OSCAR EXPO 2023

SUNY Fredonia

May 4, 2023 - 12pm-4pm

Williams Center

Agenda

12PM

Welcoming Remarks in Multipurpose Room

Donald Nasca Undergraduate Research Award Recipients Announced

12:45PM

Student Performance in Multipurpose Room

"*Brahms Piano Quintet in F minor Op. 34*"

1-4PM

*Research Posters in MultiPurpose Room

(Featured posters every 30 minutes)

*Presentations in the Blue Lounge and G103C

(Two consecutive oral presentations during each 30-minute slot)

1:30-2PM

"Open Minds and Shared Voices: Making Student/Faculty Collaborations Possible" - Q&A with Faculty and Students

Blue Lounge

***Detailed schedule and abstracts within this program.**

Exhibits in the Multipurpose Room will be available for viewing throughout the day.

Students are scheduled to be present to answer questions at the indicated times (detailed schedule in side this program).

Food will be refreshed frequently throughout the event.

1:00–1:30

ORAL PRESENTATIONS

BLUE LOUNGE

"All Hands On Deck: Librarian, Professor, and Student Perspectives on Implementing a Collaborative Open Pedagogy Project"

Presenter: Madison Stewart, Criminal Justice
Mentor: Jessica Finkeldey

Abstract: This presentation will describe an open pedagogy textbook creation project that was implemented in a criminal justice course at SUNY Fredonia in the fall of 2022. The project will be assessed from the perspective of an instruction librarian, teaching faculty member, and student. We will also discuss some of the challenges faced during the project and share tips and suggestions on how to overcome these. Attendees will gain insights into how to build effective collaborations between teaching faculty and librarians to advance open pedagogy and promote student-centered learning. Attendees will leave with a deeper understanding of the complexities involved in an open pedagogy textbook creation project and how to navigate them effectively.

BLUE LOUNGE

"The Fundamental Importance of Warm Dense Matter"

Presenter: Joseph Vargas, Physics
Mentor: Michael Dunham

Abstract: The study of Warm Dense Matter (WDM) is of great interest for both inertial confinement fusion and fundamental science. WDM is a type of plasma that exists in a temperature range from 1-100 eV and has a density around the same magnitude or higher than the solid state. Like most plasma experiments, accurately measuring the present state variables of WDM is difficult, however, is of the utmost importance for benchmarking hydrodynamic simulations. Here we report on a WDM target characterization using Streaked Optical Pyrometry (SOP). The experiment was performed at the ALEPH laser facility, where WDM conditions were generated by irradiating a thin 1 μm carbon foil with a heater laser of 500 fs pulse duration and 1-2 J of energy.

1:00-1:30: FEATURED POSTER PRESENTATIONS - MULTI-PURPOSE RM

"Coast-to-Coast Journalism: Breaking Barriers with Student Voices"
Presenters: Alyssa Bump; Will Karr
Mentor: Elmer Ploetz

"Assessment of Algae Metrics and Depth Detection for Drone-Hyperspectral Imaging in Chautauqua Lake, NY"
Presenter: Marc Choi
Mentors: William Brown; Courtney Wigdahl-Perry

"Should Every Drop Count? - An Investigation into the Fredonia Water Billing System"
Presenters: Kampbell Howard; Jakob Pachucinski; Mindy Doktor; Jay Casey
Mentor: Lan Cheng

"Anti-inflammatory Properties of the Potato-Derived Peptides DIKTNKPVIF and TNKPVI"
Presenters: Esmeiry Ventura Santana; Hunter Burczyk
Mentor: Emeka Okeke

"Inhibition of Neutrophil Extracellular Traps for the Control of Vascular Inflammation"
Presenter: Caitlin Snyder
Mentor: Emeka Okeke

1:00-1:30 FEATURED POSTER PRESENTATIONS CONTINUED ON NEXT PAGE

1:00-1:30: FEATURED POSTER PRESENTATIONS CONTINUED

"Enactus Empowers: A Social Entrepreneurship Initiative"
Presenters: Nicholas Wittmeyer; Julia Wilkinson; Vanessa Ryhal; Aaron Oliver Mendez; Frederick Napoli; Abigail Goetz; Sarah Slack; Ethan Klemann
Mentor: Kerry Fischer

"Improving Recycling Efforts in Dormitory Residences at the State University of New York-Fredonia"
Presenter: Taylor Lemiszko
Mentors: Lisa Walters

"Analyzing Ally Fosters "Body Image" Using Burke's Pentad Theory"
Presenter: Madison Rachiele
Mentor: Angela McGowan-Kirsch

"Geoarchaeological Analysis on the Mckendry Archaeological Site: Additional Reconstruction of Site Stratigraphy"
Presenters: Joli Springborn; Savannah Steves
Mentor: Matthew Purtill

"Transgressive Teaching in American Music Education: A Phenomenology of Transgressive Teachers"
Presenter: Anders Lewis
Mentor: Jill Reese

"The Effect of Gender and Dark Triad on the Preference for Callous Sex"
Presenter: Patience Glatt
Mentor: Darrin Rogers

1:30-2:00

ORAL PRESENTATIONS

BLUE LOUNGE

Q&A Session: "Open Minds and Shared Voices: Making Student/Faculty Collaborations Possible"

Student Presenters: Kasey Crandall, Mercedes Brown, Abigayle DiRusso, Sydney Hawkins, Andrew Semo
Faculty Presenters: Jill Reese, Jessica Finkeldey, Michael Jabot, Peter Tucker, Courtney Wigdahl-Perry

Abstract: Students and faculty might ask, "How do I get started and how do I make it possible with all I'm already juggling?" At this 30-minute panel, students and faculty share their experiences conducting successful student/faculty research and creative projects. Learn about the immediate and future benefits for everyone involved. Faculty members will learn about resources and strategies they can use to maximize their impact and minimize the pull on their current resources. Students will learn about resources and strategies they can use at SUNY Fredonia for research and creative activity and will have the chance to connect with and be connected to faculty mentors. #LimitedResources #MaximumBenefits

G103B

"Towards a Deep Learning Approach to Code Scoring using Natural Language Processing Techniques"

Presenter: Miles Calloway, Computer Science
Mentor: Syed Haider

Abstract: Automated grading of student submitted code today primarily utilizes basic answer matching techniques. Existing solutions use static code analysis that needs to be configured for a specific problem, otherwise it does not detect many errors and is therefore not very useful for grading. Grading based on the output matching of a program can be easily cheated and only give you a pass or fail type of score. Even machine learning techniques to grade code often only focus on one type of task or one type of issue or code smell that may exist in code. In this work, we present a method inspired from Neural Networks for Natural Language Processing in order to assist in grading code. By training a Neural Network on many GitHub repositories along with automated scores created by using metadata, we create a basic machine learning model that can be used to compare and rank various submissions for an assignment.

G103B

"Monarch in G" - Saxophone Quartet

Presenter: Connor Swaenepoel, Music Composition
Mentor: Rob Deemer

Abstract: This saxophone quartet, "Monarch in G," is about creating a form of music based on the butterfly effect, which is a concept from chaos theory dealing with different choices that produce different outcomes. I will be explaining how I created the different movements based on the concept of the butterfly effect. My presentation will examine each movement with sketches involved in the composition process, as well as how this concept may retain to each movement. I will have a powerpoint presentation from google slides, towards the end of the presentation I will display a video of the piece being performed to illustrate how this concept works.

1:30-2:00: FEATURED POSTER PRESENTATIONS - MULTI-PURPOSE RM

"Finding New Ways to Incorporate Brooker's Merocyanine Dye into Undergraduate Chemistry Laboratory Experiments"
Presenters: Jonas Simora; Sawyer Oppenneer
Mentor: Allan Jay Cardenas

1:30-2:00 FEATURED POSTER PRESENTATIONS CONTINUED ON NEXT PAGE

1:30-2:00: FEATURED POSTER PRESENTATIONS CONTINUED

"Making Meaning Through Social Emotional Learning In An Afterschool Music Club: An Instrumental Case Study"
Presenter: Amber Nellett
Mentor: Jill Reese

"The "Howard" Statistic: Reimagining the Chi-Square Test"
Presenter: Kampbell Howard
Mentors: H Straight

"Phytoplankton Response to Iron Additions in Chautauqua Lake, New York"
Presenters: Madison Miller
Mentor: Courtney Wigdahl-Perry

"Taxonomic Resolution of Fossilized Diatoms from Sediment Cores at Chautauqua Lake"
Presenters: Kameron Finch
Mentor: Courtney Wigdahl-Perry

"Twitter Best Practices for Sport Journalists"
Presenters: Tyler Pacos
Mentor: Kerry Fischer

"Identification of Novel Polymorphic Microsatellites to Determine Tenodera Sinensis Male Mating Frequency"
Presenters: Colm Roster
Mentor: William Brown; Scott Ferguson

"Involvement of Barentsz in gurken mRNA Translation"
Presenter: Alexander Mathewson
Mentors: Scott Ferguson

"The Role of lgr4 in Hair Cell Formation and Regeneration in the Zebrafish Lateral Line"
Presenters: Paige Eversole
Mentor: Jonathan Kniss

"Calibration Observation Project"
Presenters: Shaniylah Welch
Mentor: Michael Dunham

"Just World Bias : A Mediator Between Ethnicity and Perceived Responsibility."
Presenters: Pedro Martinez; Kristina Hoth; Megan Wright
Mentor: Darrin Rogers

2:00-2:30

ORAL PRESENTATIONS

BLUE LOUNGE

"Aysìrol Na'viyä- Songs of the Na'vi I. Yune"

Student Presenters: Andrew Esposito, Music Composition
Faculty Presenters: Rob Deemer; Andrew Martin Smith

Abstract: This presentation will feature a glance into the world of constructed languages by examining the language of the Na'vi from James Cameron's film, Avatar and how this language can be adapted for musical composition. The study and information will culminate into a full two and a half minute song written to emulate the musical stylings of the Na'vi, with the lyrics written entirely in the language of the fictional species.

