Comparing the pixel colors of X-rays of each disease from three locations on the pelvis provides insight into a diagnosis threshold. Comparing data at the femoral head was helpful for distinction between Paget's Disease and osteoarthritis, but not between the Paget's Disease and the control or osteoarthritis and the control. However, using data from the inner and outer pelvis shows a distinct difference between the control compared to Paget's Disease, as well as the control compared to osteoarthritis. There is not enough data to feel confident about the diagnosis threshold between Paget's Disease and osteoarthritis based on this data alone; a greater sample size will be needed. However, there is promise looking into this data for further exploration.

Hepatic Stellate Cells in Liver Regeneration
Kaylin Brissette

Hepatic stellate cells, once described as Kupffer cells, are generally quiescent or inactive within the healthy liver. Once activated through injury stimuli, stellate cells transform from fibroblasts into myofibroblasts. Stellate cells' main role is in remodeling the cellular matrix and producing scar tissue through the synthesis of collagen and lamin. Thus allowing stellate cells to contribute to the maintenance of homeostasis within the liver but also makes them a large proponent in fibrosis. The fibrotic liver then becomes carcinogenic and is progressively linked to various cancers and tumors, such as hepatocellular carcinoma. Additionally, stellate cells have the ability to stimulate migration and transformation of nearby hepatocytes through the chemical secretion of chemokines. Gene expression analysis through UMAP(Uniform Manifold Approximation and Projection), a program similar to t-sne processing, could prove useful in identifying patterns of proliferation and production of proteins. UMAP is especially useful in reducing the dimensionality of data while having more simple parameters and operations. Data from pre-existing databases would be used for the software program. Patterns of proliferation capabilities would prove insightful in the aim of better understanding the delicate nature of stellate cells.

Autonomous Ping Pong Robot Object Detection and Prediction
Aiden Burbank

Can robotics be used as a replacement for human players in Ping Pong? I will find this out through creating a Ping Pong robot that will successfully return a Ping Pong ball hit by a human player. This is done through having multiple arm-like segments, each controlled by its own motor. The robot sees the ball with a multiple camera system that will track the ball and predict its location in real time. I first designed the Ping Pong robot in Solidworks, then 3D printed my design on a smaller scale. With the model, adjustments were made until the design had minimal and inconsequential flaws. With this complete design I will go to a metal manufacturer and have a full sized model made out of aluminum. A mix of ROS(Robot Operating System) and python coding will be used to control the robot. Basic functions like moving will be coded into the robot first, then more complicated things like tracking the Ping Pong ball movement will be completed. Object detection is done using faster RCNN. After all of the functions are incorporated improvements will be made to increase speed and efficiency for a better outcome. I expect that the robot will be incapable of the goal at first but I will keep making improvements until it does work. When the robot is successful, I think that it will be capable of replacing a human player on a low level being able to return a ball back across the table.

Inhibition of Prion Protein Propagation
Beatrice Cardamone

Transmissible Spongiform Encephalopathies (TSEs), or Prion Diseases, are a class of rare neurodegenerative diseases with no known cure or treatments. Though the understanding of their processes is lacking within the science community, some important pieces of information have been gathered. As shown by Prusiner et alia, no genetic information is responsible for their pathogenesis. Instead, the 'prion only hypothesis' states that the prion protein, a protein conserved in most mammals, and of which the exact purpose is unclear, is responsible for these diseases. In TSEs, the healthy prion protein, denoted PrPc, converts to a diseased isoform, denoted PrPsc. It is also known that the diseased prion isoform is capable of conferring its malformity to the healthy variant. PrPsc forms oligomers, fibrils, and amyloid plaques within the brain, the concentration of which is associated with a further course of disease. As shown by Collinge at alia, the removal of the prion protein from the brain via a monoclonal antibody has a stabilizing effect on the degeneration caused by Creutzfeldt-Jakob Disease -- a TSE -- in humans, as well as mice. This paper proposes a novel technique for the treatment of TSEs wherein an interfering peptide (IP) is designed in silico similar in structure to PrPc which is capable of binding to the diseased isoform, and inhibiting its ability to convert more proteins, via the interference in protein-protein interactions (PPI) therefore slowing or halting disease progression. The IP will be designed based on a 3D model of the prion protein, its structure tailored to bind to so-called hotspots, residues within the protein with higher binding energies than the remainder; these areas, therefore, are those with a higher likelihood to interact with other proteins, exactly what is intended to be inhibited, as this interaction is responsible for at least some portion of the disease. In doing this, the intention is to provide succor to both those suffering, and those whose families' have suffered, from TSEs, in the form of relief from the disease, as well as further progress and hope that one day such ravages will be cured in their entirety.

