

**19th
Annual**

Student Research & Creativity Exposition

THURSDAY, APRIL 27

12:00 p. m. to 5:00 p.m.

Williams Center

POSTERS

DISPLAYS

PRESENTATIONS

PERFORMANCES

DEMONSTRATIONS

12:00 p.m.

Buffet Lunch, Williams Center, Multipurpose Room

Keynote Address, Williams Center Room 204:

Dr. Courtney Wigdahl-Perry

Assistant Professor Department of Biology

**“A Pebble in the Water: How Undergraduate Research Shaped
My Career as an Aquatic Scientist”**

FREDONIA
STATE UNIVERSITY OF NEW YORK



Fredonia is an institutional member
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Research. Learning through research.

Student Research and Creativity Exposition Committee:

Ziya Arnavut, Computer and Information Sciences
Paul Benson, Sponsored Programs
Jack Croxton, Office of Student Creative Activity and Research
David Kinkela, History
Robyn Reger, School of Business and Assoc. Provost Office
Carol Smith, Communication
Susan Sturm, Curriculum and Instruction
Peter Tucker, Visual Arts and New Media
Ivani Vassoler-Froelich, Politics and International Affairs
Courtney Wigdahl-Perry, Biology

The following individuals and offices are acknowledged for their many contributions:

Teresa Brown, Provost and Vice President for Academic Affairs
Kevin Cloos, Mark Delcamp, and Facilities Services
Michael Gerholdt, ITS
Michael Lemieux and Lisa Noody, Campus Life
Tracy Horth, College of Liberal Arts and Sciences
Justin Jakubowicz, ITS
Donna Lee, Psychology
Teri Wygant, College of Liberal Arts and Sciences
Information Technology Technicians
Faculty Student Association

“Congratulations to the students and mentors whose work is featured in the 2016 Student Research and Creativity Exposition! As you can see from the program and from interactions with the many students



who are involved in today’s program, Fredonia offers opportunities for authentic scholarly and creative work across a range of disciplines, and this year we are featuring work that models community engagement as well. Our campus has the most important resources for accomplishing this kind of work: talented, curious students and faculty with the creativity, expertise, and commitment to guide those students in their projects. Regardless of what’s next after graduation—advanced studies or professional work in their fields—Fredonia students have the research, performance, and presentation skills to succeed.”

Sincerely,

Virginia Horvath, Ph.D.
President

Congratulations to the students and faculty mentors who are participating in the 2016 Research and Creative Activity Exposition. The annual Research and Creative Activity Exposition reflects the university’s commitment to undergraduate research as a high-priority activity for both faculty and students. The National Council of Undergraduate Research has identified several characteristics of excellence in undergraduate research on university campuses, including scholarly faculty who are committed to mentoring students in their field, broad participation from faculty and students across disciplines, accessible opportunities for undergraduates, and integration with other engaging high-impact opportunities such as community engagement. I am very pleased to see Fredonia possesses the essential characteristics of excellence in undergraduate research, scholarship and creative activity. Thank you to the faculty and staff who make these transformative learning experiences possible for our students, and congratulations to our students for their good work on display today.



Sincerely,

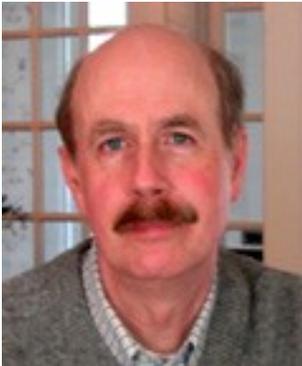
Teresa M. Brown, Ph.D.
Provost and Vice President for Academic Affairs

One of my favorite poets, E.E. Cummings, is quoted as saying “Once we believe in ourselves, we can risk curiosity, wonder, spontaneous delight, or any experience that reveals the human spirit”. The act of creating—creating research, creating art, creating scholarly work—is one of the most highly regarded in any college or university. The time and effort, the engagement, and the commitment that it takes to “create” should be applauded and congratulated.

At the OSCAR Expo, we witness the educational collaboration that has been forged between Fredonia students and faculty, and we are invited to experience, first hand, the human spirit that exists on our campus.

Judith Horowitz, Ph.D.

Associate Provost for Graduate Studies, Sponsored Research, and Faculty Development



“The mission of the Office of Student Research and Creative Activity is to promote and support student scholarly activity and creative work across the Fredonia campus. Such an endeavor is integral to the teaching and learning experience. It provides an opportunity for students to become closely affiliated with a faculty mentor and to develop skills and knowledge that will benefit them significantly in the future. Clearly, both students and faculty gain from such activity, and therefore it is important that the institution make a concerted effort to promote such collaborations.

I am very pleased by the level of participation in this year’s Research and Creative Activity Exposition and I am truly impressed by the quality of our students’ work. They should indeed be proud of their considerable accomplishments. For many of them this is the capstone experience of their academic careers. Furthermore, I would like to commend all of the faculty mentors for the time and energy that they have devoted to supervising these projects. Thanks to everyone who has contributed to this special day of celebration.”

Sincerely,

Jack Croxton, Ph.D.

Director of the Office of Student Creative Activity and Research

“Good projects require both inspiration and practice. You need to have discipline as well as flexibility. In the arts, sciences, and humanities, creative activity and research go hand-in-hand, and this Exposition shows our students’ work at its best.”

Thank you and congratulations to all participants, and to their faculty mentors and to OSCAR for making this possible.

Ralph J. Blasting, Ph.D.
Dean, College of Visual and Performing Arts



*The examples of collaboration between faculty and students and interdisciplinary student teams represented in the Fredonia Student Exposition are perfect illustrations of our baccalaureate goals of students becoming “**Skilled, Connected, Creative, and Responsible**” during their years at Fredonia. We have brought together our best students and faculty to form a true “learning community” that has advanced knowledge in their respective fields, produced extraordinary creative works, and brought the theories and concepts learned in a course alive to solve a problem or advance an idea. Many of these projects and creative efforts demonstrate all four Learning Goals values here at Fredonia.*

These projects, works of art, research reports, experiments, and demonstrations whether created by an individual or a team represent the “best learning outcomes” of our University. Students have the opportunity to work with each other in interdisciplinary teams; with faculty from across the University; with leaders of profit, non-profit and governmental organizations; with students and members of the communities in the region; and experience learning opportunities that involve actively engaging their knowledge.



With the opportunities presented at the Fredonia High Technology Incubator, these projects will include the entrepreneurs at the cutting edge of their fields who will make a contribution to the regional and national economy by making their ideas into tangible products and services for their chosen customer base.

Congratulations to the students, faculty, and organizations that participated in the Student Exposition!”

Russell P. Boisjoly, D.B.A.
Dean, School of Business



“Student research and creative endeavors are a critical component of the intellectual vitality of our university. These activities of critical inquiry are the authentic application of what is learned from textbooks, reference materials, and the classroom. These application projects also provide a rich opportunity for faculty and students to collaborate as active partners in applied scholarship. The Student Research and Creativity Exposition provides our campus learning community with an event to showcase and celebrate the quality of academic engagement of our students. Congratulations to all who have participated in this most excellent event!”

Sincerely,

Christine Givner, Ph.D.
Dean, College of Education

On behalf of the faculty and staff of the College of Liberal Arts & Sciences, I congratulate the students participating in the 19th Annual Student Research and Creativity Exposition. This program contains an impressive list of projects. In many cases, the work represents the culmination of study and/or practice; in others, it is a point along a continuum of development with additional, related projects to come. Regardless of the exact nature of these projects, each highlights hard work, innovation, insight, etc.

This collection of student effort demonstrates the degree to which Fredonia embraces the teacher-scholar model. Here at Fredonia, learning is a collaborative process requiring close interactions between students, faculty, staff, and, quite often, the surrounding community. In fact, the College of Liberal Arts & Sciences prides itself on the creation of a community of scholars where the usual lines of demarcation between teacher and student, campus and community, and art and science are blurred.



J. Andy Karafa, Ph.D.
Dean, College of Liberal Arts and Sciences

Thursday, April 27, 2017
Williams Center
1:00 p.m. to 5:00 p.m.

Most exhibits will be available for viewing throughout the day – students are scheduled to be present to answer questions at the indicated times.

POSTERS AND OTHER PRESENTATIONS

Multi-purpose Room

1:00 p.m. to 1:30 p.m.

Lessons with Potential from Teachers with Potential

Kyle Brown, Kyle Collins, Danielle Dembrow, Sarah Mannion, Katie Miller, Samantha Nickerson, Michelle Persaud, Holly Richardson, Molly Roy, Math-Adolescence Education
(note: this poster project will be on display with no formal presentation)

Terrorism Throughout the World: 2000 – 2015

Nash Delcamp, Mathematics

Designing of Computer Games in Object-Oriented C# Language

Shannon Grajek, Computer Science

Improving Dancer-Doctor Communication

Kerri Williamson, Dance

Effects of NICU drugs on neonatal mouse brain using ImageJ to analyze drug-induced neuroapoptosis

Ian Richardson, Zachary Eklum, Biology

Cleft Lip and Palate

Hannah Koellner, Communication Disorders and Sciences

Fanny Fern, A Legacy Still Living

Madeleine Floccare, History

The Shape of an IRES

Cory Emborski, Allison Martin, Biochemistry

Perturbing KIF9 expression levels leads to disruptions in normal cell cycle progression

Arielys Mendoza, Physics

Analysis of gurken Internal Ribosome Entry Site Secondary Structure Through Differential SHAPE

Kevin Aumiller, Connor Dolce, Molecular Genetics

1-Methyl-7-Nitroisatoic Anhydride Synthesis and gurken mRNA by SHAPE Chemistry Analysis
Megan Mac Intyre, Jacquelyn Law, Biochemistry

Engagement Matrix
Kara Hall, Psychology

HOPE Coalition
Abigail Amering, Psychology

NMR structure of the rCAG repeat associated with Huntington 's disease
Damian Van Etten, Molecular Genetics

Inhibiting Multipolar Cell Division through the Coalescence of Supernumerary Centrosomes
Mam Deng, Maria Quintero, Molecular Genetics

1:30 p.m. to 2:00 p.m.

Mind Wandering Study
Felicia Ostrowski, Mackenzie Hardy, Kyle Natwora, Ryan Upton, Psychology

When does a person become an adult?
Samantha Scalise, Psychology

Wellness Promotion
Alyssa Karb Stolfo, Biology

FredASSIST Internship
Lacey Dickerson, Interdisciplinary Studies-Exercise Science

Alpha Lambda Delta Honor Society
Charlotte Passero, Brittany Ferger, Accounting

Therapy Resources Discovery- Children with Special Healthcare Needs- DHHS
Caitlin Hackett, Interdisciplinary Studiess-Exercise Science

A content analysis of online pregnancy message boards of psychotropic medication used during pregnancy
Brianna Stavola, Kara Hall, Sociology

Modern Day Slavery Through Sex Trafficking
Jenny Ewing, Psychology

Triggers of Decline in Older Adults
Kara Hall, Psychology

Volunteer and Community Services: Relay for Life of Fredonia
Alyssa Marsh, Taylor Chwalinski, Danielle Romanini, Early Childhood - English

Genetic Characterization of a Microbial Biofilm in Candaway Creek
Zachary Bunge, Kevin Nickerson, Molecular Genetics

Sexual Objectification of Women: Encouraging Freedom of Expression

Sarah Anna, Psychology

Volunteering in our Community – InterVarsity Christian Fellowship Thirsty?

Kathryn Pilgrim, Michael Slilaty, Nicholas Hlifka, Holly Lang, Julia Levelle, Kathleen Fenton, Sandrene Hamilton, Brooke Shields, Hannah Kuhnke, Victoria Hendrix, Taras Logvis, Nineth Diaz, Emily Fackelman, Megan Brunner, Melanie Lora

2:00 p.m. to 2:30 p.m.

Effect of lithium exposure on development and behavior using a mouse model of late-gestational exposure

Matthew Bussman, Robert Cooper, Patricia Whetstone, Lillian Dixon, Molecular Genetics

Synthesis, Characterization and carCrystal Structure of 1-methyl-4-[2-(4-hydroxyphenyl)ethenyl]pyridinium iodide

Kathleen Hayes, Jack Choczynski, Emily Lasher, Joshua Deschner, Calvin Wong, Ralph Crisci, Chemistry

Language Recovery Patterns in Multilingual Speakers after Brain Damage

Connor Bell, Communication Disorders and Sciences

Creating Healthy Corner Stores

Kelly Caner, English

Baby Names Over Time

Leah Moretta, Business Admin - Marketing

Beyond He and She: An Overview of Gender-Neutral Pronouns

Samantha Scalise, Psychology

TLC Health Network Patient Portal

Brianna Stavola, Sociology

How Experiential Learning Impacts Success after Graduation

Diana Barva, Business Admin - Marketing

Trailways

Matthew Allan, History

Diatom Fossil Records at Lower Cassadaga Lake, NY

Simona Lukasik, Interdisciplinary Studies - Environmental Sciences

Improving Health Around Campus

Colleen White, Psychology

Cars Fuel Efficiency

Claire Sanner, Business Administration - Management

Classic Meiotic Mapping Meets Illumina Sequencing to Identify New Regulators of gurken Translation

Alexandria Mandriota, Elias Jacobs, Molecular Genetics

Structure-Function Analysis of gurken IRES Activity

Anthony Tardibuono, Joshua Blundon, Brian Guy, Biology

2:30 p.m. to 3:00 p.m.

: Dynactin's p24 subunit is critical for microtubule organization and normal cell cycle progression

Alexander Dimitri, Molecular Genetics

Aesthetic

Stephanie Pierre-Jacques, Music Therapy

Investigation of insect species for bat-insect acoustic interactions research

Kelsey Lowery, Sara Madison, Biology

Facilitating Verbal Speech in Children with Autism using Augmentative and Alternative Communication

Marissa Magro, Communication Disorders and Sciences

Conservation of Scenic Resources in Chautauqua County, New York

Kelsea Rogers, Simona Lukasik, Geology

The Effects of Micro-plastics on Zooplanton

Heather Barrett, Biology

Limnology and Phytoplankton Community Structure of Bear Lake (Chautauqua County, NY)

Jennifer Wasielewski, Biology

Inventory of the Vascular Flora of the Bentonitew Clay Site

Adrianna Stennett, Biology

Implementing growth mindset practices in college-level physics classrooms

Sydney Sweet, Physics

Effects of lithium on behavior and reproduction in the adult female mouse

Robert Cooper, Kara Hall, Brianna Stavola, Patricia Whetstone, Matthew Busmann, Lillian Dixon, Psychology

Making Sound You Can See: Visualization of Audio Source Separation & Instrument Detection

Daniel Luong, Corbin Dzimian, Samuel McCagg, Computer Science

Chadwick Brewing Co.: A Business Case Study

Kayla Schum, Joel Carpenter, Claire Sanner, Communication-Video Production

3:00 p.m. to 3:30 p.m.