BLUE LOUNGE

"Does Body Size Override the Ability to Call in Aggressive Bouts Between Male Crickets?"

Presenter: Logan Wilson; Samuel Wilczynski
Mentor: William Brown

Abstract: Male house crickets, Achetus domesticus, engage in aggressive behaviors over resources and reproductive opportunities with other males. Many factors influence these bouts between males, including body size and the ability to produce song. It is well established in the literature that heavier crickets win aggressive encounters, and song communicates information about body size. Here, we perform two experiments to assess the relationship between song and body size. First, we examine how the presence or absence of song influences aggressive bouts between size-matched crickets, including fight intensity and outcome. Second, we examine how the presence or absence of song influences the chances of winning in size-mismatched crickets, including fight intensity and outcome. Preliminary results from experiment 1 support previous literature in that muting crickets increases fight intensity, and in asymmetric encounters, muted crickets tend to lose.

G103C

"Lil Nas X and the Different Forms of Queer Expression"

Presenter: Daniel Garcia
Mentor: James Davis

Abstract: Successful rap artist artist, Lil Nas X, has been very open about his queer identity and how it shapes their his music. Furthermore, Nas X has cited Miley Cyrus and Doja Cat – artists who identify as queer to some extent - as specific influences. This paper examines how Nas X expresses his queerness in his album, MONTERO. Cyrus and Doja's albums (Plastic Hearts and Planet Her) will then be examined to find general themes among queer artists that are present in MONTERO. His mixed media output (music videos) and his auditory output (albums, songs) will be examined with the goal of the writer identifying aspects of the artist's music that are influenced by his life as a performer and his life as an individual.

2:00-2:30: FEATURED POSTER PRESENTATIONS - MULTI-PURPOSE RM

"Analyzing the Importance of Each IRONMAN Triathlon Component in Relation to the Race as a Whole"
Presenters: Aaron Oliver Mendez
Mentor: Amber Powell

2:00-2:30 FEATURED POSTER PRESENTATIONS CONTINUED ON NEXT PAGE

2:00-2:30: FEATURED POSTER PRESENTATIONS CONTINUED

"New York State Lottery Funding Towards Education"
Presenters: Jay Casey
Mentor: Amber Powell

"Predicting Success of D1 NCAA Basketball Players in the NBA"
Presenter: Alon Kremerman
Mentors: Amber Powell

"Validating Mass-Loss Measurements in Newly Forming Young Stars"
Presenters: Prince Aziz Hunt
Mentor: Michael Dunham

"Attributions of Responsibility for a Mass Shooting"
Presenters: Chloe Kowalyk; Sabrina Suriani; Ashley Campbell
Mentor: Jack Croxton

"Turtlebot3"
Presenter: Renaldine Panosky
Mentor: Junaid Zubairi

"DIY Publishing and The New Disposable"
Presenters: Jacob King
Mentor: Michael Sheehan

"An Ontogenetic Study of a Newly Discovered Population of Cyzicus Gynecius Using SEM Imagery"
Presenter: Rachel Echevarria
Mentor: Thomas Hegna

"Induction of Mitotic Defects via Estrogen-Linked Signaling"
Presenters: Zainab Ahmed
Mentor: Nicholas Quintyne

"Analyzing Parliament-Funkadelic and Afrofuturism Using Burke's Pentad"
Presenters: Jordan Budd
Mentor: Angela McGowan-Kirsch

"Mindfulness Based Stress Reduction"
Presenters: Abigail Tartaro
Mentor: Christine Wagner

2:30-3:00

ORAL PRESENTATIONS

BLUE LOUNGE

"Students' Contact with and Perceptions of University Police"

Presenter: Abigayle DiRusso; Mercedes Brown
Mentor: Jessica Finkeldey

Abstract: Prior research suggests that sociodemographic and behavioral factors, such as sex, race, and substance use, influence students' contact with university police. Moreover, student contact with university police can influence perceptions of university police. Analyzing quantitative and qualitative data from a current sample of undergraduate students enrolled at a small, public university in the Northeast United States, this research examines the sociodemographic and behavioral correlates of students' contact with and perceptions of university police. Qualitative interview data are used to contextualize our preliminary quantitative results. Additionally, the preliminary findings are discussed in relation to prior research and are connected to policy implications.

BLUE LOUNGE

"Impact of Yoga on Performance Related Musculoskeletal Disorders in Collegiate Musicians"

Presenter: Mary Standinger
Mentor: Jill Reese

Abstract: Musicians face a myriad of wellness issues that affect both their mind and body. Student and professional musicians must be efficient in the way they address these challenges to protect their health and professional longevity. This experimental study examined the effects of two types of physical exercise on music majors' Performance Related Musculoskeletal Disorder (PRMD) symptoms. The first type was daily yoga practice (Yoga has been practiced for over 5,000 years, as a way to unify or "yoke" the mind, body, and spirit.). The second type was daily walking. Data included a pre- and post-experience survey and self-reported PRMD symptoms and severity collected every three days. The presenter will share findings of the current study, suggestions for the next steps in future research, and a live demonstration of techniques used in this study.

2:30-3:00: FEATURED POSTER PRESENTATIONS - MULTI-PURPOSE RM

"The Role of Plk1 and its Interacting Proteins in the Development of Mitotic Defect-Associated Tumor Progression"
Presenters: Andrew Nearbin
Mentor: Nicholas Quintyne

"Analysis of Hockey's Gritty Statistics"
Presenter: Jakob Pachucinski
Mentors: Amber Powell

"The Shift from Pensions to Defined Contribution Plans and how it Might Effect Gen Z"
Presenters: Sawyer Mohney; France Charles
Mentor: Mojtaba Seyedian; Adam Cook

"Access to Renal Care in Western New York with Projections from CKD Hospitalization Data"
Presenters: Joshua Ninan
Mentor: Amber Powell

2:30-3:00 FEATURED POSTER PRESENTATIONS CONTINUED ON NEXT PAGE

2:30-3:00 FEATURED POSTER PRESENTATIONS CONTINUED

"Knockdown of NuMA in Oral Cancer Cells to Induce Centrosome Coalescence and Prevent Multipolar Spindle Formation"
Presenters: Samantha Reed
Mentor: Nicholas Quintyne

"The Effects of Carcinogens on Viability of Cancer Cell Lines Relating to Mitotic, and Mitotic Defect Indices"
Presenter: Emilia Driscoll
Mentors: Nicholas Quintyne

"The Relationship between Ethnicity and Medicinal Substance Use Affect on Perceptions of Personal Attributions"
Presenters: Desiree Lawson
Mentor: Darrin Rogers

"The Influence of Sexual Orientation and Primed Personal Reflection on the Gender Role Perspectives of College Students"
Presenters: Autumn Brennan; Eliza Shriver
Mentor: Darrin Rogers

"Networking and Research at USITT 2023"
Presenters: Dylan Janish; Olivia Kaye
Mentor: Czerton Lim

3:00-3:30

ORAL PRESENTATIONS

BLUE LOUNGE

"Princess Zinaida Alexandrovna Volkonskaya"

Presenter: Katherine Wynn
Mentor: James Davis

Abstract: Princess Zinaida Alexandrovna Volkonskaya was an influential salon hostess as well as a composer and opera singer. As an unconventional member of the pre-Napoleonic Russian aristocracy, Volkonskaya found herself at the crossroads of her native culture and the imported European culture favored by the court. Volkonskaya wrote and premiered an opera of her own creation in 1821: Giovanna D'Arco, a work that reveals much about her views on Western art, religion, and women's roles in the 19th century. We will analyze the structure and composition of a single aria from the work, Per Queste Amare Lagrime, and explore how her musical style exemplifies her underlying pull towards western ideas. After years of internal conflict, she chose the West - Rome over Moscow, Pope over Patriarch, and blue skies over the snows of her home.

BLUE LOUNGE

"Trans Identities"

Presenter: Sophia Myers
Mentor: Danielle Lewis

Abstract: The presentation starts with an opening discussion of what it means to be trans and the historical use of the term "transgender" as an umbrella term, and a quick exploration of modern terms for gender identities. The rest is a deep dive into trans identities in different cultures, many of them indigenous, including two-spirit in Native American communities, Muxe in Mexico, Fa'afafine and Fa'fatama in Samoa, and Hijras in India, Pakistan, and Bangladesh. There's a discussion of what roles people with these identities took in their societies and how their gender expressions have been limited because of colonization. The last point is about how Christianity and colonization have shaped American views of gender, and how we need to decolonize our approach to gender in order to truly understand it.