Effect of Trails on Dispersion and Redistribution of Invasive Species in Woodland Areas
Shawn Cardamone

At present, invasive species pose a greater risk than ever before. As they spread, threatening ecosystem services, it will become critical to develop a greater understanding of these organisms. Investigating their methods of dispersion will be especially crucial for the creation of proper management plans. The goal of this project is to add to this area of study by investigating the effects that trails have on invasive species dispersion. The experiment itself will involve a series of surveys that collect information on the type and abundance of plant species in quadrants of forested land. Surveys will be performed in two groups, one with areas of land located adjacent to trailways, and another consisting of more isolated areas. During analysis, these groups will be compared based on their average abundance of invasive plant species in comparison to all recorded vegetation. The projected outcome of the experiment is a measurable increase in invasive species abundance in trail-side quadrants, suggesting that such trails may have facilitation effects on the invasive plant species observed. Should the experiment proceed as expected, it will provide important insight into the dynamics of invasive species dispersion, and may be succeeded by larger scale experiments in the future.

Using Sunscreen as a way to distribute Beneficial Microorganisms for Corals (BMCs)
Lydia Cox

This project is trying to create a BMCs enriched sunscreen that will be used to distribute the BMCs to a natural reef environment. To do this a 2-section sunscreen compartment will be created. In half of the container freeze-dried BMCs will be stored, the other half there will be non-nano zinc oxide (the sunblock). The first question that will be tested is will the BMCs rehydrate in the zinc or in water. To see how effective the BMCs are at mitigating the effects of bleaching a heat stress simulation will be performed. There will be 12 fish tanks used in the whole experiment but only 6 tanks will go through the heat stress simulation. The water temperature in the 6 tanks will start at 26°C and be raised to 30° C over a period of 10 days. Then the water temperature will remain at 30 degrees Celsius for 10 days, before being lowered back to 26°C over 10 days. There will then be a 20-day recovery period. To avoid working with humans participants neoprene diving gloves will be used to inoculate the corals with zinc-oxide compound or just zinc. Farther down the road the sunscreen will be tested on humans. The other 6 tanks will remain at 26°C as a control. This sunscreen could be a way to distribute BMCs to natural environments.

Investigating the Therapeutic Potential of Hypnosis in Modulating Brain Pathways for Mental Health Disorders
Samantha Fossum

This study looks into how hypnosis could help with mental health issues, especially PTSD. Even though many people use hypnosis, we don't really know how it works in the brain. This research tries to figure that out to improve our understanding of mental health and find better ways to help people. The study checks if hypnosis alone can help with PTSD, considering how well it works, its long-term effects, and who benefits the most. The idea is that hypnosis might reduce PTSD symptoms, providing a non-invasive option for mental health problems. In the study plan, safety

and trust are big priorities. It involves talking to people, explaining hypnosis, and making sure everyone feels comfortable. The hypnosis process includes making people feel relaxed, giving them personalized suggestions, and helping them cope with trauma if needed. Safety is always kept in mind, especially for those who might find it hard. The study aims to help make mental health care better and less stigmatized by understanding how hypnosis could be a useful and easy option for people dealing with mental health challenges.

AI Based Skin Cancer Detection System
Aadit Jefry

Melanoma, the most severe form of skin cancer, is almost always deadly if left untreated. While it comprises a small minority of skin cancer diagnoses, it has the highest fatality rate. Current detection requires a visit to a clinic to receive a physical examination or biopsy, which some people don't have access to. I have created a detection method that will effectively be accessible to anyone with a phone, computer, or similar device. A user interface was made using PyCharm, and code written by Sasank Chilamkurthy, in which Python is utilized to identify whether or not an image submission is melanoma. The AI is trained on 6,000 images from the HAM10000 dataset from harvard.edu, which consists of 10,000 images of melanoma, to train the neural network for detection. The code considers variance in skin tone and crops the image so as to limit computing power needed. Transfer learning is utilized so that the data can be made into a more comprehensive imageset for the network. The AI iterates through the database, comparing it to the submitted image and picking up on similarities. If there are enough characteristics of melanoma in the submitted image, it is identified. The code will be incorporated into an application eventually, in which people can take a picture of a lesion for accurate and simple detection of melanoma. The AI is currently able to detect melanoma with an accuracy of 92.1%, tested on a set of 2,000 images.