Fredonia Enactus 2017 Competition

Marianne Faivre, Alison Stiglmeier, Business Administration - Finance

The Power and Promise of Student Choice

Katherine Szwejbka, English

Preventing Substance Abuse Issues in Chautauqua County Through The Implementation of Botvin LifeSkills Training

Patricia Whetstone, Psychology

Monitoring Long Term Tree Disease, Climate Change, and Woody Debris

Samantha Fleming, Biology

City of Dunkirk Fire Hydrant Coverage

Emily Wilkinson, Matthew Zerkle, Geology

Replication of "A Bad Taste in the Mouth: Gustatory Disgust Influences Moral Judgment"

Alexis Bozza, Colleen White, Courtney Burris, Allysa Gullo, Psychology

Health Messaging: Cardiovascular Disease Prevention In Chautauqua County

Marie Scime, Communication - Public Relations

Model EU Simulation

Joseph Weglarski, Shawn Sprankle, Nicholas Nocek, Zachary Polo, Robert Towse, Paul Christidis, Criminal Justice

Outside Fringeland: Talking Walls, City Wolves, and the Human Billboard

Christopher Perry, Visual Arts and New Media

Attribution of Blame as a Function of Consequences, External Circumstances, and Alcohol Consumption

Ariel Gelfand, Meghan Flynn, Connor Mauche, Psychology

We are FRE(E)D

Shannon Bentley, Lisa Rittlemann, Autumn Fitzpatrick, Maria Johnson, Katie Dugos, Lauren Wentland, Melissa Neuburger, Interdisciplinary Studies – Arts Administration

Implementation of Huffman Coding Tree Using Linked Lists

Tuna Temiz

3:30 p.m. to 4:00 p.m.

Police-Inflicted Civilian Deaths

Ellia Brunacini, Applied Mathematics

Research Internship

Kimberly Sacheli, Christian Lozach, Communication - Public Relations

Effectiveness of U.S. Sexual Health Education

Marianne Faivre, Business Administration – Finance

Training for Campus Clubs on Applied Learning

Patrick Toscano, Business Administration - Management

The Health Hut and HPV

Morganne Madonia, Psychology

Lydia Avery Coonley-Ward

Susan Kehl, Visual Arts and New Media

“Framed”: The Shifting Aesthetic Style and Status of Graffiti Writing

Katelyn Killoran, Sarah Reimer, Ryan Alonge, Brittany Sambrook, Madeline Friedler, Visual Arts and New Media: Graph Design

Artifacts in Surveying Affective Forecasting

Leanne Hofstead, Psychology

Public Health Internship Abstract

Katherine Davison, Social Work

Patient On-Site Surveys with TLC Health Network

Emily Dillenburg, Medical Technology

Statistical Analysis of Depression and its Relationship with Certain Lifestyle, Behavioral, and Physiological Factors

Robert Cooper, Psychology

New York City Oil and Gas Well Data

Emily Wilkinson, Geology

Effects of Chinese Pop Music Selection on Students' Music Familiarity and Preference for Its Traditional Version

Yunshu Tan, Music Education

4:00 p.m. to 4:30 p.m.

The Efficacy of Video-Based Learning in the Common Core Algebra Classroom

Elyssa Adams, Mathematics 7-12

Feared Fractions and Dreaded Decimals: College Students' Preferences Between Fractions and Decimals

Danielle Czerwinski, Mathematics 7-12

Sig Fig and Scientific Notation Confusion: Misconceptions Regarding Significant Figures and Scientific Notation

Nicole Sottilaro, Mathematics 7-12

Delta Chi Engaging in our Community

Naaman Azad, Nakib Kabir, Business Administration - Marketing

Wordless Picture Books: Planned Intervention for Parents and Preschoolers

Morganne Madonia, Psychology

Analysis of different metal species found in tap water at SUNY Fredonia

Jack Choczynski, Chemistry

Educating the Public: Monthly Wellness Promotion

Gianna Sheck, Communication - Media Management

Public health in a public school

Danielle Lesefske, Psychology

The Utilization of Sport Psychologists in the NFL

Matthew Linderman, Ryan Richter, Kyle Natwora, Psychology

Bisexual Specific Microaggressions

Elayna Kinney, Psychology

Algae community response to nutrient enrichment at Chautauqua Lake, NY.

Sarah Busch, Biology

Anti-Rape Cloak Rhetorical Analysis

Kayla Newland, Business Administration - Management

Gait Analysis

Stephen Tuszno, Interdisciplinary Studies-Exercise Science

4:30 p.m. to 5:00 p.m.

A Study of the Effectiveness of Teaching Constructions Using Straightedge and Compass Versus Using Technology

Jacob Brostrom, Mathematics 7-12

New Arts Organization on Campus Sees Opportunity for Development

Angela Wheeler, Acting

QGIS advances planning and building public works in Dunkirk, NY

Emily Wilkinson, Matthew Zerkle, Geology

A Rhetorical Analysis: You have Body Issues

Gianna Sheck, Communication - Media Management

Public Health Needs on Fredonia's Campus

Victoria Howell, Interdisciplinary Studies - International Studies

Social Networking and Self-Presentation

Connor Mauche, Matthew Evans, Alberto Gonzalez, Psychology

Jazz it Up

Kyle Licht, Communication-Video Production

ORAL PRESENTATIONS

1:00 p.m. to 1:20 p.m.

Room G103A

Ex Humana: How technology is changing what it means to be human

Justin Barnard, English

Room G103 C

Off the Rails: Study for Conlon Nancarrow

John Secunde, Music Composition

1:30 p.m. to 1:50 p.m.

Room G103C

Mathematical Group Theory and Triadic Harmony

Rachel Schank, Mathematics

2:30 p.m. to 3:30 p.m.

Room G103C

Belief in performative bisexuality and sexual aggression toward bisexual women

Ariel Gelfand, Elayna Kinney, Psychology

Unknowability and otherness in potential sexual partners in the LGBTQ+ community

Ernesto Mercado Irizarry, Interdisciplinary Studiess -Women & Gender

Effects of gender and sexual orientation on sense of being understood by one's romantic/sexual target group

Jaqlyn Colangelo, Sapphire Jones, Dance

Perceptions of services for intimate partner violence in the LGBTQ+ community

Taylor Kozuch, Brooke Park, Morganne Madonia, Psychology

3:00 p.m. to 3:20 p.m.

Room G103A

Predicting Physical Activity from NHANES Data

Rachel Schank, Mathematics

Room G103B

Investigation of the Relationship Between Visible Light Absorbance and Temperature

Mame Seck, Chemistry

3:30 p.m. to 3:50 p.m.

Room G103A

Gabriel's Horn, Centers of Mass, and Higher Dimensions
Sarah Chamberlain, Applied Mathematics

4:00 p.m. to 4:20 p.m.

Room G103 C

Discovering Parallels Between Euclidean Constructions and Origami Constructions
Michelle Persaud, Math - Adolescence Education

4:30 p.m. to 4:50 p.m.

Room G103 C

Deforestation of the Rainforest
Alicia Mehlenbacher, Interdisciplinary Studies - International Studies

Room G103 A

Adams, Brontë, Child and Stowe: Separate Spheres and Female Literary History
Yue Wang, English - Adolescence Education

VOLUNTEER AND COMMUNITY SERVICES PRESENTATIONS

The Volunteer and Community Services Program is a part of campus life which provides volunteer opportunities for students to help build sustainable and meaningful partnerships in the community. This program assists students with real world experience while enriching the lives of others and enhancing their academic experience. In addition, the office provides advisement and resources to faculty and staff. The program is dedicated to promoting volunteerism and service learning experiences in and outside the classroom. Students will showcase their volunteer and community service projects/experiences on posters or slideshow demonstration of pictures.

Volunteer and Community Services: Relay for Life of Fredonia

Alyssa Marsh, Taylor Chwalinski, Danielle Romanini, Early Childhood - English

Volunteering in our Community – InterVarsity Christian Fellowship Thirsty?

Kathryn Pilgrim, Michael Slilaty, Nicholas Hlifka, Holly Lang, Julia Levelle, Kathleen Fenton, Sandrene Hamilton, Brooke Shields, Hannah Kuhnke, Victoria Hendrix, Taras Logvis, Nineth Diaz, Emily Fackelman, Megan Brunner, Melanie Lora

Delta Chi Engaging in our Community

Naaman Azad, Nakib Kabir, Business Administration - Marketing

PERFORMANCES

Merrins Dance Theatre, 258 Rockefeller Arts Center

3:30 p.m.

The Space Between Doesn't Exist

Choreographer: Paula J. Peters, Assistant Professor, Department of Theatre & Dance

Dancers: Teresa Grosvenor, Jasmine Joyner, Ilana Lieberman, Jasmine Mattar, Nicole Miller, Kati Sherry, Mercedes Smith, Lauren Supples

Understudies: Samantha Mazzalunga, Julianna Millen, Sabrina Sleiman

Synthesis

Choreographer: Ilana Lieberman, BFA Dance Senior

Dancers: Jacquelyne Ambrosio, Lauren Dewey-Wright, Emily Fox, Vanessa Raffaele, Hannah Wagner

REMARKS

Room S2014ABC

12:00 p.m.

Dr. Virginia Horvath, President

Dr. Teresa Brown, Provost and Vice President for Academic Affairs

Dr. Jack Croxton, Director of the Office of Student Creative Activity and Research

KEYNOTE SPEAKER

Room S204ABC

12:15 p.m.

Dr. Courtney R. Wigdahl-Perry

A Pebble in the Water: How Undergraduate Research Shaped My Career as an Aquatic Scientist.

Dr. Courtney R. Wigdahl-Perry is an assistant professor in the Biology Department at the State University of New York at Fredonia. Dr. Wigdahl-Perry attended the University of Wisconsin – La Crosse for her bachelor's degree in Biology - Environmental Science Concentration and her

Master's degree in Biology – Aquatic Science Concentration. She earned her doctorate from the University of Maine in Ecology and Environmental Science in 2012. Dr. Wigdahl-Perry's research focuses on understanding how environmental change influences microscopic organisms that live in lakes, including different aspects of plankton ecology and lake response to climate change and human influences. Her research lab uses a combination of contemporary ecological and paleoecological approaches to pursue these questions in local lakes and other sites around the world.

ABSTRACTS

The Efficacy of Video-Based Learning in the Common Core Algebra Classroom

Elyssa Adams, Mathematics 7-12

Mentor: Howard, Keary J.

This research examines the effects of video based learning in comparison to traditional classroom instruction. Specifically, it explores the use of the online application Edpuzzle to implement a "flipped classroom" and compares student growth and engagement in comparison to those receiving traditional instruction. It is hypothesized that Common Core Algebra I students receiving instruction through a flipped classroom using Edpuzzle will demonstrate more growth in content knowledge than their peers receiving traditional instruction. Furthermore, it is also hypothesized that students will prefer to receive instruction via Edpuzzle opposed to traditional instruction.

Poster Presentation 4-4:30

Trailways

Matthew Allan, History

Mentor: Smith, Roslin Ann

A short poetic documentary that details the hike from the beginning of a trail to a small lean to cabin in the woods. The video will show elements of the forest, big and small, in the attempt to put the audience in a position to feel like they are taking the journey as well. Taking time to observe all the parts of a small wooded ecosystem.

Poster Presentation 2:00-2:30

HOPE Coalition

Abigail Amering, Psychology

Mentor: Lyon, Melissa C.

National prevention week is from May 15-21 and highlights multiple prevention topics such as suicide prevention, opioid abuse, and the prevention of youth using tobacco. Each year CASAC looks for new ways to raise awareness not only about the topics during prevention week, but also to educate and inform the public on how they can make a difference in their community's health. The internship project was to create multiple posts to put on CASACs media pages to increase awareness. The effect of these media posts can be measured through the amount of views as well as attendance for webinars and

prevention week events. The videos contain pictures, statistics, trivia questions, and resources which allow the community to get the help they need. Through my research I have concluded that while children make their own decisions, the adults in their life are important role models capable of eliciting change.

Poster Presentation 1-1:30

Sexual Objectification of Women: Encouraging Freedom of Expression

Sarah Anna, Psychology

Mentor: Zevenbergen, Andrea A.

Many women express concern about how they are perceived due to their appearance. Studies show women believe they are judged based on their makeup and clothing choices which may contribute to people's perceptions of their morality, authenticity, marital status, parental status and/or social class. Male-dominated American society has contributed to women being viewed as sexual objects and dehumanized. However, there have been many organized movements in favor of women encouraging free and safe expression of the self in the choice of makeup, clothing and style.

Poster Presentation 1:30-2

Analysis of gurken Internal Ribosome Entry Site Secondary Structure Through Differential SHAPE

Kevin Aumiller, Connor Dolce, Molecular Genetics

Mentor: Fountain, Matthew A.

SHAPE is a chemical probing technique used to identify the secondary structures of RNA molecules. The process utilizes small hydroxyl-selective electrophiles to measure the reactivity of the ribose 2' - hydroxyl group through the formation of chemical adducts. The proposed structure studied in this lab is an IRES located in the 5' untranslated region upstream from the start codon on the mature mRNA coding for the gurken gene in *Drosophila melanogaster*. Differential SHAPE utilizes three reagents: 1- methyl-7-nitroisatoic anhydride, 1-methyl-6-nitroisatoic anhydride, and N-methylisatoic anhydride, each with different reactivities. The chemical adducts can be quantified through reverse transcriptase- mediated primer extension. Fluorescence tagged cDNA fragments of a specific size are represented as capillary electrophoresis peaks, with the height of the peaks corresponding to a termination frequency. The QuSHAPE program was used to generate reactivity profiles for the three reagents and RNAstructure was used to predict overall structure.