G103B

"Fredonia Faculty Founders: Dr. Marion Sonnefeld and Dr. Robert Rie"

Presenter: Alexander Fisher; Anne Smith; Laura Manikowski; Connor Klingler
Mentor: Markus Vink; Birger Vanwesenbeeck

Abstract: Four students (myself included) under the tutelage of Dr. Birger Vanwesenbeeck this semester researched two late professors of German at Fredonia, Dr. Robert Rie and Dr. Marion Sonnefeld, and compiled biographies and exhaustive bibliographies of their work. The goal of this project is to immortalize the accomplishments, academic career, and lives of both of these two professors through two Digital Exhibits (one for each professor) which will be posted on the Reed Library website at the end of the semester. We would like to present our research at OSCAR this May to share our findings with the students of Fredonia, as well as faculty (and past faculty) both in the Language department and in the university in general. We hope to bring back into the light the extraordinary lives and accomplishments of these two faculty members, and to preserve their legacy for generations to come. Please note this project will be divided into two different poster/display presentations.

3:00-3:30 FEATURED POSTER PRESENTATIONS CONTINUED ON NEXT PAGE

3:00-3:30: FEATURED POSTER PRESENTATIONS - MULTI-PURPOSE RM

"How does Body Weight and Song Calling Influence Cricket Aggression"
Presenter: Samuel Wilczynski; Samuel Wilczynski
Mentors: William Brown

"How Might the Campus Bus be Better Utilized?"
Presenters: Sawyer Mohney; Aaron Oliver Mendez; Alon Kremerman
Mentor: Lan Cheng

"The Crosswalk Puzzle - Determining Optimal Crosswalks for SUNY Fredonia"
Presenters: Jay Casey; Vincent Noel Mendez
Mentor: Lan Cheng; I-Fei Chen-Markham

"Observing the Behavior of Gromphadorhina portentosa in the Presence of the Scent of a Potential Predator"
Presenters: Autumn Maedl
Mentor: Karry Kazial

"FlightGear Flight Simulator Data Retrieval Program"
Presenters: Amber Carangelo
Mentor: Junaid Zubairi

"Examining Growth Patterns of Perennial Ryegrass in Simulated Green Complexes"
Presenters: Dominik Zimmer
Mentor: Matthew Lanning

"Spotify and Student Music Preference in the Classroom"
Presenters: Daniel Garcia
Mentor: Jill Reese

"Visualizing Music Preferences: Using Physical Features in Images to Construct Preference Models"
Presenters: Henry Zelenak
Mentor: Ziya Arnavut

3:30-4:00

ORAL PRESENTATIONS

BLUE LOUNGE

"Recruitment of Beginning Band Students: Teachers' Experience and Use of Technology"

Presenter: Aidan Carney
Mentor: Gregory Cole; Jill Reese

Abstract: Across New York State, recruitment and retention of students are often challenging for music educators, and strategies vary widely from district to district. One of the most important elements that affect the recruitment and retention of instrumental students in instrument selection. As a beginning band student, picking your instrument is one of the most exciting things. Some students love percussion, some the tuba, and some the flute. Why? Oftentimes, music educators use traditional methods to assess students' abilities and interests during the instrumental selection process. When technology is used, it is seldom hands-on and is often more teacher-focused rather than student-focused (Bazan, 2005; Dangler, 2014). Research suggests students are more motivated and engaged in learning when their teachers utilize technology (Chuang, 2014; Godzicki, Godzicki, Krofel, & Michaels, 2013). When teachers use technology for pedagogical purposes or to accommodate requirements, students show drastically increased interest in learning (Francis, 2017).

BLUE LOUNGE

"Missing and Murdered Indigenous People: Examination of Temporal Ordering Effect"

Presenter: Cassie Thomas
Mentor: Jessica Finkeldey

Abstract: The disproportionate risk of experiencing violence, going missing, and/or being murdered has continuously characterized the lives of Indigenous people of North America and has recently been federally recognized as an epidemic aptly named the Missing and Murdered Indigenous People epidemic (MMIP). Government policies have attempted to address MMIP, but their effectiveness was limited by the lack of available research that focused on the Indigenous population. The present study (ongoing) sought to address the research gap and further examined the emerging pattern which suggested a temporal ordering effect; adverse childhood experiences rooted in colonization have affected economic hardship experienced in adulthood within the Indigenous population, with the outcome being the MMIP epidemic. Researchers asserted that effective agency responses to MMIP cases have been hindered by their pattern of perceiving MMIP as the outcome of poor personal choices; significant findings could refute negative perceptions and support framing MMIP as a structural issue.

3:30-4:00 FEATURED POSTER PRESENTATIONS CONTINUED ON NEXT PAGE

3:30-4:00: FEATURED POSTER PRESENTATIONS - MULTI-PURPOSE RM

"The Identification of Bacteria and Filtration in Honduran Drinking Water"
Presenter: Delanie Tunstall; Isabella Trifilo; Amanda Roth
Mentors: Ted Lee

"Daunting Dentists: An Investigation into Local, WNY and National Annual Dental Visits by Region and Age"
Presenters: Kampbell Howard
Mentor: Amber Powell

"Correlation Between Unemployment and Crime"
Presenters: Kale Perry
Mentor: Amber Powell

"Cattaraugus Creek Watershed Soil Loss Project"
Presenters: Elizabeth Wightman; Abigail Nordwall
Mentor: Matthew Purtill

"The Dewittville Creek Restoration Monitoring Project: Observations and Results of Year Two"
Presenters: Elizabeth Wightman; Abigail Nordwall
Mentor: Matthew Purtill

"Mapping Mathematics Mastery: Analyzing Western New York State's Middle School Mathematics Proficiency in Grades 6-8"
Presenters: Matthew Barton
Mentor: Amber Powell

"Effect of Trait Anxiety on Class Stress Varied by Class Format"
Presenters: Kyle Davis; Jayda Collazo
Mentor: Darrin Rogers

"A Behavioral study: Measuring Duration Required For Mice To Learn A Morris Water Maze"
Presenters: Mya Caldarelli-Troy; Samuel Bennett; Marcella Colilli; Arin Klein
Mentor: Catherine Creeley

"Role of Demographic Characteristics in Occupational Intention"
Presenters: Edwin Sabater
Mentor: Michael Clarkson-Hendrix

"Role of Social Support in Recent Daily Life Functioning"
Presenters: Cassidy Heinen
Mentor: Michael Clarkson-Hendrix

"Did Argentina Deserve to win the World Cup?"
Presenters: Pranav Chaturvedi
Mentor: Amber Powell

Poster Abstracts

1:00-1:30PM

"Coast-to-Coast Journalism: Breaking Barriers with Student Voices"
Presenters: Alyssa Bump; Will Karr
Mentor: Elmer Ploetz

Abstract: Today's media landscape is currently facing a myriad of threats newsrooms are shrinking, conglomerates are limiting free speech and traditional media is struggling to adapt in our modern world. Despite these dangers, journalism matters now more than ever, especially on college campuses. The Leader's Editor in Chief Will Karr and Chief Copy & Design Editor Alyssa Bump attended this year's Associated Collegiate Press Spring National College Media Conference. Several sessions of the conference explored how today's student journalists can rebuild trust in the media. Our visual presentation will share powerful reflections on diversity, covering tragedy and building community in the college media landscape. Our presentation will also highlight the importance of supporting and sustaining student media organizations on campus.

"Assessment of algae metrics and depth detection for drone-Hyperspectral Imaging in Chautauqua Lake, NY"
Presenters: Marc Choi
Mentor: William Brown; Courtney Wigdahl-Perry

Abstract: Freshwater harmful algae blooms (HABs) are detrimental to the ecology, public health, and business structure centered around lake ecosystems. To better understand and monitor HAB dynamics at inland lakes, we tested the use of remote sensing to identify and track bloom events, specifically with drones and a newer type of imaging called Hyperspectral Imaging (HSI). In this project's initial phase, we paired drone-HSI camera readings with algae samples and compared different algae metrics for verifying HAB signals in HSI data. We also developed an apparatus to determine the drone-HSI depth of detection within the water column. We found that the accuracy and precision of algae measurements changed in different lake conditions and that the drone-HSI readings of the apparatus extended 0.82 meters below the surface of the water column. These findings provide the preliminary foundation for drone-HSI remote sensing approaches to monitor HABs in inland lakes, and help inform stakeholders.

"Should Every Drop Count? - An Investigation into the Fredonia Water Billing System"
Presenters: Kampbell Howard; Jakob Pachucinski; Mindy Doktor; Jay Casey
Mentor: Lan Cheng

Abstract: This research project focuses on analyzing the sewage charge to residents in the Village of Fredonia. Currently, the sewer is billed solely by the amount of water used, which some residents consider to be unfair due to summer water activities (watering lawns/gardens, washing cars, etc.). The objective of this study is to develop a more fair billing method for sewer charges. To achieve this, we analyzed quarterly water usage data spanning two decades from more than a dozen houses over different seasons and compared it to various characteristics of the homes, such as size and number of rooms. Based on our analysis and research we proposed several strategies that can improve the water billing system for residents in Fredonia.