Observations of the Difference in Brain Function between Cochlear Implanted Individuals and Normal Hearing Individuals
Alexa Kwarcinski

Cochlear implants provide deaf individuals the ability to hear at a near normal level compared to hearing peers. However, there is limited research available as to how this device affects the function of the brain. The current study aims to explore auditory and occipital brain activity in hearing and cochlear implanted children when presented with auditory stimuli. Methodology: Using Positron Emission Tomography (PET), examiners will measure the amount of biochemical and metabolic activity occurring within the auditory and occipital brain regions of two groups of children, ages 7-9, while presented with auditory stimuli. The glucose uptake in these regions will be measured and compared between groups. Results: It is anticipated that between 30-50 children will be recruited for each group. Consistent with the hypothesis, it is expected that the children that are implanted at a later age will have lower metabolic activity in the auditory cortex compared to hearing peers. Variables including age, gender, type of cochlear implants are not expected to impact results. However, the length of time since implantation would have a positive relationship with activity within the auditory cortex. Conclusion: This study confirms that the auditory cortex is less active for auditory stimuli for children with cochlear implants with concurrent higher occipital lobe stimulation compared to normal hearing peers. These findings demonstrate preliminary metabolic differences

regarding brain function in late implanted children. Future research might compare the activity of the auditory cortex in early implanted children versus late implanted children to advocate earlier intervention in these children.

The Effect of COVID on Relationships
Alexa Manfredonia

The global pandemic of COVID-19 starting in March of 2020 led to a worldwide lockdown measures leaving us to be shunned to our homes with our loved ones for long periods of time. My research is an investigation on the satisfaction of people in romantic relationships after being in close quarters with their partner for so long. Its main focus is to see how their satisfaction in the relationship has changed from pre-pandemic to post-pandemic. It is a deeper dive into the understanding of whether the person feels more attached to their partner or wants more space from them with the goal of understanding why they feel this way and if there is a trend within certain genders/age groups that have the same feelings. From research, I came up with the hypothesis that women in long term relationships will be more likely to have attachment anxiety to their partner after the pandemic. I will be testing this by surveying couples who were in the same living space during lockdown to gauge their feelings of the relationship now that the pandemic is over. Participants ranging from age 25-80 will be asked to rate their happiness in the relationship on a scale from 0-3 from pre-lockdown, to lockdown to post- lockdown while also assessing their mental well being during each stage. This research is important so we can understand the mental health effects behind the pandemic and get the people the help they need.

The Application of Ostrich Antibodies to Treating Psoriasis
Nikita Mukka

Psoriasis is a common chronic skin condition that impairs the quality of life for many individuals who have it due to the lack of treatment. Using ostrich antibodies through a topical treatment proves to be a treatment that could improve their quality of life and treat the rashes on psoriasis patients, because of its previous effectiveness in treating atopic dermatitis and allergic reactions. Psoriasis vulgaris is the most common type of psoriasis that will be treated through this therapy, once ostrich immunoglobulins are extracted from the yolk of an ostrich egg. This ostrich IgY is combined with a moisturizing base that is fitted into a topical treatment and then several patients with psoriasis vulgaris will receive it. Through multiple trials as well each patient will apply the treatment to the infected area in intervals of one week across two months after which the severity of the inflamed psoriasis patches can be evaluated. These patches can be evaluated with the PASI (Psoriasis Area Severity Index) which is a set of criteria that a professional uses to assess the severity of a person's psoriasis patch. Using these test results, the effectiveness of the ostrich immunoglobulin treatment can be viewed with a graph. Another test to be done is a skin biopsy to see qualitative data. The expected results will be that after the treatment period is completed the score of the patches will advance and improve the quality of these psoriasis patients' lives.