Poster Presentation 1-1:30

Student Research and Activity Proposal 2017: The Delta Chi Fraternity

Naaman Azad, Nakib Kabir, Business Admin - Marketing

Mentor: Smith, Joyce H.

As a member of the Delta Chi Fraternity – Fredonia Chapter, it has always been made abundantly clear to me that serving our neighboring communities is a priority. Our fraternity prides ourselves on our character, and working with Joyce Smith over the last few semesters has allowed us to successfully serve the Fredonia and Dunkirk areas. Over my tenure with Delta Chi, we've participated at events like the Fall Sweep and Fredonia Open Houses. We've also spent time at the Friendly Kitchen and the Boys and Girls Club, both in Dunkirk. In the future, we hope to expand our relationships with these places, as well as

branch out to other places like the Salvation Army. This semester we've participated in Open Houses and Slush rush. Also we will be volunteering at Accepted Students Reception, Relay for Life, and the Spring Concert.

Poster Presentation 3:30-4

Ex Humana: How technology is changing what it means to be human

Justin Barnard, English

Mentor: Simon, Bruce Neal and McVicker, Jeanette

How will artificial intelligence alter the meaning of life? What will the colonization of Mars mean to humanity? Through the lens of cyborg and posthumanist theories and an examination of dystopian and science fiction, I will analyze these and other existential questions posed by technology. These technologies emphasize the extent to which life has—and continues to—become increasingly mediated. Fiction acts as a hypothetical portent to the outcomes of our decisions. Works I will cite include Alanya to Alanya, Oryx and Crake, and Neuromancer.

I will describe the role the humanities should play in the ethical and moral questions posed by these advances. Given their real-life implications, implementation should not be the duty of scientists and engineers alone to navigate. The role of navigating the aesthetics and ethics of technology should, I argue, include an interdisciplinary collaboration of philosophers, humanitarians, and the public as well.

Oral Presentation 1-1:30

The Effects of Micro-plastics on Zooplankton

Heather Barrett, Biology

Mentor: Wigdahl-Perry, Courtney Robin and Mason, Sherri

Concern over plastic pollution has been growing over the last ten years, particularly with respect to micro-plastics. Although the consumption of micro-plastics has been well documented, little is known on how their presence might affect the behavior of zooplankton. Zooplankton are microscopic organisms that feed on algae, common in lakes around the world, and are a major food source for fish. As filter feeders, they sift through the water column for algal cells where they could possibly be ingesting micro-plastics. As a main source of food for fish, this could be another vector for plastics to enter the food chain and reducing the amount of transferred energy through trophic levels. This presentation will discuss and on-going feeding study aimed at understanding the potential impact of micro-plastics on Great Lakes zooplankton communities.

Poster Presentation 2:30-3

How Experiential Learning Impacts Success after Graduation

Diana Barva, Business Admin - Marketing

Mentor: McNamara, Susan

Alongside my business professor, Dr. Susan McNamara, and leadership faculty, we are analyzing over 150 students on how they define success. These responses will be used to identify which aspects of the classes are more impactful and the amount of skills/knowledge that is gained as a result. Content analysis is being used to analyze the open-ended questions. We have established inter-rater reliability

on the first of our themes- “How to define success”. The leading definition of success, at a 44% occurrence rate, defines success as having a job that is enjoyed. Our presentation will report on this and other data including which aspects of experiential learning are most impactful and if there are differences in what is learned in classes vs. a structured club.

Poster Presentation 2-2:30

Language Recovery Patterns in Multilingual Speakers after Brain Damage

Connor Bell, Comm. Disorders and Sciences

Mentor: Kadyamusuma, McLoddy Rutendo

Roughly two thirds of the world’s population speaks more than one language, a phenomenon known as multilingualism. A multilingual individual can communicate in two or more languages. A balanced multilingual learns, maintains, and uses these languages equally in daily life. A multilingual communicator who maintains and uses one language more than the others is known to have language dominance. The acquisition and use of multiple languages results in different language organization patterns in the brain. This means that a brain injury in multilingual speakers may result in selective damage to a specific language or languages while sparing others. This study examined the effect of brain damage on one or more languages known by multilingual speakers and several different kinds of language recovery patterns. This study also explores how different language recovery patterns provide us with a window to postulate how languages are organized in the brain of multilingual speakers.

Poster Presentation 2-2:30

We are FRE(E)D

Shannon Bentley, Autumn Fitzpatrick, Maria Johnson, Katie Dugos, Lauren Wentland, Melissa Neuburger, Interdis Stds - Arts Admin

Mentor: Rittelmann, Lisa L.

This graffiti/street-art inspired project is designed to provide survivors of sexual violence an opportunity to reclaim their voices and transform the spaces in which the assault occurred. We hope survivors who’ve experienced sexual assault, etc. will feel freed from painful memories, united with each other, and newly empowered. They will be encouraged to share the location of the incident in which they were involved to mark that area with chalk outlines of their bodies Team members will work with volunteer participants to design a personalized graffiti “tag” to be placed next to the outline to reclaim the space. In the current political climate, our team is concerned that sexual violence is perhaps becoming more normalized by the administration and thus, more acceptable. Our project could initiate a more focused campus and community discourse about the prevention, impact, and fair judicial resolution of incidents of sexual violence at Fredonia and nation-wide.

Other Presentation 3 - 3:30

Replication of "A Bad Taste in the Mouth: Gustatory Disgust Influences Moral Judgment"

Alexis Bozza, Colleen White, Courtney Burris, Allysa Gullo, Psychology BS

Mentor: McFall, Joseph P.

Moral judgement is an action that most individuals perform on an everyday basis. Previous research has argued that emotions serve as the basis for moral development and moral judgment (Blair, 1995; Turiel & Killen, 2010; Haidt, 2001; Prinz, 2007). The link between moral judgement and physical disgust was supported by the research conducted by Huebner, Dwyer, & Hauser (2009). We are involved in a replication study that previously investigated gustatory disgust and its influence on moral judgment (Eskine, Kacirik, & Prinz, 2011). Based on this previous study, we wish to determine if mood and dietary preference also play a role in making moral judgments. Having research on the connection between gustation and moral judgment may be beneficial to many situations, such as a jury in a courtroom eating certain foods before deliberating a verdict (Eskine, Kacirik, & Prinz, 2011).

Poster Presentation 3-3:30

A Study of the Effectiveness of Teaching Constructions Using Straightedge and Compass Versus Using Technology

Jacob Brostrom, Mathematics 7-12

Mentor: Howard, Keary J.

This research investigates two different approaches to the teaching and learning of basic geometric constructions, namely straightedge and compass, and by use of technology. It is hypothesized that students will perform better when performing constructions using technology than when performing them by hand. Specifically, students who are able to use technology will have significantly higher scores than those who simply use a straightedge and compass.

Poster Presentation 4:30-5

Lessons with Potential from Teachers with Potential

Kyle Brown, Kyle Collins, Danielle Dembrow, Sarah Mannion, Katie Miller, Samantha Nickerson, Michelle Persaud, Holly Richardson, Molly Roy

Mentor: Keary Howard

From fractions to calculus (and plenty in between) plan to ‘steal’ a variety of take-home projects and activities from Fredonia mathematics education seniors presenting their lesson study research at the Association of Mathematics Teachers of New York State annual conference.

Police-Inflicted Civilian Deaths

Ellia Brunacini, Applied Mathematics

Mentor: Boynton, Nancy

In the past few years, more attention has been drawn to the issue of civilians being killed by police officers and other law enforcement in the United States. Speculation that these deaths are a result of racial or ethnical biases has risen.

The purpose of this study is to examine the relationships between police-inflicted civilian deaths and the demographics of the deceased. The data, collected via Kaggle.com, includes police-related fatalities in the United States in 2015 and 2016. Factors to be considered include age, gender, race/ethnicity, and geographic location of the civilians. Also considered will be whether or not the deceased are armed, and

if so, what they are armed with, and the nature of their death, including gunshot, taser, death by being struck by a police vehicle, and death in police custody. Self-inflicted deaths will not be considered.

Poster Presentation 3:30-4

Algae community response to nutrient enrichment at Chautauqua Lake, NY.

Sarah Busch, Biology

Mentor: Wigdahl-Perry, Courtney Robin

Recently, Chautauqua Lake (NY) has been experiencing increases in the frequency of algae blooms during the summer. These blooms reduce water quality, pose public health risks, and affect the tourism industry. In order to better understand these blooms, we tested algae community changes under different nutrient additions in June 2016. We amended whole lake water from the North Basin of Chautauqua Lake for the treatments: control (C, no nutrients added), nitrogen (N) as nitrate + ammonium, phosphorus (P) as phosphate, and nitrogen plus phosphorus (N+P). Bulk chlorophyll indicate that algae responded most to the N+P, with response also to the N. It was observed that diatoms had the highest response to the nutrients. These data suggest that the algae are co-limited by both nutrients in the early season, with nitrogen playing a more important role than phosphorus. We plan to share this information with stakeholders around Chautauqua Lake to help with the development of management strategies.

Poster Presentation 4-4:30

Genetic Characterization of a Microbial Biofilm in Canadaway Creek

Zachary Bunge, Kevin Nickerson, Molecular Genetics

Mentor: Lee, W. Theodore

Biofilms are common, naturally occurring communities of microorganisms that can be found in a variety of diverse environments from thermal springs in Yellowstone National Park to Canadaway Creek in Fredonia New York. Previous work has suggested that bacteria present in the Canadaway Creek biofilms have a crucial role in the cycling of iron and other associated elements. Genomic DNA was isolated from the biofilms in the Canadaway Creek so that a molecular approach could be used to identify what bacteria are present. Using the Polymerase Chain Reaction (PCR), the 16S ribosomal RNA gene sequences were amplified. The amplified 16S rRNA genes were cloned into a plasmid vector and recombinant plasmids were isolated and characterized. Selected 16S rRNA genes will be sequenced to determine what organisms are present in the forming biofilms.

Poster Presentation 1:30-2

Effect of lithium exposure on development and behavior using a mouse model of late-gestational exposure

Matthew Bussmann, Robert Cooper, Patricia Whetstone, Lillian Dixon, Molecular Genetics

Mentor: Creeley, Catherine Elizabeth

Lithium is a commonly used drug treatment for bipolar disorder. Pregnant women with bipolar disorder must choose whether to remain on lithium during pregnancy. Because lithium is a known 1st trimester teratogen, women may refrain from taking lithium until later in pregnancy. Previous research shows that fetal exposure to lithium, especially during the brain growth spurt period, has the potential to affect

neurodevelopment and to cause long-term behavioral effects. We used a neonatal mouse model to investigate the effects of third trimester exposure to lithium. Mouse pups were randomly assigned to receive saline or a lithium (3 mEq/kg) injection from P4-P7. Measures of body weight, righting reflex, walking initiation, and rotarod were used, as well as the Morris water maze for cognitive performance. Results show that neonatal exposure to lithium had no significant impact on normal growth and development, and did not cause long-term learning and memory impairment.

Poster Presentation 2-2:30

Creating Healthy Corner Stores

Kelly Caner, English

Mentor: Lyon, Melissa C.

The Chautauqua County Health Network created an initiative to provide communities known as “food deserts” with a variety of nutritious options at local stores. This internship focused on proposal writing that is involved when presenting business owners with the initiative. As an English major, creating concise and accurate proposals was an important. The internship lead me create a proposal to the “C-Store” to hold a weekend event where healthier products were cut up and given as samples for students. Pamphlets on nutrition and the benefits of consuming nutritious items were provided. The outcome is to have a community of college students aware of the foods that they are putting into their body and the store will see an increase in sales for the healthier products. There will be an increase in education on diet and provide resources on having a healthy diet.

Poster Presentation 2-2:30

Gabriel's Horn, Centers of Mass, and Higher Dimensions

Sarah Chamberlain, Applied Mathematics

Mentor: Rogers, Robert R.

Gabriel's Horn is one of the most fascinating concepts that arise in Calculus. Imagine the concept of a horn infinitely long, which contains finite amount of paint, but cannot be painted. Conceived by Evangelista Torricelli in 1644, its counterintuitive appeal was immediate and lasts even in modern calculus books. What about its center of mass? We will examine this issue as well as extending these results to ordinary horns, other “horn-like” objects, and 4 dimensional horns.

Oral Presentation 3:30-4

Analysis of different metal species found in tap water at SUNY Fredonia

Jack Choczynski, Chemistry

Mentor: Milligan, Michael S.

Water samples were collected from around the campus at SUNY Fredonia from taps and drinking fountains to have their contents analyzed by Inductively Coupled Plasma – Optical Emission Spectroscopy (ICP-OES). ICP-OES is an instrumental technique that is effective in identifying and quantifying trace levels of many elements in aqueous solution. Older buildings like Gregory Hall and Thompson Hall were targeted, but other buildings' water sources were not excluded. Nonmetals such as sulfur and phosphorus were also detected as well as some metalloids. A majority of the detected elements had similar concentrations between different sources; while iron, phosphorous, and zinc were

detected only in some samples. Many samples from the Science Center showed a much higher copper concentration; one sample detected copper in one part per million (ppm), while the EPA Maximum Contamination Level (MCL) is 1.3 ppm. Lead was not detected in any of the samples.

Poster Presentation 4:00-4:30

Effects of gender and sexual orientation on sense of being understood by one's romantic/sexual target group

Jaqlun Colangelo, Sapphire Jones, Dance

Mentor: Darrin Rogers

Belief in the fundamental unknowability of people in one's romantic/sexual target group may be related to important aspects of both heterosexual/cisgender and LGBTQ+ relationships. Unexplored is the question of how perceptions of being understood by one's target group might affect one's approach to romantic/sexual relationships. In romantic relationships, individuals spend significant effort in impression management. It is reasonable to hypothesize that one's sense of their perception in general and how well one is understood by potential partners, may be an important element in relationships; furthermore, this sense may vary by one's sex and/or sexual orientation.

This question will be explored with qualitative analysis of interviews from approximately 30 adults, including both LGBTQ+ and non-LGBTQ+ participants. Data analysis will be according to principles of Grounded Theory; patterns/themes in responses will be identified and discussed.