"Anti-inflammatory Properties of the Potato-Derived Peptides DIKTNKPVIF and TNKPVI"
Presenters: Esmeiry Ventura Santana; Hunter Burczyk
Mentor: Emeka Okeke

Abstract: Neutrophils and Macrophages can form extracellular traps to localize microbes. However, studies have shown that extracellular traps produced by immune cells propagate inflammation. Food-derived peptides with anti-inflammatory properties have gained popularity due to their availability in the daily diet and limited side effects. We previously demonstrated the ability of the potato-derived peptides DIKTNKPVIF (P1) and TNKPVI (P2) to limit the inflammatory response of monocyte-derived macrophages. In this work, we investigated the optimum concentration of peptide required for anti-inflammatory activity. We found that the bioactivity of P1 and P2 was preserved in concentrations within 100 uM range. Interestingly, P1 and P2 reduced the levels of elastase produced by monocyte-derived macrophages stimulated with the bacterial component lipopolysaccharide . Our results indicate the strong anti-inflammatory property of both P1and P2 and that P1 and P2 have potential to limit extracellular trap formation by macrophages and neutrophils.

1:00-1:30PM POSTER ABSTRACTS CONTINUED ON NEXT PAGE

Poster Abstracts

1:00-1:30PM

"Inhibition of Neutrophil Extracellular Traps for the Control of Vascular Inflammation"
Presenters: Caitlin Snyder
Mentor: Lisa Walters

Abstract: For an indeterminate time in the past, the State University of New York-Fredonia has sent more waste to landfills than to recycling centers as expressed in tonnage of waste. The goal of this project is to reverse that trend such that more waste tonnage is sent to recycling than to landfills. The scope of this project is limited to dormitory residences. This project is important as environmental sustainability is a moral imperative; additionally, students have expressed concern over Fredonia's recycling efforts. Furthermore, this project implements lean six sigma methodology to provide research-based recommendations.

"Enactus Empowers: A Social Entrepreneurship Initiative"
Presenters: Nicholas Wittmeyer; Julia Wilkinson; Vanessa Ryhal; Aaron Oliver Mendez; Frederick Napoli; Abigail Goetz; Sarah Slack; Ethan Klemann
Mentor: Kerry Fischer

Abstract: SUNY Fredonia Enactus is traveling to the University of Texas at Dallas to share updates and gain inspiration for their current projects. Enactus is partnered with several organizations this semester. They are assisting Rural Ministries, a local non profit that helps those in need; providing clothes, food, and several other services to those who need it. Enactus is helping them with marketing, so more people can take advantage of these services. The Edge/Advalue division works with local businesses in the area, focusing on economic development and helping small businesses thrive. This division helps with social media advertising. Enactus also works with Northern Chautauqua Catholic School by teaching students business and entrepreneurial skills. They have also been brought on as business analysts to help start a business in the area, where the profits are donated to the school. The research being presented will be focused on the projects undertaken this academic year.

"Improving Recycling Efforts in Dormitory Residences at the State University of New York-Fredonia"
Presenters: Taylor Lemiszko
Mentor: Lisa Walters

Abstract: For an indeterminate time in the past, the State University of New York-Fredonia has sent more waste to landfills than to recycling centers as expressed in tonnage of waste. The goal of this project is to reverse that trend such that more waste tonnage is sent to recycling than to landfills. The scope of this project is limited to dormitory residences. This project is important as environmental sustainability is a moral imperative; additionally, students have expressed concern over Fredonia's recycling efforts. Furthermore, this project implements lean six sigma methodology to provide research-based recommendations.

"Analyzing Ally Fosters" Body Image" Using Burke's Pentad Theory"
Presenters: Madison Rachiele
Mentor: Angela McGowan-Kirsch

Abstract: Many visual rhetorical acts can be analyzed using many different theories. Burke's theory of the Pentad is a useful way to analyze Ally Foster's "Body Image" artwork posted on her blog. The theory is made up of five tenants and ratios. Using these tools, it is easier to understand the reason behind Foster's piece as well as the elements of the artwork and how they relate to each other. Burke's theory allows the viewer to analyze a visual rhetorical act using the elements: Act, Scene, Agent, Agency, and Purpose. Along with those, there are ratios which are the relationships between these elements which can constrain each other. Using this theory will allow viewers to analyze Ally Foster's art piece in a critical and concise manner.

Poster Abstracts

1:00–1:30PM

"Geoarchaeological Analysis on the Mckendry Archaeological Site: Additional Reconstruction of Site Stratigraphy"
Presenters: Joli Springborn; Savannah Steves
Mentor: Matthew Purtill

Abstract: The Mckendry Archaeological Site is located in Irving, New York. Previously, excavations have been done at the site to determine the geoarchaeological conditions when Native Americans were present in the area. The recent discovery of loess during the excavation of a third stratigraphic column may be related to a worldwide drought that early Native Americans had to adapt to. Confirming this phenomenon can bring insight into how Natives adapted to rapidly warming climates, as we now have to do in the modern day.

"Transgressive Teaching in American Music Education: A Phenomenology of Transgressive Teachers"
Presenters: Anders Lewis
Mentor: Jill Reese

Abstract: The majority of research on transgressive teaching examines the theories of the philosophy rather than the applications, struggles, and evolutions within the classroom. The researcher conducted a phenomenological study of the lived experiences of 4 teachers who self-identified as "transgressive". These teachers employ pedagogies that directly support queer students, students of color, students with disabilities, and otherwise oppressed students. Through interviews and critical post-lesson reflections, the researcher illuminated common themes between the lives of the participants.

"The Effect of Gender and Dark Triad on the Preference for Callous Sex"
Presenters: Patience Glatt; Sawyer Oppenneer
Mentor: Allan Jay Cardenas

Abstract: Casual sex has become a normalized part of sexual development that could have long-term implications on an individual’s mental and sexual health. An online survey was administered to undergraduate students through Qualtrics. The effect of gender and Dark Triad traits were looked at in relation to the individual’s preference for callous sex. These results can be particularly helpful in looking at who may be more susceptible to the long-term effects of casual sex.

Poster Abstracts

1:30-2:00PM

"Finding New Ways to Incorporate Brooker's Merocyanine Dye into Undergraduate Chemistry Laboratory Experiments"
Presenters: Jonas Simora; Sawyer Oppenneer
Mentor: Allan Jay Cardenas

Abstract: Brooker's merocyanine is a solvatochromic molecule that changes color based on the polarity of its environment. In this study we ought to find new opportunities to apply the unique spectroscopic properties of merocyanine in designing undergraduate analytical lab experiments.

Making Meaning Through Social Emotional Learning In An Afterschool Music Club: An Instrumental Case Study"
Presenter: Amber Nellett
Mentor: Jill Reese

Abstract: The purpose of this research is to explore how students and facilitators describe their experiences with identity, belonging, and agency in an after-school music club. This meaning is explored and examined through the theoretical framework of social and emotional learning (SEL). This instrumental case study focused on the self (identity), others (belonging), and decision-making (agency) competencies and how the teacher researcher, preservice music teacher, and student participants interact with them to make meaning of their musical experience. Students participated in an after-school music club where they learned how to play the ukulele, explored songwriting, and extended their musical ideas with the aid of music technology (specifically Sound Trap and MIDI keyboards) that was facilitated by the teacher researcher and preservice music teacher. The experience led to discussion, reflection, and collaboration to support the artistic process and social-emotional learning of the group.

"The "Howard" Statistic: Reimagining the Chi-Square Test"
Presenters: Kampbell Howard
Mentor: H Straight

Abstract: The Chi-Square test and associated test statistic are a method commonly used in the statistical world to test for "goodness of fit" - whether observed data gels with a hypothesized distribution. By evaluating the difference between observed and expected frequencies of given events, this test statistic determines whether or not the event is statistically significant when compared to the null hypothesis. However, some fail to realize that the computation of the Chi-Square test statistic and result associated with it is dramatically affected by the magnitude of the observed/expected values and sample size n. As outlined in this poster, we propose the idea of a new related statistic coined the "Howard" statistic (H) which takes into account the absolute difference of the observed and expected values. With this new statistic we hope to amend the flaw with the Chi-Square test statistic and create related critical value tables/functions to be used in applicable hypothesis testing over various distributions.

"Phytoplankton Response to Iron Additions in Chautauqua Lake, New York"
Presenters: Madison Miller
Mentor: Courtney Wigdahl-Perry

Abstract: Nitrogen and phosphorus are known to increase the frequency and severity of harmful algal blooms at Chautauqua Lake, New York. However, the effects of increased iron concentrations in this system have not been studied. Iron amendment bioassays in both basins during July 2021 were conducted. Chlorophyll a concentrations and cell counts were used to determine the effects of each treatment. The results showed a decrease in chlorophyll a concentrations in the iron treatments and an increase in concentration in the combination of nitrogen, phosphorus, and iron treatments relative to the control mean. Cyanobacteria outcompeted diatoms and green algae in most treatments. In iron-only treatments, there were fewer diatoms and green algae than in treatments containing nitrogen and phosphorus. All samples were compared to the control mean.