The Effect of Road Usage Frequency on the Quality of Soil
Nathan Twitchell

In the use of automotive travel, many factors contribute to particulate pollution in the local environment. Fuel consumption releases trace amounts of heavy metals, such as nickel, into the local air, which then settles in the soil due to surface runoff. Other parts of automotive travel release heavy metals, such as tire and brake wear, oil consumption, and road abrasion. In addition to this, leaking oil or any other petroleum based product is also distributed into the environment by some cars. The deposition of such metals and pollutants into our soil is highly detrimental for the local environment, and can negatively impact other important resources, such as drinking water due to leaching. Because of its constant growth and development, automotive traffic load is increasing day by day, thus increasing the amount of metals and other pollutants being distributed into the environment. In order to view the impact of increasing traffic load on soil composition, studying the soil on roads with varying usage would simulate this development. In this simulation, we are given information of how the further increase in road traffic could affect the quality of soil.

Student Presenters

Aidan Reiss
Aaron Kelly
Aidan Stewart
Alejandra Martinez-Soto
Aleksandra Colbert
Alex Warfield
Alexa Boone
Alexis Valentine
Allison Arling
Allison Thebaeu
Alondra Abad
Alyson Payan
Alyssa Monroe
Alyssa Sirianni
Amanda Pedro
Amani Jones
Amber Sell
Amy Pinargote
Andres Mayuri
Andrew Raymond
Andrew T Cutter
Anne Le
Anne Yee Zhang
Antonio Ponte
Ariana Bradley
Arimae Gagne
Ashley Moore
Ashton Lewis
Austin Ouellette
Bellana Parungao
Benjamin Giammattei
Billi Kozak
Braeden Murausk
Brandon Steen
Brianna Duffy
Byron Scarpellini
Cade Wolak
Caiden Hettrick-Rivera
Cailey Fay
Carter Bouchard
Carter Kelly
Cecilia Melendez Perez
Ceili Roberts
Celeste Petrowsky
Charlotte French
Christeena Aaron
Christina Randazzo
Claudia Guerrero
Cole Manasia
Colin Morrison
Colleen Garrity
Connor Landon
Connor Lentocha
Connor Willett
Conor Hennessy
Dana Arroyo Infante
Daniel Ciffelli
Daniel Maslowski
Danielle C. LaSalle
Danielle Chaput
David Harrold
Delaney Kudron
Delcy Lopez Garcia
Destiny Velez-Valeza
Devin Krauss
Diana Mazza
Didismay B. Yedra Mena
Djenerly G. Massena
Domenick Bukowski
Doug Cassarino
Dulio Osea Bolenos
Dylan Rice
Dylan Schore
Eddie Monegro
Edgar Escutia
Elani Marrero
Elizabeth Forrest
Ella R. Pitman
Emberly Haughton
Emily Fajardo
Emily Gossman
Emily Tarbox
Emily Vail
Emma Bussolotta
Emma Ford
Emma McCormack
Enmanuel Acosta
Eric Roesler
Ericka Carranza
Erika Rohr
Erin Playdon
Erin Walsh
Ethan Pervere
Eva Glaser
Evan Baptista
Evan Gianfriddo
Eve Pelletier
Finn Doherty
Flor Cruz Ortiz
Francis G. Suzuki
Gabriel John Sayers-Dalgar
Gabrielle Hemmavanh
Gabrielle McWhirt
Gage Duarte
George-Ann Christie
Gianna Stoico
Grace Gallo
Grace Majowicz

Grace Michalowski
Greg Katzman
Grisell Martinez Gutierrez
Haley DelMonaco
Hannah Bosse
Ian Harrington
Ian Valeta
Ingrid Taute
Isabel Mund
Ivy Poulakos
Jacob Berger
Jacob Duga
Jacob Shook
Jacob Silverman
Jacob Wurst
Jake Thompson
Jamaal Bruzual
Janyi Byrd
Jared Tofil
Jason Ioli
Jason Skoog
Jenna Levesque
Jessica Saucier
Jillian Parenteau
Jillian Rappi
Jillian Santana
Joe Hawkins
Joe Hines
John O'Connell
Jonathan Barnes
Jory Mills
Jose Navas
Joseph DeCarlo
Josephina Keith
Josh Borgion
Juliana Fabrizi
Nina Grim
Noah Chokas
Noah Linton
Noel Teter
Noeliany Cosme