Oral Presentation 2:30 – 3:30

Statistical Analysis of Depression and its Relationship with Certain Lifestyle, Behavioral, and Physiological Factors

Robert Cooper, Psychology

Mentor: Boynton, Nancy

While over the years the relationship between depression and certain factors have been studied, it is still a mystery how depression develops in certain individuals and not others. This particular study uses survey information provided by the National Health and Nutrition Examination Study (NHANES) to compare depression levels of 20,293 surveyed individuals with various factors. It was hypothesized that certain physiological, lifestyle, and behavioral variables have a strong relationship to depression levels among everyday civilians. It is important to understand the relationship between depression and everyday actions, especially if research psychologists are going to find better and more accurate ways to diagnose and treat clinical depression.

Poster Presentation 3:30-4

Effects of lithium on behavior and reproduction in the adult female mouse

Robert Cooper, Kara Hall, Brianna Stavola, Patricia Whetstone, Matthew Busmann, Lillian Dixon, Psychology

Mentor: Creeley, Catherine Elizabeth

Previous research indicates that lithium can inhibit normal neuronal apoptotic function within the developing rodent brain. Female Swiss-Webster mice were fed either 3% Lithium (Li) chow or a control

chow from the same brand (Teklad). The Li-treated and control females were paired nightly (12h) with breeder male mice every day for 8 weeks. This breeding protocol resulted in no pregnancies in the Li group, and one litter in the control group. Following parturition, we investigated the effects of the Li exposure. Between the two groups, motor coordination and fatigue resistance, cognitive performance, and social behavior were tested. Maternal reproductive behaviors were noted and observed. It was hypothesized that lithium chow intake would result in poor motor coordination, cognitive impairment, and abnormal social behavior. Results show that lithium intake did not negatively affect motor function, cognitive performance, or social behavior, but it is possible that lithium intake may have caused infertility.

Poster Presentation 2:30-3

Feared Fractions and Dreaded Decimals: College Students' Preferences Between Fractions and Decimals

Danielle Czerwinski, Mathematics 7-12

Mentor: Howard, Keary J.

This research explores student understanding when solving routine fraction and decimal arithmetic problems. Specifically, it searches to unveil the misconceptions students have with both fractions and decimals, and if there lies a preference between the two when computing a solution both mentally, and on paper. It is hypothesized that non major college mathematics students are likely to prefer fractions over decimals when given a routine problem involving fraction arithmetic. Additionally, students will prefer using decimals when given problems involving decimal arithmetic. On the contrary, students will tend towards decimals when given an arithmetic problem involving both decimals and fractions, whether it is administered verbally or on a written assessment.

Poster Presentation 4-4:30

Public Health Internship Abstract

Katherine Davison, Social Work

Mentor: Lyon, Melissa C.

I was able to work with the Chautauqua County Health Department. I studied the problem of lead poisoning. I was interested in this internship because it relates to my social work major, and my double minor in sociology and public health. I worked with the health department and use a survey they developed about childhood lead screenings. I was instructed to call various practices and ask them questions to ensure that they are following proper lead protocols. They were also interested in seeing if there were any barriers, how to help overcome them and how to help in improving lead screening rates. The expected results consist of an analysis of a compilation of survey results. This internship relates to public health because of the focus on preparation and prevention. The essential service I spent most of my time on was assuring a competent public health and personal health care workforce.

Poster Presentation 3:30-4

Terrorism Throughout the World: 2000 - 2015

Nash Delcamp, Mathematics

Mentor: Boynton, Nancy

This project analyzes data on both domestic and international terrorist incidents occurring between 2000 and 2015. The data analyzed is from the Global Terrorism Database who collected their data from unclassified media articles. This project explores statistics, trends, and common frequencies in variables such as country, weapon type, motive, and casualties. Several maps and graphs are presented. The analysis of the data was done using R.

Poster Presentation 1-1:30

Inhibiting Multipolar Cell Division through the Coalescence of Supernumerary Centrosomes

Mam Deng, Maria Quintero, Molecular Genetics

Mentor: Quintyne, Nicholas James

As cancer develops, the rates of multipolar cell division and chromosome instability increase due to the presence of supernumerary centrosomes. In cancer cells, coalescence of centrosomes has been observed as the primary mechanism to prevent multipolarity. When centrosomes cluster, a phenomenon occurs that results in one pole having one centrosome while the other pole holds all the other centrosomes.

The goal of this project is to determine the pattern of centrosomal clustering. We want to know how and why the spindles are set up so that one pole contains only a single centrosome, while the other pole contains the remaining centrosomes. We suspect centrosomal clustering is related to the age of the centrosomes. We use cell culture and immunofluorescence to identify mother(older) and daughter (younger) centrioles and hope to understand their roles in spindle formation and prevention of multipolarity.

Poster Presentation 1-1:30

FredASSIST Internship

Lacey Dickerson, Interdis Stds-Exercise Science

Mentor: Lyon, Melissa C.

The internship that is selected is through the campus organization FredASSIST that promotes safer sex and sexual wellness. There is a need to promote FredASSIST services on social media because that is where students search for information. The new social media presence will be promoted by displaying flyers around campus. Through these social media outlets, more campus members can learn and understand what FredASSIST offers. The expected outcome is an increase of clients that use FredASSIST. This internship also incorporated the promotion of a HPV video to the resident halls. A pamphlet will be distributed to individuals that view the video. The expected outcomes are that students will have more information and knowledge on HPV as well as know where and when vaccines are available. This internship focused on the public health essential service of informing, educating and empowering individuals about potential health issues and linkage to care.

Poster Presentation 1:30-2:00

Patient On-Site Surveys with TLC Health Network

Emily Dillenburg, Medical Technology

Mentor: Lyon, Melissa C.

The internship involved working with administration at TLC Health Network to address issues regarding healthcare accessibility, and to assist TLC in gaining a better understanding of the needs of their patients. An understanding of patient needs is crucial in providing the best quality healthcare that can be offered. As a student pursuing a degree in Medical Technology and a minor in Public Health, this project was chosen due to an interest in both healthcare accessibility and the healthcare system overall. A survey with open-ended questions was created and reviewed by the administration. The expected results are that patients may not always have their own means of transportation and that the hours of operation are not always equally convenient for all patients. In conclusion, healthcare systems must constantly monitor the health of their patients, while providing links to care and evaluating the effectiveness of the care.

Poster Presentation 3:30-4

: Dynactin's p24 subunit is critical for microtubule organization and normal cell cycle progression

Alexander Dimitri, Molecular Genetics

Mentor: Quintyne, Nicholas James

Dynactin is a multi-subunit protein complex that is integral for most minus-end cytoplasmic dynein function, microtubule anchoring, spindle pole formation, chromosome alignment and timely mitotic entry. One subunit, p24, was analyzed to understand the functional role it plays with microtubule anchoring and cell cycle progression. Knockdown and overexpression of p24 were performed by transfecting either p24 shRNA plasmids or GFP-tagged p24 plasmid DNA into COS-7 cells. Overexpression at 15 hours and knockdown at 72 and 96 hours led to decreases in mitotic frequencies and increases in microtubule disorganization. Knockdown led to an increase of cells in S phase and a decrease in G2/M phase of the cell cycle while overexpression led to a decrease of cells present in G2/M phase when measured using flow cytometry. p24 is now observed to play a critical role in dynein-dynactin dependent cell cycle progression and microtubule organization within COS-7.

Poster Presentation 2:30-3

The Shape of an IRES

Cory Emborski, Allison Martin, Biochemistry

Mentor: Fountain, Matthew A.

Internal ribosomal entry sites (IRESs) are sequences located in the 5'UTR of some mRNAs that allow cap-independent translation initiation. IRESs are characterized by the formation of complex secondary structural features in the 5'UTR upstream of the start codon. IRESs provide an alternative translation pathway for critical eukaryotic proteins. An IRES has been proposed in the *Drosophila melanogaster* gurken mRNA that allows production of this critical protein to continue under nutrient deprivation. We use differential SHAPE chemistry to map the secondary structure of the gurken IRES and are working toward refining the structure to publication quality. SHAPE chemistry utilizes compounds that are reactive to sterically unhindered 2'-OH groups on the single stranded regions of mRNA. Multiple reagents (NMIA, 1M6, 1M7) with different reactivity profiles and reaction times are used to ascertain strong vs weak and fast vs slow base pairing interactions in the mRNA.

Poster Presentation 1-1:30

Modern Day Slavery Through Sex Trafficking

Jenny Ewing, Psychology
Mentor: Zevenbergen, Andrea A.

Women being branded, literally, by their male owners is part of the modern day form of slavery, in sex trafficking. An ever-growing worldwide business of buying and selling females is in higher demand than drug and weapon trafficking. Men use tactics including coercion and may go to the extremes of kidnapping to grow their businesses. Even though crime rates in the United States have seemingly been on the decline for the past few years, the incarceration rates of females has been steadily increasing due to charges for prostitution. I will be discussing the risk factors for sex trafficking, which include childhood abuse and neglect. Outcomes may include criminal acts, drug use and imprisonment.

Poster Presentation 1:30-2

Fredonia Enactus 2017 Competition

Marianne Faivre, Alison Stiglmeier, Business Admin - Finance
Mentor: McNamara, Susan

Fredonia Enactus works hard to impact many sectors of our local community. We aim to empower them through entrepreneurial skills. Every year we bring our outcomes to competition, and now we're bringing them to you. The highlights of our outcomes this year are from our divisions Edge, Ad Value, Next and Life. AdValue and Edge work with local business and aim to help them better their business by empowering them to gain the necessary skills. Next and Life work with different sectors of at risk youth in the Fredonia/Dunkirk area. There's more to entrepreneurship than just finances. Life and next aim to help youth gain communication and team building skill in hopes of guiding them towards a better future. We plan to have a poster that highlights all the great work these divisions have done in the past year.

Poster Presentation 3-3:30

Effectiveness of U.S. Sexual Health Education

Marianne Faivre, Business Admin – Finance
Mentor: Nancy Boynton

While researching the effectiveness of the American Sexual Health Education Systems, I tested to see if there was a relationship between how states run their sex education programs and their effectiveness in preventing unsafe sex. The data I used were titled “Characteristics of Health Programs among Secondary Schools” and “Youth Risk Behavior Surveillance System” and were both from the Centers for Disease Control and Prevention. The scope of my data was from 2013-2015 for grades 9 through 12. Some factors I considered were the percent of students per state who had unsafe, forced, young, or inebriated sex against the percent of schools who provide Health Education materials, require student to take 1 or 2 classes, or require students to retake health if they fail.

Poster Presentation 3:30-4:00

Monitoring Long Term Tree Disease, Climate Change, and Woody Debris

Samantha Fleming, Biology
Mentor: Titus, Jonathan H.

Plots have been established in 6 upland and wetland forests in Chautauqua County. Trees in plots are tagged and DBH measured annually along with snags and downed woody debris assessments. This long-term study is driven by dramatic forest change occurring across the region due to forest pests including emerald ash borer, hemlock woolly adelgid, beech bark disease, invasions by invasive plant species, intense deer grazing, and climate change.

It has been found that upland plots have the largest trees, fastest growth, and highest productivity. Trees at Elm Flats exhibited hump-shaped basal regions and had a high proportion of shade-tolerant trees. This suggests that Elm Flats may have old growth characteristics.

This is part of a long-term study to determine over and understory vegetation change. Data collected will be used to see which aspects of the natural areas have changed most over many years.

Poster Presentation 3-3:30

Fanny Fern, A Legacy Still Living

Madeleine Floccare, History

Mentor: VanDette, Emily E.

I've created a poster all about Fanny Fern and the legacy that is still alive today in many works of feminism.

Poster Presentation 1-1:30

Belief in performative bisexuality and sexual aggression toward bisexual women

Ariel Gelfand, Elayna Kinney, Music Therapy

Mentor: Rogers, Darrin L.

Belief in performative bisexuality (BPB) is the belief that bisexual women have sexual relations with other women predominantly to please heterosexual men (Fahs, 2009). BPB may plausibly lead to sexual coercion of bisexual women by lesbian women and heterosexual men--i.e., pressure to sexually perform with other women. The current study will test this hypothesis with an anonymous online survey of approximately 300 young adults, including a significant purposive sampling of LGBTQ+ individuals, recruited from student researchers' social networks. Participants will rate the deviance of sexual aggression towards straight and bisexual women in two vignettes presented in counterbalanced order, as well as a measure assessing BPB. The researchers hypothesize a negative correlation between BPB and deviance ratings of sexual coercion in vignettes depicting coercion toward bisexual, but not heterosexual, women. Findings will be discussed in light of research on sexual aggression toward and within marginalized sexual subcultures.

Oral Presentation 2:30-3

Attribution of Blame as a Function of Consequences, External Circumstances, and Alcohol Consumption

Ariel Gelfand, Meghan Flynn, Connor Mauche, Music Therapy

Mentor: Croxton, Jack S.

This study focused on how individuals attribute blame for an accident regarding injury, weather, and alcohol associated with vehicular accidents. College students completed one of twelve randomly assigned scenarios regarding a car accident. One driver (Jordan) was sober or intoxicated, the other driver (Riley) sustained mild injuries, or was killed. Weather conditions were reported as either good

weather, unanticipated bad weather, or anticipated bad weather. We measured variables of responsibility and blame on 7-point Likert scales. It was expected that participants would hold Jordan more responsible if intoxicated at the time of the accident. We anticipated that subjects would assign the least responsibility when Jordan experienced unanticipated bad weather. We predicted an interaction between alcohol consumption and extent of injury. The accident was perceived as more avoidable if Jordan was intoxicated. The level of sobriety influenced the effect that injury had on feelings of anger toward Jordan. Further results will be shared at the conference.

Poster Presentation 3-3:30

Designing of Computer Games in Object-Oriented C# Language

Shannon Grajek, Computer Science

Mentor: Singh, Gurmukh

The main advantage of C# language is that it is well-structured object-oriented language. Consequently, C# language avoids a number of the tricky problems encountered in its counterpart Java language. Therefore, MS Visual Studio.NET framework that supports C# language was a natural consequence to be employed for the current computer-gaming senior project. In this poster, we shall simulate the problem of rolling of several dice in a casino game to figure out the probability of victory. We strongly believe that our efforts of designing and developing of this gaming problem will be very beneficial for higher education students of Computer Science, Information Systems, Natural Science, Engineering and Mathematics.

Poster Presentation 1:00-1:30

Therapy Resources Discovery- Children with Special Healthcare Needs- DHHS

Caitlin Hackett, Interdis Stds-Exercise Science

Mentor: Lyon, Melissa C.