1:30-2:00PM POSTER ABSTRACTS CONTINUED ON NEXT PAGE

Poster Abstracts

1:30-2:00PM

"Taxonomic Resolution of Fossilized Diatoms from Sediment Cores at Chautauqua Lake"
Presenters: Kameron Finch
Mentor: Courtney Wigdahl-Perry

Abstract: Understanding how lake ecosystems are responding to climate change and eutrophication can be difficult if there is not a long record of lake data available. However, some of these conditions can be inferred based on fossil record assemblages of different model organisms like diatoms. Diatoms are good environmental proxies as they can be used to infer different environmental factors like temperature, PH, nutrient abundance, and they fossilize well. However, some genus of diatom like Aulacoseira can be hard to distinguish to the species level with standard light microscopy, but is important as species to species variation can make a large impact on reconstruction models. Therefore, the purpose of this study was to identify which species of Aulacoseira are found within Chautauqua lake sediment cores.

"Twitter Best Practices for Sport Journalists"
Presenters: Tyler Pacos
Mentor: Kerry Fischer

Abstract: Social media has become one of the most prevalent forms of communication. Anyone from celebrities and athletes to major corporations and journalists has the ability to make their voice heard on various social media platforms. What many of us do not know is how important social media really is when it comes to reporting, sport reporting specifically. Each platform has different functionality, so it is important not to treat them the same. Twitter specifically allows for real-time conversation and breaking news. Thus, the aim of this poster is to guide sport journalists with a list of best practices for using Twitter effectively, since Twitter is the most preferred social media platform for journalists (Jurkowitz & Gottfried, 2022). From freelance, to sideline reporting next to the biggest athletes, it is important for media professionals who use the platform as part of their job to understand how to reach the biggest audience.

"Identification of novel polymorphic microsatellites to determine Tenodera sinensis male mating frequency"
Presenters: Colm Roster
Mentor: William Brown; Scott Ferguson

Abstract: Tenodera sinensis is a species of mantis that engages in sexual cannibalism. The evolutionary maintenance of this relationship is not fully understood as it is unclear whether the male is complicit in his cannibalism. Experimentally measuring male mating frequency is vital to further understand this sexual relationship. Paternity measurements can be achieved by genotyping of polymorphic microsatellite loci. Such loci had not been identified or characterized in T. sinensis. Biotinylated probes and Streptavidin-coated beads were used to isolate microsatellites. We screened 80 candidate clones and sequenced those with large inserts. Sequencing yielded novel microsatellites to which we have designed primers. Preliminary screening indicated that many of these loci are polymorphic. This allelic variation is currently being used to determine the number of paternal contributors to ootheca collected from the field. Determining the paternal contributors will provide information about the mating opportunities wild males can expect throughout the season.

1:30-2:00PM POSTER ABSTRACTS CONTINUED ON NEXT PAGE

Poster Abstracts

1:30-2:00PM

"Involvement of Barentsz in gurken mRNA Translation"
Presenters: Alexander Mathewson
Mentor: Scott Ferguson

Abstract: The EGFR ligand Gurken is a signal molecule responsible for dorsal/ventral patterning of the Drosophila melanogaster oocyte. To generate dorsal/ventral polarity, gurken (grk) mRNA must be localized to the dorsal-anterior corner of the oocyte before undergoing cap-dependent translation. Disruption of this mechanism via spindle-B mutation results in ventralized eggshells. The Ferguson Lab recently identified mutant barentsz (btz) as a suppressor of the spn-BBU ventralized phenotype. Btz is a core component of the Exon Junction Complex and is required for localization of oskar (osk) mRNA to the oocyte posterior, but little is known about the protein's role in grk translation. To characterize this novel interaction between Btz and grk mRNA, we are dissecting ovaries from D. melanogaster Btz mutants and performing qRT-PCR on grk mRNA to quantify differences in concentration resulting from the suppressor. Preliminary data suggests that the suppressor mutation causes a decrease in grk mRNA.

"The role of lgr4 in hair cell formation and regeneration in the zebrafish lateral line"
Presenters: Paige Eversole;
Mentor: Jonathan Kniss

Abstract: The zebrafish lateral line is a sensory system composed of hair cells that allow the fish to sense their environment. Zebrafish regenerate their hair cells in response to damage or to maintain natural turnover. However, mammalian hair cells do not have the ability to regenerate. We are engaging in a pilot study to investigate a possible role for lgr4 during lateral line formation and hair cell regeneration. To assess the role of lgr4, we are creating a transgenic zebrafish line that both labels endogenous lgr4 expression and disrupts lgr4 function. This disruption is accomplished by creating cut DNA ends within exon 6 of the lgr4 locus and inserting a GFP reporter gene. The GeneWeld technique utilizes complementary homology arms between the donor vector and the genomic cut site to activate homology-mediated end joining (HMEJ) and repair the genomic DNA while integrating the donor DNA.

"Calibration Observation Project"
Presenters: Shaniylah Welch
Mentor: Michael Dunham

Abstract: Proposal My goal is to make the lives of astronomers easier by seeing if we can use "Master Flats" from months ago and seeing if it makes any difference on scientific data. My research includes taking images with the telescope on campus. These pictures fall into two categories which are Flat and Dark images. The flat image is the raw data or pixels taken by the camera and the dark image is the "noise' or unimportant extra light that gets caught in the camera at the time the picture is taken. I have multiple of each type where I layer them on top of eachother and create a "Master Flat" and "Master Dark". After i have multiple Master images I need to use some form of Data analysis to see if we can achieve my goal.

"Just World Bias : A mediator between ethnicity and percieved responsibility."
Presenters: Pedro Martinez; Kristina Hoth; Megan Wright
Mentor: Darrin Rogers

Abstract: The Hispanic population makes up the second largest minority group in the United States. Because of this rapidly growing population, internalized racial biases may occur more frequently. This experiment seeks to gain perspective on how these racial biases may shape one's judgment of others, specifically perceived responsibility of others. The purpose of this study is to determine the effects race has on perceived responsibility, while being mediated by belief in a just world. A randomized between subjects' survey design was used to evaluate our variables. Participants will be presented with a hypothetical vignette followed by a series of questions. Race will be manipulated through our vignettes. Participants will receive 1 of 2 vignettes, which will imply if the scenario is about a white or non-white Hispanic through their name. Questions we developed ourselves will measure perceived responsibility and Just World Beliefs is measured with the Procedural and Distributive Just World Beliefs scale.

Poster Abstracts

2:00-2:30PM

"Analyzing the Importance of Each IRONMAN Triathlon Component in Relation to the Race as a Whole"

Presenters: Aaron Oliver Mendez
Mentor: Amber Powell

Abstract: The IRONMAN triathlon is one of the most popular and coveted ultra endurance events in the world. It's a race that pushes people to their physical and mental limits, either by simply finishing the endeavor for some, or finishing in specific times/places for others. That being said, what does it take to be successful in an IRONMAN triathlon? Which leg of the race is the most important? How does that differ based on how an athlete would define success (differences in finish times)? Using 2022 race data from coachcox.co.uk along with Microsoft Excel, and Rstudio I sought to answer these questions.

"New York State Lottery Funding Towards Education"

Presenters: Jay Casey;
Mentor: Amber Powell

Abstract: This project is about checking if the lottery education funding in New York state is fair based on the county population size and poverty rates. In New York, lottery funding is used a lot for education programs, but people are wondering if it's fair or not. We are going to see if the lottery money given to counties in New York is different depending on the population and low income rates. We'll gather data on lottery education funding, county populations, and poverty percentages from different counties in New York and analyze it with techniques like correlation and regression analysis. Our results will be useful in figuring out if the lottery system in New York is fair or not, and help with giving education resources in a more balanced manner.

"Predicting success of D1 NCAA basketball players in the NBA"

Presenters: Alon Kremerman
Mentor: Amber Powell

Abstract: The NCAA division 1 basketball league has always been the main source of players drafted into the NBA. Every year there are many top players in college who are not being drafted due to the high level of competitiveness in the NBA. The amount of talent present in the collegiate level raises the necessity of complex and specified approximations to predict who would succeed in the NBA. Correlation analysis was used on data from the past 10 years of statistics for the college players who were drafted to the NBA and their statistics from their NBA rookie season. The data was collected from basketball.realgm.com and basketball-reference.com.

"Validating Mass-Loss Measurements in Newly Forming Young Stars"

Presenters: Prince Aziz Hunt;
Mentor: Michael Dunham

Abstract: As stars are forming, mass is ejected in conically shaped outflows from their poles of rotation. The amount of mass ejected depends on the width of the conical outflow, which affects the final mass of the star. The research being performed in this project focuses on the validation of existing measurements of the width of outflows, through the use of a new set of telescope images. The intention of using this different set of images is to test the accuracy of current techniques, and determine whether or not there needs to be an adjustment in how they're measured.