Justin Collins
Kane Waggoner
Kara Mahoney
Kassidy Stewart
Katherine Sarra
Kathryn Kauffman
Kathryn Lynch
Kaycha Perez
Kayla Gaudreau
Kelby E. McCooey
Kelly Pompa
Kelly Pruss
Kelsy Ng
Kennedy Shippee
Kerry Donohue
Korey Dinowitz
Kristian Kowalski
Kyle Daley
Kyle Heard
Kyle Tinker-Palaia
Laila Wilson
Laura Bidwell
Lauren Kennedy
Layla Cesar
Liam Jonas
Lilian Vinsel
Liliana Baraybar
Lilly Simpson
Lily Blair
Lindsey King
Logan Huzi
Logan Prempeh
Lucas Tamsin
Lydia Perron
Mackenzie Silk
Maddox Pingree
Ryan Djurkovic
Ryan Noll
Salavanh Thongchampasy
Samantha Blanchette
Samantha Vertucci

Madelyn Collins
Madison Cromwell
Makahlia Harris
Malek Allari
Malik Watson
Manderz Baranowski
Marcos Godinez-Hernandez
Marcus Grant
Mardoochee St Cyr
Margaret Ritchie
Margaret Rousseau
Marissa Paquette
Matthew Bassett
Matthew Gregory
Matthew Kiernan
Megan Muzyka
Meganlyn Delaney
Meghan Turco
Melissa Poinelli
Melody LaCombe
Mia Hwang
Michael Hernandez
Michael Wilson
Michaela Belden
Michaela Ellis
Molly Wilson
Morgan Tirrell
Muriel Stankeviciute
Natasha M. Durand Castrodad
Nathan Melia
Nayelli Rodriguez
Niall O'Brien
Nicholas Furino
Nicole Pepe
Nikolas Bailey
Nina Garcia-Cyr
Stacey Addo
Stefan Chervenkov
Susan Round
Sydnee Smith
Sydney Goyette

Nolan Molloy
Ocion Mollison
Oliva Zumpano
Ori Busel
Orion Levy
Oscar L. Concepcion
Paige Cadogan
Paige Carlson
Paige Stegina
Pearl Kwadzi
Ray Flegert
Raya Cruse
Raymond Asch
Reginald Veillard
Renecia Rhoden
Robyn Vetterkind
Samuel Perez-Lopez
Sandra Boakye
Sara Marrufo
Sarah Burnett
Sarah Haluch
Sarah Michlaud
Savannah Eldridge
Sean Mitchell
Sebastian Spencer
Seth Bratcher
Shannon Cody
Shawn McGuigan
Shianne Stannat-Laflamme
Sierra Madden
Skylar Evans
Sophia Markley
Sylas Stanly-Barham
Taegan Botti
Tajmarnie Appolon
Thomas Engle
Tiana Brathwaite
Tim Lichack
Vanessa Martinezcolorado
William Murkette
Xiomara Martinez
Yina Godina
Zachary Cunningham
Zachary Davidson
Zack Doncet
Zavier Garcia
Zolah Daley

Faculty Mentors

Afarin Rahmanifar
Alita Cousins
Allison Speicher
Alycia Bright Holland
Amy Groth
Anthony Cornicello
Anya Sokolovskaya
Ashon Avent
Barbara Murdoch
Brett Mattingly
Brian Connolly
Brian Day
Caitlin Vasquez-O'Brien
Cara Bergstrom-Lynch
Christine Garcia
Christopher Torockio
Daniel Donaghy
David Pellegrini
David Stoloff
Derek Laux
Fatma Pakdil
Frederick J. O'Neal
Garret Dancik
Gregory Kane
J.J. Cobb
Jamel Ostwald
Jehoon Jeon
Jonathan Hulvey
Jordan Youngblood
Karl Stocker
Kedan He
Kristen Epp
Kristen Morgan
Kurt Lucin
Kwangwon Lee
Lora Lee
Lyndsey Lanagan-Leitzel
Martin Mendoza-Botelho
Matthew Becker
Matthew Graham
Maureen McDonnell
Mehdi Sarikhani Khorami
Melanie Keyes
Meredith Metcalf
Michelle Michael-Kang
Mihyun Kang
Nayun Oh
Niki Kunene
Okon Hwang
Paul Canavan
Peter Drzewiecki
Ricardo Perez
Robert Greene
Sara Newman Carroll
Sarah Nightingale
Sarah Tasneem
Soojin Kim
Stephen Ferruci
Steve Muchiri
Sudha Swaminathan
Syed Islam
Tao Chen
Terri Toles-Patkin
Thomas Hurlbut
Timothy Cochran
Vijaykumar Veerappan