In Chautauqua County, parents have a difficult time finding different type of therapies for their children. The Department of Health and Human Services (DHHS) in Chautauqua is looking for a way easier way to help parents find these services. Working with the DHHS, a resource guide was created to help parents, therapists and the DHHS to be better connected with the contact information. The expected outcome from this guide is to help parents find therapies for their children without having the stress of looking through different website as well as better way to to update their contact information in the future. Through this experience, I learned how to make an understandable guide for people as well as what needs to be done the county for a better connection between the public and these services.

Poster Presentation 1:30-2

Engagement Matrix

Kara Hall, Psychology BS

Mentor: Lyon, Melissa C.

The data was collected throughout the Aging by Design project through the Health Foundation to help improve the lives of older adults in western and central New York. I worked as an intern for the Health Foundation for my Public health minor. The data was collect through the research phase via multiple sources including journals, postcards, empathy maps, ethnography, and street teams. Throughout the

first phase, I collected data on the organizations that participated in each data collection step combining the participation into an engagement matrix which will be used to select grantees. I have learned the different challenges of organizations to be involved as well as the multitude of daily challenges of our aging society. The goal of this initiative is to listen to our aging population and help them to create solutions for themselves.

Poster Presentation 1-1:30

Triggers of Decline in Older Adults

Kara Hall, Psychology BS

Mentor: Boynton, Nancy

I examined need statements from older adults above the age of sixty. Twenty triggers of decline for older adults are studied along with their relationship to age, gender and location. The ten triggers of decline include acute illness precipitating hospitalization, chronic disease management, emotional well-being, falls, finances, food access/ nutrition challenges, home management challenges, mental health/behavioral health, physical issues, poor health literacy, care coordination, community resources, elder abuse, social network, care transitions, disparities in access to resources, impact of hospitalization, medication management and transportation needs. The data were collected by the Health Foundation of Western and Central New York with permission from Diane Oyler the data will be used for this study. The data are analyzed using R and RStudio.

Poster Presentation 1:30-2

Synthesis, Characterization and crystal Structure of 1-methyl-4-[2-(4-hydroxyphenyl)ethenyl]pyridinium iodide

Kathleen Hayes, Jack Choczynski, Emily Lasher, Joshua Deschner, Calvin Wong, Ralph Crisci, Chemistry

Mentor: Cardenas, Allan Jay P.

The interests in pyridinium salts has increased in the past few decades because of polarizabilities. In this study, 1-methyl-4-[2-(4-hydroxyphenyl)ethenyl]pyridinium iodide (protonated form, 1H) and 1-methyl-4-[2-(4-oxocyclohexadienylidene)ethylidene]-1,4-dihydropyridine (deprotonated form, 1) was synthesized and characterized. These compounds are solvchromatic dye and changes color depending on solvent's polarity, pH and counterions. In the solid state, however, the color changes is hypothesized due to the different crystal packing or aggregation. This study will present a crystal structure that has a novel aggregation pattern of compounds 1H and 1.

Poster Presentation 2-2:30

Artifacts in Surveying Affective Forecasting

Leanne Hofstead, Psychology

Mentor: McFall, Joseph P.

“Future anhedonia” is the mistaken belief that one will enjoy a reward (e.g., \$20) now more than the same reward later (Kassam, Gilbert, Boston, & Wilson, 2008). McFall’s (2008) lab found evidence that instant gratification better explained these affect differences and concluded that Kassam’s (2008) finding was an artifact of the survey research design. The current study examines whether instant gratification accounts for affect differences in present and future rewards rather than “future

anhedonia.” In a 2x2x3 between-subjects design, we manipulated three components of a reward scenario: when \$20 could be spent (spend now, spend later), when it was received (get now, get later), and when it was needed (do not need, need now, need later). Participants rated happiness on a 0-9 scale. Preliminary analyses using ANOVA found participants (N=180) demonstrated instant gratification over future anhedonia. Results will be discussed within the context of affective forecasting and temporal discounting.

Poster Presentation 3:30-4

Public Health Needs on Fredonia's Campus

Victoria Howell, Interdis Stds – Intl Studies

Mentor: Lyon, Melissa C.

The study conducted was to understand the scope of health services provided by LoGrasso Hall on Fredonia’s campus and how it matches the overall needs of the student body. The study dealt with population health and therefore coincides with my Public Health minor. A survey was created and sent out to the campus to determine how people felt about the LoGrasso services and what people wanted available to them. SurveyMonkey was used to design the survey and was distributed through social media and emailing. The expected outcome is to get a better understanding of the products and services needed to help the student body. My study involved evaluating effectiveness, accessibility, and quality of personal and population-based health services through the survey that was made. Policies and plans that support individual and community health efforts were also developed in the form of new services from LoGrasso Hall.

Poster Presentation 4:30-5:00

Wellness Promotion

Alyssa Karb Stolfo, Biology

Mentor: Lyon, Melissa C.

During my internship at WCA Hospital I researched information on National Cleft and Craniofacial prevention, Immunization and Childhood Obesity. These topics were assigned by month and are National Health Observances. The information will be posted at the hospital. The internship provides experience in the public health field which correlates with my major of biology and minor of public health by researching information on health issues and spreading awareness. With the information retrieved I created a poster with information to engage and inform hospital employees, along with this I also provided the sight supervisor with excess information on each topic. This will help spread awareness and inform others on these important facts on healthy living. This internship focuses on the essential service inform, educate and empower people about health issues. Not only will information be shared and presented this will also spread awareness for the health observances.

Poster Presentation 1:30-2

Lydia Avery Coonley-Ward

Susan Kehl, Visual Arts and New Media

Mentor: VanDette, Emily E.

Mrs. Lydia Avery Coonley-Ward was alive during the women's suffrage movement in America. Though she herself was not a suffragist, she contributed in the movement in many significant ways. Her home was often a meeting place for prominent suffrage leaders such as Susan B. Anthony and Elizabeth Cady Stanton. Coonley-Ward was highly regarded for her hospitality and was well respected by many of the suffragettes of the time.

Poster Presentation 3:30-4

“Framed”: The Shifting Aesthetic Style and Status of Graffiti Writing

Katelyn Killoran, Sarah Reimer, Ryan Alonge, Brittany Sambrook, Madeline Friedler, Vis Arts New Med:
Graph Design

Mentor: Rittelmann, Lisa L.

Graffiti's merits and demerits have been consistently couched in terms of its legality versus its illegality. Our team intends to broaden the discourse of graffiti's aesthetic contribution to contemporary culture. Our team will present a poster session outlining the stylistic development of graffiti writing in the U.S. The project will be introduced one week prior to the conference in the form of small framed graffiti tags selectively installed around campus. Each work will be accompanied by a QR code that viewers can scan with a smartphone. The code will lead participants to a brief project description and questions soliciting their opinion on graffiti art. Conference goers will be invited to create their own graffiti tag to add to the on-site exhibition or take home. The project's purpose is to present the history of graffiti art, its stylistic development, and debates regarding its aesthetic categorization.

Poster Presentation 3:30-4

Bisexual Specific Microaggressions

Elayna Kinney, Psychology

Mentor: Zevenbergen, Andrea A.

Microaggressions come in many different forms and manifest differently in various situations. One group that is particularly susceptible to various forms of institutionalized and racial microaggressions is those who are part of the LGBTQ+ community. Research, however, has shown that bisexual people may be particularly vulnerable to specific microaggressions that are not apparent in behaviors towards other marginalized but monosexual identities. Bostwick and Hequembourg have described in their research the various ways in which this group experiences microaggressions including hostility, denial, unintelligibility, pressure to change, and LGBT legitimacy. Microaggressions can have detrimental effects on people, especially those from marginalized groups; bisexuals, being subject to more of said microaggressions may be more susceptible to the effects. Effects of microaggressions may be seen in issues relating to physical health, but also relating to mental health.

Poster Presentation 4-4:30

2 Kilos 2 Kill

Atticus Kiser, Communication – Video Production

Mentor: Jackson, Jane A.

A behind the scenes look at the 2017 Fiction Capstone Film "2 Kilos 2 Kill." The presentation is a documentary style video directed and edited by myself, which will focus on taking a closer look at the

film's production and the talented people involved, told through interviews of the cast and crew, (including myself, the film's director of photography), behind the scenes footage on and off set, topped off with a few sample scenes from the film.

Oral Presentation 2:00-2:20

Cleft Lip and Palate

Hannah Koellner, Comm. Disorders and Sciences

Mentor: Gerber, Christine G.

Cleft lip and palate is a serious craniofacial abnormality that is present at birth. Cleft lip is separations of the sides of the upper lips and sometimes bones of the maxilla and gums. Cleft lip can occur bilaterally or unilaterally. Cleft Palate is an opening in the roof of the Hard palate and or soft palate where the two sides did not join while the baby was in utero. Cleft lip and palate can co occur. A Speech-Language Pathologist plays a crucial role on the craniofacial team. Feeding is imperative in the survival of infants. It is the job of a SLP to help the families with feeding and swallowing therapies and techniques. After cleft lip and palate surgery, a Speech-Language Pathologist will implement articulation therapy to correct placement errors.

Poster Presentation 1-1:30

Perceptions of services for intimate partner violence in the LGBTQ+ community

Taylor Kozuch, Brooke Park, Morganne Madonia, Psychology

Mentor: Darrin Rogers

Dynamics of abuse in LGBTQ+ relationships are unique, including victims' experiences with support and IPV service organizations. IPV victims who identify as LGBTQ+ may find few usable interventions or services available. To investigate this, we will have 40 estimated completed semistructured interviews with LGBTQ+ and non-LGBTQ+ young adult participants. Interviews will address knowledge of victim support services, perceptions of effectiveness, and likelihood of utilizing services in the event of IPV. Using qualitative analysis methods based on Grounded Theory to identify themes, results will be discussed in light of IPV resource availability.

Oral Presentation 2:30-3:30

Public health in a public school

Danielle Leseske, Psychology

Mentor: Lyon, Melissa C.

For the internship at the Campus and Community Children's Center work was done at the Wheelock Primary school with the site supervisor Jennifer Branden, and teacher Rebecca Harp. Educational posters were created, kids were taught how to be safe when crossing roads and on the playground, and the children learned ways to stay active every day. The expected results are to be that three out of four kids feel better after exercising and that healthy eating will increase their mood. One main essential service focused on was educating, informing and empowering the children about what it means to be healthy and why it's important. This relates to psychology because there are interactions with children and it corresponds to the public health minor because it deals with changing behaviors which hopefully

will lead me to work in a setting to make larger health changes than just eating healthy and staying active.

Poster Presentation 4-4:30

Jazz it Up

Kyle Licht, Communication-Video Production

Mentor: Smith, Roslin Ann

For this short film project, I am using a piano as a means of setting where a character and his two personalities explore it. It starts with the first personality, represented in black and white, playing a classical exercise. Then, with a change in color and clothes the man slowly becomes jazzier in his style. He used to be a straight, well-dressed technical player who then explored jazz piano and shifted into a more creative and liberal person. However, neither personality is officially gone forever and they will always remain. Both of his personalities are at the piano and neither one disappears because without creativity the piece would be boring and without technique, the piece would be amateurish.

Video 4:30-5

The use of Sport Psychologists in the NFL

Matthew Linderman, Kyle Natwora, Ryan Richter, Psychology BS

Mentor: Klonsky, Bruce G.

This study investigated the utilization of sport psychologists in the National Football League (NFL) from the 1990s through 2017. Previous research has investigated the use of sport psychologists in the NCAA (Hayden et al., 2013), the National Basketball Association and Women's National Basketball Association (Klonsky, Kornspan, & Palmer, 2013) and also in MLB (Klonsky, Grasso, Johnston, & Kornspan, 2015). The objective of the present study is to further research on the utilization of sport psychologists in professional sports. The data will be gathered primarily through the NFL's official website, Sporting News Official Football Guides, and other archival websites discussing the utilization of sport psychologists, were also employed. From the current NFL season's media guides only 3 teams had listed names under search terms such as, "Team Psychologist", "Mental Health Consultant", and "Senior Director of Player Development." Further results will be reported at the poster session.

Poster Presentation 4-4:30

Investigation of insect species for bat-insect acoustic interactions research

Kelsey Lowery, Sara Madison, Biology

Mentor: Kazial, Karry Ann

Abstract: We are interested in research involving the interaction between bats and their insect prey. Insects were subject to the selection pressure of bats as a new predator and many insects have been found to have ultrasonic ears that respond to bat sonar. Ears are found in multiple locations on the bodies of insects and are thought to have evolved multiple times. We have investigated the rearing, care, and use of green lacewings (*Chrysoperla rufilabris*) and Chinese mantids (*Tenodera sinensis*) for bat-insect acoustic interactions research. These insects groups are known to contain species that possess ultrasonic ears. We will report on the rearing and care of these insects and compare the time, equipment, and unique care needs of each. Importantly, we will also discuss the contexts in which we

looked for a behavioral response of these insects to bat sonar playbacks broadcast from ultrasonic speakers.

Poster Presentation 2:30-3

Diatom Fossil Records at Lower Cassadaga Lake, NY

Simona Lukasik, Interdis Stds - Envir Sciences

Mentor: Wigdahl-Perry, Courtney Robin

Diatoms are a major group of algae that have a silica cell wall, which can be preserved within sediments at the bottom of lakes. Exploring diatom fossil records allows researchers to study the past ecological history of lakes. We collected a 37 cm core from Lower Cassadaga Lake, located in northern Chautauqua County, NY. Sediments were sectioned every 1 cm in the field, and processed in the lab into slides for analysis of diatom remains under a light microscope. The slides revealed that this lake basin has a good diatom preservation record with particular species of interest (*Fragilaria*, *Aulacoseira*, and *Cyclotella*). These species may be useful in understanding past patterns of nutrient concentrations and/or the depth of the upper mixed layer in the lake. Based on these data, Cassadaga Lake was determined to be a good site for more involved paleolimnology study in the future.