Poster Abstracts

2:00-2:30PM

"Attributions of Responsibility for a Mass Shooting"
Presenters: Chloe Kowalyk; Sabrina Suriani; Ashley Campbell
Mentor: Jack Croxton

Abstract: The purpose of our study was to determine how the victim's age, the perpetrator's mental state, and the perpetrator's background would influence reactions to a mass shooting. We created a 2 X 2 X 2 factorial design by manipulating three independent variables (children or adults as victims, whether the perpetrator was schizophrenic or not schizophrenic, and whether the perpetrator came from an abusive or non-abusive background) resulting in eight different scenarios. Seventy-eight participants completed an online survey after reading one of the eight scenarios and made a series of attributions having to do with possible causes of the event. We found that the mental condition of the perpetrator and background affected attributions relating to responsibility and the mental health system. A schizophrenic perpetrator received less punishment than a schizophrenic person. There was more sympathy for a perpetrator if they came from an abusive background.

"Turtlebot3"
Presenters: Renaldine Panosky;
Mentor: Junaid Zubairi

Abstract: The TurtleBot3 is a standard robot platform in ROS that relies on SLAM, Navigation, and Manipulation technologies. Using SLAM algorithms, the TurtleBot3 can create a map and navigate autonomously. It can also be operated remotely through various devices such as laptops, joypads, or Android smartphones. As for myself, My project guidelines are for me to control the TurtleBot3 and participating in an online robot race competition on the RDS platform. Additionally, I have to conduct at least two experiments such as moving a coke bottle to a designated location, solving a maze, playing with colored balls, parking within a marked boundary, and avoiding obstacles.

"DIY Publishing and The New Disposable"
Presenters: Jacob King
Mentor: Michael Sheehan

Abstract: With support from the Donald Nelson Nasca Award, I have spent the last year reading poetry from underground movements like the Beats, the New School, the San Francisco scene, and more. Learning how advancements like the mimeograph machine set off a new generation of poet-publishers in the mid-20th century, I sought to discover how do-it-yourself mediums can mobilize artists and their communities. Alongside poetry history, I looked to graphic design, punk music, and my own music community to help guide my creative project, The New Disposable. Acting as editor and publisher, I compiled this 36-page zine with friends' poetry and visual artwork as well as a musician-interview. With The New Disposable, I hope to encapsulate my time as a writer and artist at Fredonia. Echoing the fringe vibe of the "New" 1960s poetry, the project suggests that the act of publishing independently is countercultural in itself.

"An ontogenetic study of a newly discovered population of Cyzicus gynecius using SEM imagery"
Presenters: Rachel Echevarria
Mentor: Thomas Hegna

Abstract: Abstract: The purpose of this project is to document the ontogeny of a newly discovered species of clam shrimp, Cyzicus gynecius, in western New York. Though this species has been known from Ohio, Pennsylvania, New Jersey, and eastern New York, this is the first record of the species west of the Hudson Valley. Clam shrimp are bivalved branchiopod crustaceans which first appeared nearly 400 million years ago in the Devonian. They are most notable for their bivalved carapace (superficially resembling a mollusc shell), which is a hard, two-sided shell held together by a closing muscle, and their unique ability to reproduce via drought-resistant eggs. C. gynecius is particularly notable due to the fact that the species is entirely female; they reproduce via a form of self-cloning called parthenogenesis. These specimens were located in a mud track near Mud Lake in Cassadaga, New York and samples of mud containing eggs were collected in the lab.

Poster Abstracts

2:00-2:30PM

"Induction of Mitotic Defects via Estrogen-Linked Signaling"
Presenters: Zainab Ahmed
Mentor: Nicholas Quintyne

Abstract: Defects in centrosome integrity can be broadly classified into structural and numerical alterations, although structural alterations can also lead to numerical changes. To date, cancer cells have been scored for mitotic index and defects in control and treated conditions. The treatment included 10μM of β-estradiol exposure for 24, 48 and 72 hours. Our results show that more mitotic defects, especially multipolar spindles, are seen with estrogen exposure. To determine if the increase in multipolarity was tied to an increase in centrosome number, we stained treated cells with antibodies to centrosomal proteins and counted the number of centrosomes per cell and compared to control. We observed an increase in the number of cells with supernumerary cells within the population. These results suggest that we can demonstrate a direct link between estrogen exposure, extra centrosomes, and multipolarity in our cell line.

"Analyzing Parliament-Funkadelic and Afrofuturism using Burke's Pentad"
Presenters: Jordan Budd
Mentor: Angela McGowan-Kirsch

Abstract: This paper explores a photo of Parliament-Funkadelic taken by Bruce Talamon, and its resulting message of Afrofuturism. In this image, the band exhibits their experimental fashion choices. This and other elements of the photo are examined using a concept from Burke's theory, dramatism. While utilizing this theory, the paper discusses the pentad, and its five tenets: act, scene, agent, agency, and purpose. All of which are well represented in this rhetorical act, as well as the relationships amongst these elements. Talamon's photo spreads ideas from Afrofuturism, an ideology and cultural aesthetic that contrasts themes from science-fiction and the everyday life of minorities experiencing racism, while its elements can be analyzed using Burke's theory. The rhetor hopes to influence their audience to counter discrimination by embracing black pride in an eccentric manner. In this way, P-Funk's Afrofuturism reveals the importance of the pentad, while displaying new information on unique responses to racism.

"Mindfulness Based Stress Reduction"
Presenters: Abigail Tartaro
Mentor: Christine Wagner

Abstract: For my independent study, I attended an 8-week online course on Mindfulness Based Stress Reduction (MBSR) to study how mindfulness can change the way a person functions. Through this course, I engaged in mindful activities such as yoga, meditation, body scans, etc., to learn the benefits from these techniques. I also interviewed two MBSR trained professionals and met weekly with a professor to check in. My results showed that these practices do make a difference in mental health.

Poster Abstracts

2:30-3:00PM

"The Role of Plk1 and its Interacting Proteins in the Development of Mitotic Defect-Associated Tumor Progression"
Presenters: Andrew Nearbin;
Mentor: Nicholas Quintyne

Abstract: Tumorigenesis is the process in which normal cells gain malignant properties. This progression is known as aneuploidy. These abnormalities in chromosomes arise from mitotic defects. Mitotic defects can be studied on a molecular level by examining kinetochore regulatory proteins, Polo- Like Kinase (Plk). One of the master controllers of normal mitotic progression is Plk1. Plk1 interacts with various proteins such as dynactin (p27), p53, SGOL1, ERRC6L, and K-RAS to control proper chromosome alignment and segregation in mitosis. By using the cancerous lines, UPCI: SCC-103 and A549, we examined how Plk1 contributes to mitotic spindle assembly & maintenance in the context of increased mitotic errors as seen in tumor progression. Our results show that shRNA knockdown did not affect mitotic index, but did increase mitotic defects. We propose that the increase in mitotic defects is due to an increase in non-amphitelic connections when we knock down proteins.

"Analysis of Hockey's Gritty Statistics"
Presenters: Jakob Pachucinski
Mentor: Amber Powell

Abstract: Hockey is known for its gritty nature and physicality. Players are constantly getting hit, fighting, and taking pucks to the body. However, in today's league these attributes are often overlooked in favor of shifty goals and speed. Do physical teams truly get rewarded with wins and points? Team statistics from the National Hockey League (2007 to 2021) such as hits, blocked shots, and penalty minutes were analyzed with linear regression tests, time series plots, and correlation matrices to see if there was significant relationship to gritty statistics and good teams. The data used was gathered from https://stathead.com/sport/hockey.

"The Shift from Pensions to Defined Contribution Plans and how it Might Effect Gen Z"
Presenters: Sawyer Mohney; France Charles
Mentor: Mojtaba Seyedian; Adam Cook

Abstract: The premise of the research was to find why, over the last half century, we are shifting away from defined benefits plans (pensions) and towards defined contribution plans (401k type plans). We also wanted to look into how this might affect our generation as we enter the workforce.

"Access to Renal Care in Western New York with Projections from CKD Hospitalization Data"
Presenters: Joshua Ninan
Mentor: Amber Powell

Abstract: Millions of Americans live with Chronic Kidney Disease each year. About 1 in 7 adults in the USA have CKD, and if not treated, can lead to renal failure, requiring interventions such as dialysis or kidney transplants (Centers for Disease Control). With these devastating statistics, where does New York State fall on the national health crisis? Are the resources for Renal Care being allocated to certain counties more than others? Different statistical tests were performed on data sets provided by the CDC and NYS health data to examine which counties in NYS provide the best renal care per capita.