Poster Presentation 2-2:30

Making Sound You Can See: Visualization of Audio Source Separation & Instrument Detection

Daniel Luong, Samuel McCagg, Corbin Dzimian

Mentor: Stewart, Raymond G. and Hu, Gang

We present our experience working alongside the School of Music at SUNY Fredonia; the goal of the project is to add a new way for the audience to enjoy a musical concert. A live orchestra concert is an adventure; under the guidance of a conductor, dozens of players take you on a wonderful musical journey. Traditionally it is true that enjoying music requires your sense of hearing. For example, audiences can even close their eyes and enjoy the sounds of their surroundings. However, for many untrained ears, distinguishing the different instrument timbres and color can be difficult in heavily orchestrated sections. The goal of this project is to extract and visually present music semantics to concert audiences. Specifically, by developing state-of-the-art technologies, perceptual musical features can be extracted, such as separated signals from individual instruments, visual representations of a music piece, conductor gestures.

Poster Presentation 2:30-3:00

1-Methyl-7-Nitroisatoic Anhydride Synthesis and gurken mRNA by SHAPE Chemistry Analysis

Megan Mac Intyre, Jacquelyn Law, Biochemistry

Mentor: Fountain, Matthew A.

We are analyzing gurken mRNA from *Drosophila melanogaster* through Selective 2'-Hydroxyl Acylation Analyzed by Primer Extension (SHAPE) chemistry to evaluate the secondary structure of an IRES. RNA is linearized, folded, and introduced to one of three electrophilic reagents including 1-methyl-7-nitroisatoic anhydride (1M7), N-methylisatoic anhydride (NMIA), and 1-methyl-6-nitroisatoic anhydride (1M6) to differentially detect local nucleotide flexibility by reacting with 2'-hydroxyl groups. At conformationally flexible positions, RNA is reactive, but at regions of nucleotide base pairing, it is

unreactive. Reverse transcription with a fluorescently labeled primer produces populations of cDNA fragments where the reagents are adducted. Capillary electrophoresis measures local flexibility by reading terminated cDNA fragment populations, and the data resolves the secondary structure through QuSHAPE and RNA structure software. In addition, we will describe the synthesis and spectroscopic characterization of 1M7 used to distinguish complex secondary structures.

Poster Presentation 1-1:30

The Health Hut and HPV

Morganne Madonia, Psychology

Mentor: Lyon, Melissa C.

Public health resources are needed globally and are important to ensure the safety of individuals. Providing expertise at the Health Hut through Logrosso has revealed that resources must be in concentrated locations for students to know they are available. Individuals involved in the Health Hut bring items, which include condoms, stress balls, smoking quitting kits, Band-Aids, etc., from Logrosso to the Williams Center, which is a centralized location on campus. A gap identified while working at the Health Hut was lack of knowledge on sexual diseases. In response, I am going to residence halls to show a video on HPV and hand out informational brochures. Expected results are more people will visit the Health Hut and realize the services Logrosso offers. By using the Williams Center to distribute products in Logrosso, the essential service used most is link people to health services and assure the provision of health care.

Poster Presentation 3:30-4

Wordless Picture Books: Planned Intervention for Parents and Preschoolers

Morganne Madonia, Psychology

Mentor: Zevenbergen, Andrea A.

Wordless picture books are books that tell a story by only using illustrations. Wordless picture books can be helpful in facilitating the preschooler's development in a variety of areas such as vocabulary use, creativity, meaning-making, and communication skills. Wordless picture books have thus far been understudied in the field of early childhood education. These books could be widely used and effective for parents with low literacy skills, households that use English as a second language and for children with learning delays. This presentation will discuss details of a planned intervention using wordless picture books. Parents may be taught a variety of questions to use ("wh-", open-ended, "yes/no") when talking with the child about the book, and also taught to follow the child's interest, point to specific items in the pictures, and maintain a pace that is comfortable for the child.

Poster Presentation 4-4:30

Facilitating Verbal Speech in Children with Autism using Augmentative and Alternative Communication

Marissa Magro, Comm. Disorders and Sciences

Mentor: Gerber, Christine G.

Although each individual with autism presents with different communication deficits, research indicates that 25% to 61% of individuals with autism have little or no functional speech. Communication is vital to

connecting with the world around these individuals in order to perform daily activities. Therefore, they should be provided with a means to communicate in even the most basic of contexts, and furthermore, should be considered as candidates for augmentative and alternative communication (AAC). My research focused on the use of speech generating devices as a form of AAC for individuals with autism who have little to no verbal speech. Studies indicate that AAC interventions may actually result in increased speech production and generally enhanced communication. The use of speech generating devices, or AAC in general, has the potential to release a person with complex communication needs from the role of passive observer to one of active participant in communication interactions.

Poster Presentation 2:30-3

Classic Meiotic Mapping Meets Illumina Sequencing to Identify New Regulators of grk Translation

Alexandria Mandriota, Elias Jacobs, Molecular Genetics

Mentor: Ferguson, Scott Bruce

Drosophila melanogaster oogenesis relies on proper localization of grk mRNA. Grk specifies the dorsal/ventral patterning of the oocyte. Mutations in spindle-class genes, responsible for repairing DSBs in meiotic recombination, result in inefficient grk translation and ventralized eggs. To elucidate the mechanism by which spn-B mutations impact grk translation, an EMS suppressor screen was performed. We're using a combination of traditional meiotic mapping and Illumina sequencing to locate a secondary mutation that's epistatic to spn-BBU and results in the development of WT eggs. From this screen, six suppressors were outcrossed to generate recombinant lines. The eggshell phenotypes of recombinants that retained the spn-BBU mutation were analyzed for suppression to determine if the epistatic mutation was present. A panel of 72 recombinants were sequenced at low coverage on the Illumina HiSeq 2500 platform to identify the precise haplotypes of these recombinant chromosomes and facilitate mapping of the novel suppressors.

Poster Presentation 2-2:30

Volunteer and Community Services: Relay for Life of Fredonia

Alyssa Marsh, Taylor Chwalinski, Danielle Romanini, Early Childhood – English

Mentor: Smith, Joyce H.

We would like to represent the club Colleges Against Cancer and display/present about the various forms of community service which includes Relay for Life (which raised over \$20,000 and included over 450 plus participants) and other things we do throughout the year. Our club does a lot of community service on campus and around the local community. Our goal is to educate and raise awareness about cancer and by participating in the expo we can do that.

Poster Presentation 1:30-2:00

Social Networking and Self-Presentation

Connor Mauche, Matthew Evans, Alberto Gonzalez, Psychology BS

Mentor: McFall, Joseph P.

Many of those who use social media have the belief that it provides a positive environment for self-disclosure, and that this media format creates a space for others to view them in a positive light. However, the way in which people present themselves can have a large effect on how individuals view

them. What people say, and how they present themselves can be instrumental in how positive or negative they are viewed by others. This study seeks to replicate the findings in a previous study that addressed self-esteem, and views on self-disclosure via facebook. From there, this study seeks to measure how individual's self-esteem and Facebook views influence how they view others based on their profile picture and text posts. We predict that low-self esteem will be an indicator of increased perceived negativity toward social media presence. Results of this study will be shared at the conference.

Poster Presentation 4:30-5

Deforestation of the Rainforest

Alicia Mehlenbacher, Interdis Stds - Intl Studies

Mentor: Vassoler-Froelich, Ivani

I would like to present a powerpoint presentation on the effects and implications of the deforestation of the Amazon Rain Forest.

Oral Presentation 4:30-5

Perturbing KIF9 expression levels leads to disruptions in normal cell cycle progression

Arielys Mendoza, Physics

Mentor: Quintyne, Nicholas James

Many cellular processes require motors: proteins that deliver cargo along the cytoskeleton. The three classes of motor are myosin, dynein and kinesin. My research focuses on the uncharacterized kinesin, KIF9. My goal is to understand how KIF9 and its binding partner GEM contribute to cells transitioning into mitosis, and their role in successful completion of cell division. I transfected COS-7 cells to both overexpress and knock down KIF9 expression levels. I observed a statistically significant decrease in mitotic frequency for both overexpression (2.6%) and knockdown (2.1%) when compared to control (4%). Cell synchronization experiments showed that knockdown cells generally entered mitosis faster than control cells. Additionally, flow cytometry was used to identify the number of cells in different stages of cell cycle for all three conditions. Overall, I have seen large-scale cell cycle aberrations when KIF9 protein expression levels are altered.

Poster Presentation 1-1:30

Unknowability and otherness in potential sexual partners in the LGBTQ+ community

Ernesto Mercado Irizarry, Interdis Stds -Women & Gender

Mentor: Rogers, Darrin L.

In cisgender/heterosexual relationships perceptions of one's partner's characteristics and identity, and of their knowability and predictability have often been found to be part of a cluster of factors predicting negative treatment, including increased likelihood of sexual coercion toward, the opposite sex. To our knowledge, there has been little or no study of how or even whether these concepts and relationships apply to non-cisgender/heterosexual relationships.

This symposium will report results from an interview- and survey-based study of perceptions of members of one's romantic target group in LGBTQ+ young adults, with a sample of non-LGBTQ+ young

adults as a comparison group. Given the paucity of research in this field, this study is largely exploratory, seeking to explore the psychological and conceptual space occupied by the concepts of “unknowability” in potential sexual partners and potential coercion within intimate relationships.

Oral Presentation 2:30-3

Baby Names Over Time

Leah Moretta, Business Admin – Marketing

Mentor: Boynton, Nancy

I examined the change in what people name their babies from 1947 to 2010. I am using data from The Social Security Administration to conduct my research. I’ve noticed recently an increase in gender neutral names. Some of the questions addressed are: How have the frequency of baby names changed over the years? Are there many common baby names now, or are baby names more unique? How common are gender neutral names? Are there more males or females with gender neutral names?

Poster Presentation 2:00-2:30

Anti-Rape Cloak Rhetorical Analysis

Kayla Newland, Business Admin - Management

Mentor: McGowan, Angela Marie

By using Burke's (1969) Theory of Dramatism, I examined the implications of applying a theory not typically used in analyzing visual rhetoric. The art piece central to my analysis is Sarah Maple's photograph entitled "Anti-Rape Cloak." The five parts of this theory are the agent, agency, act, scene and purpose. My research uncovers how the scene (playground) in a piece of visual rhetoric has a lot of power over the act (wearing of an anti-rape cloak). Moreover, Burke's theory of dramatism is an efficient tool used to analyze Maple's persuasive message, because it uncovers the rhetor's motive for this act, which was to raise awareness on the issue of childhood sexual assault. Due to my analysis of visual rhetoric using Burke's Theory of Dramatism, other researchers may want to apply the theory to more pieces of visual rhetoric, since it provides an effective analysis.

Poster Presentation 4-4:30

Mind Wandering Study

Felicia Ostrowski, Mackenzie Hardy, Kyle Natwora, Ryan Upson, Psychology BS

Mentor: McFall, Joseph P.

The goals of this study were to examine the frequency and effects of mind wandering while reading passages. This study is a replication of a previous study conducted by Feng, D’Mello and Graesser circa 2013. The aforementioned study hypothesized that mind wandering would occur more frequently in difficult reading texts than in easy texts, and that mind wandering would have a greater impact in easy texts. They found that mind wandering was more prevalent while reading difficult texts and had the greatest impact while reading difficult texts. We expect to find the same result, but with our own added variables mood and age. These variables were added in order to measure their effects on mind wandering. We hypothesize that a negative mood will induce mind wandering more than other moods and that older participants will have less mind wandering than their younger cohorts.

Poster Presentation 1:30-2

Alpha Lambda Delta Honor Society

Charlotte Passero, Brittany Ferger, Accounting
Mentor: Mroccka, Erin M.

Alpha Lambda Delta Honor Society is the honor society for first year students who have achieved high academic success. Fredonia's chapter of ALD is very active in the campus and community, especially through volunteer opportunities. We would like to showcase ALD's participation with volunteer and community services.

Poster Presentation 1:30-2

Outside Fringeland: Talking Walls, City Wolves, and the Human Billboard

Christopher Perry, Visual Arts and New Media
Mentor: Rittelmann, Lisa L.

Graffiti, Street Art and Tattoo have long been recognized as culturally and aesthetically significant yet all remain on the fringe of "fine art" proper, defined by western standards. My project includes a poster summarizing the "outsider" history of each practice, impacts on individual and cultural identity, their parallel (often overlapping) histories, and influences on modern and contemporary art in the U.S. Perhaps more importantly, it includes a live tattoo demonstration on an authorized volunteer. Expo attendees can directly inquire about the symbolic, technical and historical significance of this ancient practice that endured the ice age and still thrives outside the confines of the academic and museum environment. The presentation seeks to educate the public and reopen the conversation on these controversial art forms by taking them off the street, out of the cultural and legislative darkness, and put them into the intellectual light of the college. Also, if feasible, I propose Street Art inspired temporary tattoos for the attendees.

Poster Presentation 3-3:30

Discovering Parallels Between Euclidean Constructions and Origami Constructions

Michelle Persaud, Math – Adolescence Educ
Mentor: Wilson, Julia

What can we construct using origami? This is similar to the question "What can we construct using a straight edge and compass?" Euclid made the first attempt to axiomatize compass and straight edge constructions approximately 2500 years ago in his series of works, The Elements. 19th Century mathematicians used algebra to provide a framework for determining what is and is not constructible. Recently, mathematicians have used an isomorphic axiomatic and algebraic approach to determine what is foldable using origami. The goal of this presentation is to demonstrate how origami constructions can be axiomatized, and to determine what restrictions someone would face when creating an origami construction.

Oral Presentation 4:00-4:20

White Aesthetic

Stephanie Pierre-Jacques, Music Therapy

Mentor: Moore, Kathryn

“White Aesthetic” holds two meanings. White typically implies the opposite of black. Aesthetic means visually appealing. So together these words mean: things that are visually alluring to white people and white spaces. “White aesthetic” holds another meaning. Though it’s what I previously said, visually appealing things and relate to white culture; it also connects to the oppressive history between white and black. This is when I blacked out words so that my phrases would eventually create a new story. Once finishing, the piece was now the story of black and white in America. “White Aesthetic” meant the acceptance of violence against black individuals and the refusal to stop it. When white people refuse to recognize issues like police brutality, mass incarceration, and hate crimes, they are saying, “I am fine witnessing these issues continue.” When white individuals refuse to speak out, they are saying, “this is my aesthetic.”

Poster Presentation 2:30-3

Volunteering in our Community - InterVarsity Christian Fellowship Thirsty?

Kathryn Pilgrim, Michael Slilaty, Nicholas Hlifka, Holly Lang, Julia Levelle, Kathleen Fenton, Sandrene Hamilton, Brooke Shields, Hannah Kuhnke, Victoria Hendrix, Taras Logvis, Nineth Diaz, Emily Fackelman, Megan Brunner, Melanie Lora

Mentor: Joyce Smith

For the last year, InterVarsity Christian Fellowship has been serving students and others in the downtown community by passing out water bottles on Friday evenings. The Thirsty? program helps to provide safety through hydration and extra eyes downtown. Conversations with workers downtown and students have built connections and encouraged safer habits. Throughout Halloween weekend, over 700 water bottles were distributed, while the total number tops 2000. This program started two years ago in April and on special weekends includes granola bars as well.

Poster Presentation

Effects of NICU drugs on neonatal mouse brain using ImageJ to analyze drug-induced neuroapoptosis

Ian Richardson, Zachary Eklum, Biology

Mentor: Creeley, Catherine Elizabeth

A neonatal mouse model was used to investigate the histopathological effects of fentanyl (F), midazolam (M), and caffeine (C) on the developing brain. The postnatal development days (PND) 1 - 7 in the mouse correlates to the third trimester development of the human infant, during which infants receive these drugs in the NICU. Neonatal mice were treated with F, M, C, or FM, FC, MC, or FMC on PND 5 or 7. Sections of brain were stained with Caspase-C, a marker for apoptosis. A microscope and ImageJ software were used to quantify apoptosis in PAG. Results suggest that mice in the treatment groups had higher rates of cell death than the control groups, indicating NICU medications cause apoptosis in PAG. The more developed PND7 was found to have higher apoptosis rates than PND5. These results further our understanding of the effects of drug exposure on brain development in neonatal infants.

Poster Presentation 1-1:30

Conservation of Scenic Resources in Chautauqua County, New York

Kelsea Rogers, Simona Lukasik, Geology
Mentor: Deakin, Ann Kielkopf

We are identifying scenic resources in the northern part of Chautauqua County for possible protection. Scenic views are fundamental to strategic land conservation plans, particularly for rural regions. Under the direction of the Chautauqua Watershed Conservancy, we are traveling public roads locating scenic viewpoints using a GNSS (Global Navigation Satellite System) mobile application, GPS Essentials, to mark the points and then photograph the associated views. Views are considered scenic based on criteria established by previous studies, such as panorama, variety, contrast, slope, and contour, among others. The coordinates of the viewpoints are imported into ArcGIS, a desktop Geographic Information System. A viewshed analysis of each location is run to identify the portions of the landscape that are visible from that vantage point using a DEM (Digital Elevation Model). The resulting viewsheds will be used to assist the Chautauqua Watershed Conservancy identify land that could potentially be protected as scenic resources.

Poster Presentation 2:30-3:00

Research Internship

Kimberly Sacheli, Christian Lozach, Communication - Public Rel
Mentor: Suida, Mark and McNamara, Susan

Qualitative research project focused on conducting interviews with local business owners on how experiential learning impacts success after graduation. Each interview is conducted with the same script where there is no influence on the person being interviewed. We are focusing on employer's perceptions of what knowledge, skills, disposition and sources of learning are recommended for college graduates to be successful in the work place. Responsibilities require all interviews to be documented and then coded for future analytics. Long-term goals include, better understanding of what is expected from experiential learning. Also to assist faculty on teaching desired traits to undergraduates to better prepare themselves for the workplace.

Poster Presentation 3:30-4

Cars Fuel Efficiency

Claire Sanner, Business Admin - Management
Mentor: Boynton, Nancy

This data set is from Kaggle.com and has information about different cars that were manufactured between the years 1984 and 2017. The data they collected was the car's fuel efficiency, type of engine, if it is an electric car or not and how long for the electric car to charge among other variables about the car. More people are buying the car with the most fuel efficiency for many reasons such as it will cut the cost of gas and to help the environment. This research addresses if cars have gotten more fuel efficient, which car would be the best one to buy in the last 10 years based on prices, fuel efficient and other various factors and which car to buy from 2017.

Poster Presentation 2-2:30

When does a person become an adult?

Samantha Scalise, Psychology BS

Mentor: McFall, Joseph P.

This study examines perceptions of the criteria for adulthood. Original data is compared with two published studies; an American sample (ages 13-55, M=27.1) and an Australian sample (ages 16-30, M=19.2), to see if age or country of origin better predicts the criteria considered necessary for adulthood. We also examine if a person's behavior or how a person is treated determines if someone is perceived as adult, if responsibility is related to self-perceived adulthood, and the relationship between age and identity consistency. It is hypothesized that the results will be similar to the Australian sample if age (expected range: 18-30) has a larger effect or similar to the American sample if country of origin has a larger effect, criteria considered important will be individualistic and cognitive, responsibility will be predictive of self-perceived adulthood, and identity consistency will positively correlate with age.

Poster Presentation 1:30-2

Beyond He and She: An Overview of Gender-Neutral Pronouns

Samantha Scalise, Psychology BS

Mentor: Zevenbergen, Andrea A.

With the recent rise in the number of individuals identifying as transgender, agender, genderfluid, non-binary, or any other non-cisgender identity, the subject of pronouns has come into frequent discussion. While the pronouns "he" and "she" are well-known, pronouns that are gender neutral are less known and infrequently used. If people are unaware of gender neutral pronouns they will likely misgender individuals that are agender, non-binary, etc. or have confusion over what pronoun should be used instead of he or she. This project aims to educate people on gender-neutral pronouns in order to encourage their usage.

Poster Presentation 2-2:30

Mathematical Group Theory and Triadic Harmony

Rachel Schank, Mathematics

Mentor: Wilson, Julia

Mathematical Group Theory allows us to talk about the cyclic structure of musical harmony by performing group actions on musical chords, which we limit to the major and minor triads. We will discuss two different group actions on the set of triads. In the end, when we embed them both in a larger group, we see how they are related.

Oral Presentation 1:30-2

Chadwick Brewing Co.: A Business Case Study

Kayla Schum, Joel Carpenter, Claire Sanner, Communication-Video Production

Mentor: Seyedian, Mojtaba

Case study to figure out & recommend which social media site would be the best to use for this new brewing company.

Poster Presentation 2:30-3

Health Messaging: Cardiovascular Disease Prevention In Chautauqua County

Marie Scime, Communication - Public Rel

Mentor: Lyon, Melissa C.

The purpose of this project is to reflect the work I have taken part in during my internship at the Chautauqua County Department of Health and Human Services. During my time in this position, I worked primarily on creating health messages that were sent to companies that took the Chautauqua 250 Pledge, a pledge created by The Chautauqua Health Action Team (CHAT) with an established goal of preventing 250 heart attacks, strokes, and related deaths in Chautauqua County in the coming year. Using all of my gathered research, I was able to create unique, to the point info graphics and print material that easily display health messages about reducing one's risk of developing cardiovascular disease. By standardizing the follow-up process for Chautauqua 250 pledges, Chautauqua County Department of Health and Human Services will be able to respond to these pledges more effectively and with ease.

Poster Presentation 3-3:30

Investigation of the Relationship Between Visible Light Absorbance and Temperature

Mame Seck, Chemistry

Mentor: Milligan, Michael S.

Absorption spectra of bromine and iodine vapor in the visible region of the electromagnetic spectrum were produced to assess the effect of temperature on ground electronic and excited electronic vibrational energy levels. Instrumental parameters, such as scan speed and slit width were optimized to generate the fine spectral features required to assess these quantum mechanical phenomena. As temperature was increased, we detected an expected elevation of vibrational energy levels in both compounds due to increased kinetic energy. Our goal is to map the energies of the the first excited electronic vibrational energy levels for both bromine and iodine.

Oral Presentation 3-3:30

Off the Rails: Study for Conlon Nancarrow

John Secunde, Music Composition

Mentor: Smith, Andrew Martin

In this presentation, I will discuss the music of Conlon Nancarrow, and how I fused some of his techniques with my own personal approach in my piece for MIDI piano "Study for Conlon Nancarrow."

Oral Presentation 1:00-1:20

Educating the Public: Monthly Wellness Promotion

Gianna Sheck, Communication - Media Mgmt

Mentor: Lyon, Melissa C.

This semester I had the opportunity to experience a Public Health internship with WCA Hospital in Jamestown. I acquired a position where I was titled a "Employee Wellness Promotion Coordinator". Under this position I had to collect research on monthly health observances and design creative and new

ways to engage and educate the employees. I created bulletin board materials, flyers and brochures that helped distribute the information and promote health. This internship allowed me to better my skills in disseminating information to the public as well as inform, educate and empower the employees of WCA Hospital on each monthly health observance and how they can help to educate others as well. Concluding this internship, I have completed health observance bulletin boards for three months and have acquired skills that I can apply in not only my Public Health minor but my Communications field as well.

Poster Presentation 4-4:30

A Rhetorical Analysis: You have Body Issues

Gianna Sheck, Communication - Media Mgmt

Mentor: McGowan, Angela Marie

The following essay will explain how Burke's (1945) theory of Dramatism can be used to examine part of Colleen Clark's (2012) comic titled "You Have Body Issues". In 1945, Kenneth Burke presented a dramatic system called Dramatism, which unified rhetoric and poetic in a single analytical framework (Burke, 1945). This system studied and compared statements about motives by examining the ways in which they treated the dramatic elements of human relations. To determine these motives, Burke created the pentad which was made up of 5 terms, those being act, scene, agent, agency and purpose. These terms can be applied to the issue of body image in today's society. The idea of body image sparks the attention of many people across the world because it is such a relatable issue for women.

Poster Presentation 4:30-5

Sig Fig and Scientific Notation Confusion: Misconceptions Regarding Significant Figures and Scientific Notation

Nicole Sottilaro, Mathematics 7-12

Mentor: Howard, Keary J.

This research investigates student understandings of significant figures and scientific notation in mathematics and science. More importantly, exploring the misunderstandings in significant figures and writing numbers in scientific notation. It is hypothesized that college students fail to recall the rules for significant figures. Furthermore, it is hypothesized that students will also have difficulties writing numbers in scientific notation when asked to write their answer to a certain amount of significant figures. More specifically, when students perform one of the four basic operations on numbers in scientific notation, they will forget that the rules of significant figures still apply.

Poster Presentation 4-4:30

A content analysis of online pregnancy message boards of psychotropic medication used during pregnancy

Brianna Stavola, Kara Hall, Sociology

Mentor: Creeley, Catherine Elizabeth and Denton, Lisa Kratz

The purpose of this study is to examine the advice shared on taking prescription medications during pregnancy by analyzing message board content. Zoloft, Paxil, Xanax, Klonopin, Lithium and Tegretol are classified as class C or D drugs, which have been found to cause birth defects. We will collect data from

posts/comments that are publicly available on babycenter.com message boards pertaining to the safety of using the drugs during pregnancy. Our goal is to determine if accurate advice is being shared via message boards. The method is Consensual Qualitative Research(CQR) which is the process of finding recurring themes within a qualitative data set, then classifying the themes. CQR requires an “external auditor” who is not a member of the research team to review the themes and add an additional perspective and double check accuracy. We believe that the majority of commentators’ advice will not be supported scientifically.

Poster Presentation 1:30-2

TLC Health Network Patient Portal

Brianna Stavola, Sociology

Mentor: Lyon, Melissa C.

I worked with TLC health network to develop instructions for Patient Portal. This connects to public health because communication with patients can affect access to health care. Displaying the patient portal in understandable terms can remove a barrier for patients allowing them easier access to medical information. I drafted instruction pamphlets on maneuvering Patient Portal online and the app. In order to create a patient friendly pamphlet, I have to translate medical jargon into terms that patients understand. I will meet with patients in the waiting room to find common language. I then have to troubleshoot with the never used before app to find a way of explaining it’s use. The expected outcomes are an increased usage of the portal. The portal can quickly link patients with their physician and medical information. Linking people to health care is a public health essential service and important to TLC health network.

Poster Presentation 2-2:30

Inventory of the Vascular Flora of the Bentonite Clay Site

Adrianna Stennett, Biology

Mentor: Titus, Jonathan H.

Bentonite clay (also known as Dunkirk Shale) is a soil type known for its ability to absorb large amounts of moisture. It can therefore expand and contract quite substantially. This leads to geological features, such as crevasses, and events, such as landslides, due to the inherent instability of the clay heavy soil. This instability also affects the plants that can grow upon it. Trees and larger shrubs have difficulty in coping with such stresses to their roots, therefore the vegetation is dominated by herbaceous species. Thus far, 140 plant species of plants have been identified within 5 habitat types in a ~2 km² area along Route 60 near Cassadaga, NY. Sixty-four of those species were found to be non-native with 7 of those qualifying as invasive.

Poster Presentation 2:00-2:30

Implementing growth mindset practices in college-level physics classrooms

Sydney Sweet, Physics

Mentor: Simoson, Erica Lynn

Often, college students challenge themselves in their chosen career path based on interests and skills. Lack of confidence is a characteristic of one who acquires a fixed mindset, the belief that someone has a

limited amount of intelligence. Fixed mindsets as opposed to growth mindsets, thinking that one never stops learning, have been studied to understand how a student's mindset can be influenced through classroom experiences. Integration of growth mindset practices in secondary school settings has shown benefits in student academic achievement. It can be difficult to organize a college course curriculum with the promotion of growth mindsets. The following is a proposal to create a college-level physics course to increase the growth mindset of students and promote self-efficacy. The proposed course will incorporate growth mindset practices through engaging class activities to effect overall attitudes. The development of setting goals and providing student feedback will also be considered in this study.

Poster Presentation 2:30-3

The Power and Promise of Student Choice

Katherine Szwejbka, English
Mentor: Siegle Drege, Ann

The responsibilities of English Language Arts teachers are, like those of most educators, widespread. These responsibilities are only growing, with constantly advancing technology changing students' needs, the implementation of Common Core Standards affecting how we teach, and the current political and social climate of the United States creating a sense of urgency in lessons regarding critical thinking, research, rhetoric. But, in the list of obligations an ELA teacher has, where does teaching social justice fall? If you ask some educators, they may tell you that social justice isn't supposed to be on the English curriculum agenda. However, it is my belief, and that of other teachers, researchers, and scholars, that social justice has both a needed and natural place in the ELA classroom. In my paper, I explore how student voice and choice contribute to social justice teaching, increased student engagement, and overall stronger learning experiences.