Poster Abstracts

2:30-3:00PM

"Knockdown of NuMA in oral cancer cells to induce centrosome coalescence and prevent multipolar spindle formation"
Presenters: Samantha Reed;
Mentor: Nicholas Quintyne

Abstract: There are many microtubule-associated proteins that play a significant role in centrosome clustering. The Nuclear mitotic apparatus protein (NuMA) is critical to the formation of spindles and is highly expressed in some cancer cells. NuMA's main function is to ensure spindles form properly and maintain their structure. When NuMA is overexpressed it disrupts the microtubule motor cytoplasmic dynein and displaces it from the spindle. Previous work demonstrated that when NuMA protein levels are decreased by shRNA-mediated knockdown, the frequency of multipolarity will decrease significantly as dynein is restored to the spindle. The UPCI:SCC103 oral cancer cell line gives us an excellent model to study the mechanism of centrosome clustering due to its high level of NuMA and cells exhibiting supernumerary centrosomes. To date, Western blots have been conducted to determine if the knockdown of NuMA in UPCI:SCC103 cells by shRNA occurred. This process is still ongoing, but preliminary information has been obtained.

"The effects of carcinogens on viability of cancer cell lines relating to mitotic, and mitotic defect indices"
Presenters: Emilia Driscoll
Mentor: Nicholas Quintyne

Abstract: Carcinogens are chemicals with the ability to increase cancer risk. Carcinogens affect cellular homeostasis, most commonly by interacting with a cell's DNA to induce genetic mutation through mechanisms broadly referred to as cellular stress. Vinyl Chloride (VC) is a small organic molecule mainly used for the production of PVC, and is classified as a class I carcinogen due to its clastogenic activity. Previous research demonstrates that exposure to vinyl chloride can cause disruptions in mitosis, leading to an increase in the mitotic defect index within oral cancer cells. We hypothesized that exposure to VC would result in an increase in the rate of death of the cancer cells. Instead, we have observed an increase in the number of cells in a population in the metaphase stage of mitosis. Data suggests that cells are arrested in mitosis, and instead of entering the apoptotic pathway may instead enter a prolonged stalled state.

"The Relationship between Ethnicity and Medicinal Substance Use Affect on Perceptions of Personal Attributions"
Presenters: Desiree Lawson
Mentor: Darrin Rogers

Abstract: Despite society's best efforts to improve the lives and rights of people of color, there are still hurdles that individuals face when attempting to receive mental health services. Psychedelic drugs and cannabis have historically been used as a tool for discrimination of marginalized populations. They have also become popular for treatment of various mental health issues. The purpose of this research is to determine if there is a relationship between ethnicity and medicinal substance use which affects attributions about individuals using substances medicinally. To determine this, an online survey will be conducted on a group of undergraduate students. They will be asked to respond to a vignette depicting individuals of different ethnicity and medicinal substance use, as well as to the sexual double standard scale, modified to reflect general stigma. It is hypothesized that ethnicity has an effect on attitudes towards medicinal substance users.

Poster Abstracts

2:30-3:00PM

"The influence of sexual orientation and primed personal reflection on the gender role perspectives of college students"
Presenters: Autumn Brennan; Eliza Shriver
Mentor: Darrin Rogers

Abstract: There are countless societal factors present in a person's understanding of gender roles. To better understand how these opinions are formed, a study is being conducted by undergraduate Psychology students examining The influence of sexual orientation and primed personal reflection on the gender role perspectives of college students. The study consists of a brief online survey which identifies gendered perspectives, gathers demographic information including sexual orientation, and primes treatment group members to think about their caregivers. Participants are current Fredonia students who access the survey through a website link. The purpose of the study is to further the discussion of gendered beliefs and whether they are fixed or context dependent. This poster highlights the researchers' philosophy and methods, as well as the process of designing and conducting the study.

"Networking and Research at USITT 2023"
Presenters: Dylan Janish; Olivia Kaye
Mentor: Czerton Lim

Abstract: We attended the 2023 United States Institute for Theatre Technology national convention, and had the opportunity to network with professionals, research/discover new theatrical technology, and seek out internships/jobs. The three day conference was held in St. Louis, Missouri, and consisted of an incredible expo floor, dozens of panels, talks, hands-on workshops, numerous lab spaces to explore and learn, and sponsored networking events scattered throughout the city. We talked to some of the largest theatrical companies, ranging from huge manufacturers of theatrical lighting equipment and software, to some of the largest producing companies of Broadway touring shows, and everything in between. Overall, the connections we made and experiences we had were invaluable, and the conference certainly contributed to our academic and professional careers as theatrical technicians.

Poster Abstracts

3:00-3:30PM

"How does Body Weight and Song Calling Influence Cricket Aggression"
Presenters: Samuel Wilczynski
Mentor: William Brown

Abstract: Male house crickets, Achetus domesticus, engage in aggressive contests for resources and reproductive opportunities. These contests between males are known to be influenced by body size and the ability to produce an aggression song. The heavier crickets typically win these contests more than the lighter cricket. This aggression song communicates body size as well as dominance status. We aim to assess the relationship between body size and the ability to produce song. In the first stage of our study, we observed how the presence or absence of song influences weight-matched bouts. In the second stage, we observed how the presence or absence of song influences weight-mismatched bouts. Preliminary data from stage one supports literature suggesting that muted crickets fight more intensely and that muted cricket tends to lose in asymmetrical bouts.

"How Might the Campus Bus be Better Utilized?"
Presenters: Sawyer Mohney; Aaron Oliver Mendez; Alon Kremerman
Mentor:Lan Cheng

Abstract: *This project examines the current Fredonia off campus bus route. A survey of Fredonia students illustrated that the current bus route is only useful to about half of the campus community, serving more on-campus students who want to go shopping. We suggest new route options that would serve more off campus students hoping to get to campus. We also analyze the length of the routes and the cost of running them to ensure our routes are both shorter and cheeper to run than the current bus route.*

"The Crosswalk Puzzle - Determining Optimal Crosswalks for SUNY Fredonia"
Presenters: Jay Casey; Vincent Noel Mendez
Mentor: Lan Cheng; I-Fei Chen-Markham

Abstract: Crosswalks help to improve the safety of pedestrians and traffic when their placement is optimized. For campuses, it's important to consider the placement of crosswalks around entrances so pedestrians can safely access it. In this research project, the optimal placement of crosswalks surrounding SUNY Fredonia was considered on Temple St. and Central Ave. The amount of pedestrian traffic, the effect of adding a crosswalk, and the visibility on the street were considered to find the optimal placement of proposed crosswalks

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"Observing the Behavior of Gromphadorhina portentosa in the Presence of the Scent of a Potential Predator"
Presenters: Autumn Maedl
Mentor: Karry Kazial

Abstract: Gromphadorhina portentosa (Madagascar Hissing Cockroaches) have been shown to display several different behaviors, such as freezing or hissing, as an anti-predator response. The freezing behavior (no movement) and the slow behavior (slower than normal movement) were observed in this study. It was shown that in the presence of the filter paper covered in the scent of a predator (mouse) the cockroaches display more of the freeze and less of the slow behavior when compared to the control water covered filter paper.

Poster Abstracts

3:00-3:30PM

"FlightGear Flight Simulator Data Retrieval Program"
Presenters: Amber Carangelo
Mentor: Junaid Zubairi

Abstract: FlightGear is an open source realistic flight simulator that is free to use, modify and distribute. It has the whole world scenery and a variety of plane models. The flight data is generated and stored in data files that can be obtained by interfacing FlightGear with Scilab, an open source software for numerical computation. A Python library called sciscipy also provides an interface with Scilab. In this project, three flights will be conducted from takeoff and landing in chosen airports using FlightGear's models of various commercial and general aviation planes. The data parameters from these flights will be retrieved and exported into a readable file format (such as a .TXT or .CSV). This program can provide opportunities for future modifications, such as in-time data-retrieval of flight parameters, that military defense companies such as Lockheed Martin or Northrop Grumman could use.

“Examining growth patterns of perennial ryegrass in simulated green complexes”
Presenters: Dominik Zimmer
Mentor: Matthew Lanning

Abstract: This project involved the growth and subsequent examination of growth characteristics of perennial ryegrass within different growing mediums within simulated golf green conditions. Characteristics examined included root depth, root density, plant health, etc. The sample was grown in the campus greenhouse under the advisement of Dr. Matt Lanning.

“Spotify and Student Music Preference in the Classroom”
Presenters: Daniel Garcia
Mentor: Jill Reese

Abstract: Modern social media apps, such as Tik Tok and Spotify, are known for their discovery algorithm. The main focus of their discovery algorithms is to find related content to what the user consumes on the app. As a result, integrating Spotify into the classroom, music or general, gives teachers access to student music preferences as well as related content provided by the algorithm. The main objective of this presentation is to outline Spotify, its discovery algorithm, and its uses in the classroom.

“Visualizing Music Preferences: Using Physical Features in Images to Construct Preference Models”
Presenters: Henry Zelenak
Mentor: Ziya Arnavut

Abstract: We present our research on image feature recognition in a consumer-facing product. We propose using a machine-learning (ML) object-detection model that identifies physical features in an image of a person, such as the presence of jewelry and hair color. We utilize the TensorFlow framework alongside TensorFlow’s Keras API to train the ML model to accurately identify and categorize these features, providing usable metric data that can be used to construct a preference model for song preferences or other aspects of one’s personality. The ML model is written and trained in Python and implemented through TensorFlow Lite in Swift for iOS development. The app will provide a simple yet seamless user interface, getting the image from the user and displaying it along with the results of the detected features on the screen.