Poster Presentation 3-3:30

Effects of Chinese Pop Music Selection on Students' Music Familiarity and Preference for Its Traditional Version

Yunshu Tan, Music Education
Mentor: Reese, Jill Alyse

The study investigated effects of Chinese pop music on students' familiarity and preference for its traditional version. Research questions are as follows: (a) is there a difference in students' familiarity with and preference for traditional versions of Chinese folk songs based on their exposure to pop version of Chinese folk songs? (b) is there a relationship between familiarity and preference? and (c) is there a relationship between students' familiarity with and preference for Chinese folk songs (traditional and/or pop versions) based on personality?

Participants were recruited from one World Music course and one Liberal Arts Seminar. Participants completed pretest, treatments, and posttest. Result showed significant main effect for class, but no main effect for treatment. For each genre, music preference was positively correlated with familiarity. Participants who preferred Western Classical music seemed more open-minded and those who preferred Western Pop music seemed more closed-minded.

Poster Presentation 3:30-4

Structure-Function Analysis of gurken IRES Activity

Anthony Tardibuono, Joshua Blundon, Brian Guy, Biology
Mentor: Ferguson, Scott Bruce

Gurken is an EGFR ligand that establishes dorsal-ventral and anterior-posterior patterning in oocyte development in *Drosophila melanogaster*. Spindle-B is required for double stranded DNA break repair during homologous recombination in meiosis. *spn-B* mutants that are subject to dietary restriction lay more wild type eggs reflecting the return of Grk expression. We hypothesize that the grk mRNA has an Internal Ribosomal Entry Site that initiates translation via recruitment of the ribosome independently of the 5' cap. Our current data suggests the IRES is located in the grk 5'UTR. Using a series of deletion mutants, we have identified regions required for IRES activity in vitro. We have also performed a CRISPR mutagenesis screen on the endogenous grk 5' UTR and found some InDel alleles that disrupt IRES activity. To determine the structures that are required for IRES translation, we performed a SHAPE experiment on the grk 5' UTR.

Poster Presentation 2-2:30

Implementation of Huffman Coding Tree Using Linked Lists

Tuna Temiz

Mentor: Arnavut, Ziya

In 1952, David Huffman invented a new coding technique which is called Huffman Coding. In Static Huffman Coding, code-words are generated based on the frequency of symbols in a given source. Huffman codes are stored in a table. Later, encoding is performed by outputting the corresponding code-words from the table for each character read from the source. In this project we use a linked lists data structure in building a Huffman Tree. In order to do this, a sorted linked list based on frequencies of symbols is formed. By adding the frequencies of the two symbols at the front of the linked list a new node with a frequency that is the sum of the frequencies of two symbols is formed. Next, the two symbols are removed from the list and the newly formed node is inserted by preserving the sorted structure of the list. The nodes which are removed from the list are connected to the parent node as left and right children leaf. By repeating this process, until one element is left in the linked list, we form the Tree. To generate a code-word for a symbol, the Tree is traversed; outputting a 0 when we move the left and a 1 when we moved to right, until the symbol in the leaf node is reached. Once a table of code-words are formed, encoding may start. The symbols and their frequency information are stored in the encoded file. To decode, using the frequency information in the file the Huffman Tree is built. As the bits are read from the file the tree is traversed left or right until a leaf node is reached and the corresponding character is emitted. Repeating the process decoding can be completed.

Poster Presentation 3-3:30

Training for Campus Clubs on Applied Learning

Patrick Toscano, Business Admin – Management

Mentor: Suida, Mark P. and McNamara, Susan

Campus clubs and their advisers are an important part of providing students with a well rounded college experience. In this presentation we will be exploring different avenues of improving the impact and involvement of these clubs by offering training and guidelines in order to improve the student experience.

Poster Presentation 3:30-4:00

Gait Analysis

Stephen Tuszni, Interdis Stds-Exercise Science
Mentor: Backes, Todd P.

I will be looking at data collected to study what may impact a persons walkkng gait and what factors go into it.

Poster Presentation 4-4:30

NMR structure of the rCAG repeat associated with Huntington 's disease

Damian Van Etten, Molecular Genetics
Mentor: Fountain, Matthew A.

Huntington's disease is an incurable inherited autosomal-dominant neurodegenerative disorder caused by expanded CAG trinucleotide repeats in the huntingtin gene. Understanding the detailed structure of the CAG triple repeat can help develop drugs that prevent or slow the progression of this disease. We used NMR spectroscopy to determine the 3D structure of a (CAG)₂ double repeat model to understand the features of the CAG repeat containing an A=A non-Watson-Crick base pair. We collected and analyzed NMR spectra from 500 MHz and 700 MHz Bruker Avance NMR spectrometers and obtained structural restraints using SPARKY. These structural restraints were then used in AMBER 14 to generate structures that fit the NMR data. Details of the structure indicate that the two CAG repeats

adopt similar 3D structures with GC base pairs on each side of the AA mismatch. The details of the structure determination process and of the CAG repeat structure will be presented.

Poster Presentation 1-1:30

Adams, Brontë, Child and Stowe: Separate Spheres and Female Literary History

Yue Wang, English - Adolescence Educ

Mentor: VanDette, Emily E.

This paper examines four women writers in eighteenth and nineteenth century literary history. They started to push the boundaries between the private sphere, where women do chores and educate children, and the public sphere, where men work and engage in politics. By publishing, women writers reach out to the public sphere, whereas they often focus on issues that belong to the private domain and reinforce conventional gender codes.

Abigail Adams inserts her voice and power representing the “Ladies” by commenting on politics in her letters although she stresses separate spheres in many writings. Charlotte Brontë’s heroine Jane Eyre married Rochester, making marriage a conversation rather than a contract. Lydia Maria Child’s *American Frugal Housewife* includes housekeeping tips, by which she negotiates democracy and capitalism; Harriet Beecher Stowe’s *Uncle Tom’s Cabin* conveys a clear anti-slavery message by depicting family separation and suffering mothers.

Oral Presentation 4:30-5

Limnology and Phytoplankton Community Structure of Bear Lake (Chautauqua County, NY)

Jennifer Wasielewski, Biology

Mentor: Wigdahl-Perry, Courtney Robin

Bear Lake (Chautauqua County, New York) is a popular fishing destination in western New York. However, very little has been documented about lake chemistry, water quality, or plankton communities. In this research project, the basic limnology of Bear Lake was studied in order to establish a baseline for water quality and algae species present. Data were collected in June, July, and August at two different sites, including secchi depth and Hydrolab profiles (dissolved oxygen, pH, temperature, and conductivity). Water was collected from these sites for additional laboratory analyses for chlorophyll and algae community structure (three depths at one site and two depths at the second). Water clarity declined from June to August, with secchi depth changing from 3.35 meters to 1.1 meters. The dominant phytoplankton community included chrysophytes (Dinobryon), cyanobacteria (Anabaena), and diatoms (Tabellaria). These data on lake water quality and biota will be used to develop a watershed management plan.

Poster Presentation 2:30-3

Model EU Simulation

Joseph Weglarski, Shawn Sprankle, Nicholas Nocek, Zachary Polo, Robert Towse, Paul Christidis, Criminal Justice

Mentor: Rushboldt, Raymond and Caviedes, Alexander Agustin

This project is a poster presentation of our trip and experience in a Model EU Simulation in NYC at the SUNY Global Center. SUNY Fredonia was assigned the countries of Italy and Slovenia. Each group

member was assigned a role to play as an EU representative for these countries, and we research our countries' positions on a series of policy questions. The roles are Head of Government, Foreign Affairs Minister, and Permanent Representative (COREPER). We discuss pressing topics in the EU including EU-US relations, EU relations to its nearest neighbors, and the current refugee crisis.

Poster Presentation 3-3:30

New Arts Organization on Campus Sees Opportunity for Development

Angela Wheeler, Acting

Mentor: Drout, Cheryl E.

The purpose of this organizational development profile is to help prospective members of Artists Alliance determine whether or not they would work with the organization in the future. The profile is approached from the perspective of the field of organizational psychology. As the founder of Artists Alliance, this project has given me the unique opportunity to take a closer look at the inner workings of my organization, and conduct research that will help Artists Alliance thrive in the future. The study consists of an in depth look at management style, organizational structure, communication networks, and examples of organizational culture used by members. In addition to personal experience with the group, I have conducted survey research from members about the organization's functions. Examples will be pulled from the Artists Alliance doctrine, social media pages, and documents. I will create a large format poster as a visual representation of my findings.

Poster Presentation 4:30-5:00

Preventing Substance Abuse Issues in Chautauqua County Through The Implementation of Botvin LifeSkills Training

Patricia Whetstone, Psychology BS

Mentor: Lyon, Melissa C.

In light of serious substance abuse issues across Chautauqua County, preventative efforts have become increasingly important. Chautauqua County Alcohol and Substance Abuse Council (CASAC) is an educational organization that utilizes the evidence-based Botvin LifeSkills Training (LST) program, designed after decades of research determining the causes of drug use. During my 30 hour Public Health internship with CASAC, I utilized LST material on self-esteem, decision making, stress management, effective communication, and assertiveness, for implementation to 45 students at Westfield Elementary School. I learned that these lessons promote personal self-management, drug resistance, and general social skills in youth, likely reducing their risk of substance abuse problems in the future. Over 6 weeks of implementation, I was able to see students gain competence in this material. This has inspired me to continue to work as a prevention educator; informing, educating, and empowering the community to make positive health choices.

Poster Presentation 3-3:30

Improving Health Around Campus

Colleen White, Psychology BS

Mentor: Lyon, Melissa C.

This semester I have been doing an internship at the Health Center on campus as part of my public health minor. I researched and designed a flu prevention brochure to be distributed around campus during the month of February, which is during the height of flu season. Another student and I also designed a survey around the Health and Counseling Centers, as well as Fred ASSIST and the Health Hut. The goal of the survey is to determine where the student body feels these areas are lacking and how best to fix them. For example, longer or different hours for the Health Hut. My experience this semester has been very positive so far. I have enhanced my public speaking skills and learned more about the opportunities and services available to students on the SUNY Fredonia campus and look forward to sharing my experience with others in the future.

Poster Presentation 2-2:30

City of Dunkirk Fire Hydrant Coverage

Emily Wilkinson, Matthew Zerkle, Geology

Mentor: Deakin, Ann Kielkopf and Woodbury, Randy J.

The City of Dunkirk contains more than 400 fire hydrants. These fire hydrants were mapped to show the strongest and weakest areas of coverage. Every fire hydrant has a NFPA class depending on residual pressure, static pressure, and test flow rate @ 20 psi. These classes have five different colors in order of highest capacity: These are the five NFPA Classes: AA (blue) class contains a rated capacity of 1,500 gpm or greater, A (green) class 1,000 to 1,499 gpm, B (orange) class 500 to 999 gpm, C (red) class less than 500 gpm, and D (black) class 0 gpm. Using GIS software like open source QGIS we can keep a record of all hydrants and their flow rates and use GIS to support funding assistance to rebuild all city hydrants for best fire protection.

Poster Presentation 3-3:30

New York City Oil and Gas Well Data

Emily Wilkinson, Geology

Mentor: Boynton, Nancy

The New York State Department of Environmental Conservation contains a database of over 1000 oil and gas wells in New York State. Well drilling began in the 1800s with more than 75000 wells that are still active and growing. New York State obtains around half a billion dollars toward the economy each year from extracting oil and gas from these wells. The county of New York City contains 229 wells that are either active or inactive. Within this well data, there are many other variables that affect well operation and installation. Completion of wells and location are analyzed in this study. How long does a well take to be completed, based on its location? How does the location affect the wells depth? Does the Geological setting of New York City affect the number of wells in the area and where they are placed?

Poster Presentation 3:30-4:00

QGIS advances planning and building public works in Dunkirk, NY

Emily Wilkinson, Matthew Zerkle, Geology

Mentor: Woodbury, Randy and Deakin, Ann Kielkopf

Geosciences and Environmental Sciences students have been sharing their skills with Dunkirk Department of Public Works. Various projects like “Integrating Water Systems” and “An Analysis of Fire Protection Deficiencies” along with “City of Dunkirk Fire Hydrant Coverage” that will be displayed as a poster in this research expo. GIS technology such as QGIS, AutoCad, and ArcGIS were used to address these areas of need. This poster will contain smaller projects that have been worked over the semester: Planned Route for the Marauder Trotter 5K Run, As-Built Drawings of Pipeline Systems, and Schematic Drawing of Future Marina Improvements. These Projects will be used to benefit the City of Dunkirk and help to organize current designs.

Poster Presentation 4:30-5

Improving Dancer-Doctor Communication

Kerri Williamson, Dance

Mentor: Summerton, Angelika

A dancer’s health and well-being are absolutely vital to their ability to do their job. Unfortunately, injury is often an exceedingly common part of a dancer’s life. The relationship between them and those that should be able to help them the most – health care professionals – is often strained and faces many barriers. This strain has several long-term implications on a dancer’s physical and mental well-being. This research aims to look at this strain – what are its causes, why does it occur – and look at ways that it can be alleviated. It will examine both the health care professional’s side and the dancer’s side of the equation and what can be done by each to improve health care for dancers.

Poster Presentation 1-1:30

Dance Performance Abstract

Title of the first presentation/choreography: ***The Space Between Doesn’t Exist***

Choreographer: Paula J. Peters, Assistant Professor, Department of Theatre & Dance

Dancers: Teresa Grosvenor, Jasmine Joyner, Ilana Lieberman, Jasmine Mattar, Nicole Miller, Kati Sherry, Mercedes Smith, Lauren Supples

Understudies: Samantha Mazzalunga, Julianna Millen, Sabrina Sleiman

The Space Between Doesn’t Exist examines the questions: “What separates us?” “What keeps us together?” And most importantly, “How do we move past these divisions?” *The Space Between Doesn’t Exist* seeks to foster dialogue about, and how to move past, the arbitrary space between normalcy and difference. Inspired by the openness and loving acceptance of the dancers for each other, and the people in the world around them.

Title of the second choreography: ***Synthesis***

Choreographer: Ilana Lieberman, BFA Dance Senior

Dancers: Jacquelyne Ambrosio, Lauren Dewey-Wright, Emily Fox, Vanessa Raffaele, Hannah Wagner

For centuries, women have carried a long history of sexism on their shoulders. Women have been taught, amongst many other things, that other women are threats; that there lies a competition between them. This choreography reflects both the personal transformation as well as the collective journey of women coming together in order to rise above.