Poster Abstracts

3:30-4:00PM

"The Identification of Bacteria and Filtration in Honduran Drinking Water"
Presenters: Delanie Tunstall; Isabella Trifilo; Amanda Roth
Mentor: Ted Lee

Abstract: Access to clean drinking water of many developing countries is an issue that impacts many people. This is true of Honduras, an impoverished country that has little access to safe drinking water. Only 50% of the Honduran homes have access to water without Escherichia coli, a bacterium that can have a great impact on the health of children, the elderly and the immunocompromised (Padilla, 2023). The government of Honduras has tried to improve the infrastructure, but there still isn't clean and safe drinking water for all of the country (Padilla, 2023). As a supplemental effort, filters that can be used in homes are becoming more popular. One of the groups behind the filters is an organization called "Filters of Hope". Filters from the Filters of Hope organization have been distributed in many rural communities, however preliminary tests show that the filters are not effective in removing bacteria and other harmful contaminants from the water after a few years use.
Water samples were collected from villages in Honduras from homes with varying levels of filtration systems. The bacteria from the different samples were grown and isolated, so they can be identified. The bacteria will be identified using a gene that is present in all bacteria, the 16S rRNA gene. Each bacteria have their own unique sequence of this gene, enabling researchers to identify the bacterium present. Understanding what organisms are present in the different samples of water allows us to determine the effectiveness of the filters, as well as determining the harmful contents in the drinking water in Honduras.

"Daunting Dentists: An Investigation into Local, WNY and National Annual Dental Visits by Region and Age"
Presenters: Kampbell Howard;
Mentor: Amber Powell

Abstract: How many times have you "forgotten" your dentist appointment? Scarred from a young age or just forgetful? Missing dentist appointments seems to be a common phenomenon which leads to some people going without treatment for long periods of time. In this report, I will visualize the percentage of individuals, amongst children, adults and elderly, who attend their dental visits annually at the local county level, Western New York level, and national level. By comparing all levels through choropleth maps and comparative time series plots we can see how all match up to answer the golden question – do people actually go to the dentist regularly, and if so, does one group or region go more often? The data used was collected from the US Census Bureau and NYS Department of Health.

"Correlation Between Unemployment and Crime"
Presenters: Kale Perry
Mentor: Amber Powell

Abstract: Does higher unemployment lead to higher crime rates? To many people, it might seem logical that the financial strain and the emotional toll of unemployment might lead some individuals to turn to crime. Additionally, there is the well-known adage that 'idle hands are the devil's workshop'. Does having more idle time on your hands due to unemployment create a situation in which some will be more likely to fall into criminal activity? I examined data for 231 metropolitan statistical areas (MSA) to test for correlation between unemployment rates (based on data from the Bureau of Labor Statistics) and violent and property crime rates (based on data from the Federal Bureau of Investigation). I looked for other factors that differentiate those MSAs with higher or lower correlation between unemployment and crime.

Poster Abstracts

3:30-4:00PM

"Cattaraugus Creek Watershed Soil Loss Project"
Presenters: Elizabeth Wightman; Abigail Nordwall
Mentor: Matthew Purtill

Abstract: The Cattaraugus Creek Watershed, located in Western New York, is the largest tributary to Lake Erie. This project has been done in association with the Department of Environment Conservation (DEC) to target areas of soil erosion and potential landslides in the watershed. This information is beneficial for the efforts done by the DEC to maintain quality water and a healthy environment. Soil loss in the Cattaraugus Creek Watershed due to various variables seen below can be a direct link to landslide events as well as poor water supply. Using the Revised Universal Soil Loss Equation and multiple sources of remote sensing data we were able to calculate the sediment yields of each subbasin. Here we provide our initial findings with a plan to continue investigating soil loss and landslides in future years.

"The Dewittville Creek Restoration Monitoring Project: Observations and Results of Year Two"
Presenters: Elizabeth Wightman; Abigail Nordwall
Mentor: Matthew Purtill

Abstract:This is the second year monitoring Dewittville Creek, a tributary off of Chautauqua Lake in western NY. A site of a recent streambank restoration project as part of the New York State Water Quality Improvement Project program. The Dewittville Creek Watershed includes 37.29 km2 of land and this project targeted a reach characterized by heavy erosion. Instream restoration at profile A included a boulder wall structure to protect the embankment and the placement of several spurs to redirect the thalweg. A detailed discussion of the geology of this system and initial findings can be found in Smith et al (2021). Here we are providing updated observations for this project which includes assessment of a new stream profile (C), located further upstream from profile A. Long-term evaluation of stream restoration projects are rare, yet are needed to determine if currently favored designs are effective.

"Mapping Mathematics Mastery: Analyzing Western New York State's Middle School Mathematics Proficiency in Grades 6-8"
Presenters: Matthew Barton;
Mentor: Amber Powell

Abstract: Do you remember those dreaded state mathematics exams in the spring of middle school? The New York State Education Department (NYSED) administers these tests to assess whether or not our students in New York are proficient in mathematics. This project looks deeper into Western New York and its proficiency percentages from 2014-2022 to see trends in these rates for grades 6-8. Analysis was conducted via maps, time series plots, and analysis of variance tests. This analysis has identified that COVID-19 has had a significant impact on these proficiencies.

Poster Abstracts

3:30-4:00PM

"Effect of trait anxiety on class stress varied by class format."
Presenters: Kyle Davis; Jayda Collazo
Mentor: Darrin Rogers

Abstract: Since the 2020 pandemic, many classes have been moved online. This may have caused many students stress that they did not have before the pandemic. We want to investigate how having a class online compared to an in-person class affects stress, as well as how trait anxiety affects this relationship. We will administer an online trait anxiety questionnaire to university students after they are instructed to think about either an in-person class or an online class. The participants will then respond to a measure of stress regarding their course experience. We will analyze the results to see if the effect of trait anxiety on class stress varied by class format.

"A Behavioral study: Measuring Duration Required For Mice To Learn A Morris Water Maze."
Presenters: Mya Caldarelli-Troy; Samuel Bennett; Marcella Colilli; Arin Klein
Mentor: Catherine Creeley

Abstract: The procedural protocol described in this poster uses the standardized morris water maze testing procedure to measure the duration in which mice learn the location of an escape platform. This study uses a sample of 2 female laboratory mice. Once the mice arrived, they went through a one month habituation period where they were able to acclimate to their new environment. They then underwent daily testing where their escape times and number of direct escapes were recorded. Each mouse did 4 trials per day. The mice were consistently presented with a visual cue located directly above the escape path to help assist with their visual spatial learning. The results for this research are pending as the mice are still undergoing trials. The experimental procedure was approved by the SUNY Fredonia Institutional Animal Care and Use Committee and followed appropriate ethical research guidelines for handling mice.

"Role of demographic characteristics in occupational intention
Presenters: Edwin Sabater
Mentor: Michael Clarkson-Hendrix

Abstract: Background: This study examined the demographic student characteristics associated with intentions to work in addiction services in Chautauqua County. Intentions have been shown to predict planned behavior (Ajzen, 1991), including occupational behavior. Methods: This study utilized pre- and post-traineeship survey data from a larger evaluation project for an interprofessional addictions leadership program. The program included social work, human services, and addiction counseling students (n=27). T-tests and correlations were used to analyze characteristics of the participants to identify any significant determinants of occupational intention. Results: A participant's age was a significant predictor of occupational intention. Gender, race, and ethnicity were not significant predictors of occupational intention. Conclusion/Implications: Findings suggest that age matters in occupation intention for the student program participants. It may be that as age increases, people may have more ties to the area, which inclines people to pursue local careers.

Poster Abstracts

3:30-4:00PM

"Role of Social Support in Recent Daily Life Functioning"
Presenters: Cassidy Heinen
Mentor: Michael Clarkson-Hendrix

Abstract: Background\Purpose: Daily life functioning is defined as an individual's ability to deal with everyday problems (SAMHSA, 2021). This study investigated social support's role in recent daily life functioning for treatment-seeking, adult consumers in Chautauqua County. Methods: Consumers were adults who sought mental health treatment services between June 2020 and August 2022 (n=1644). Multiple regression was used to develop a statistically significant model of social support's role in clients' recent daily functioning. Results: Controlling for gender identity, sexual identity, and age, regression results indicate a statistically significant model of recent daily life functioning (F(8,926), p<.001, R2=.374). Social support was statistically significantly associated with recent daily life functioning (b=.569, p=.021). Conclusions\Implications: These results suggest that social support is a significant factor in recent daily life functioning for the target population.

"Did Argentina deserve to win the World Cup?"
Presenters: Pranav Chaturvedi
Mentor: Amber Powell

Abstract: Lionel Messi finally won his long awaited FIFA World Cup trophy to become one of, if not, the greatest soccer player ever to play the game. I could not help but think if they achieved the impossible after losing their opening game. Whether he and Argentina truly deserve to be crowned the best team at the tournament? Whether there were other teams that were better but just 'unlucky'? To answer these questions, I will be looking primarily at the Expected Goals (xG) model and statistically examine the World Cup as well as the quality of the xG model as a predictor and predict how the tournament would have, and perhaps, should have ended based on xG. The data used was collected from fbref.com.