



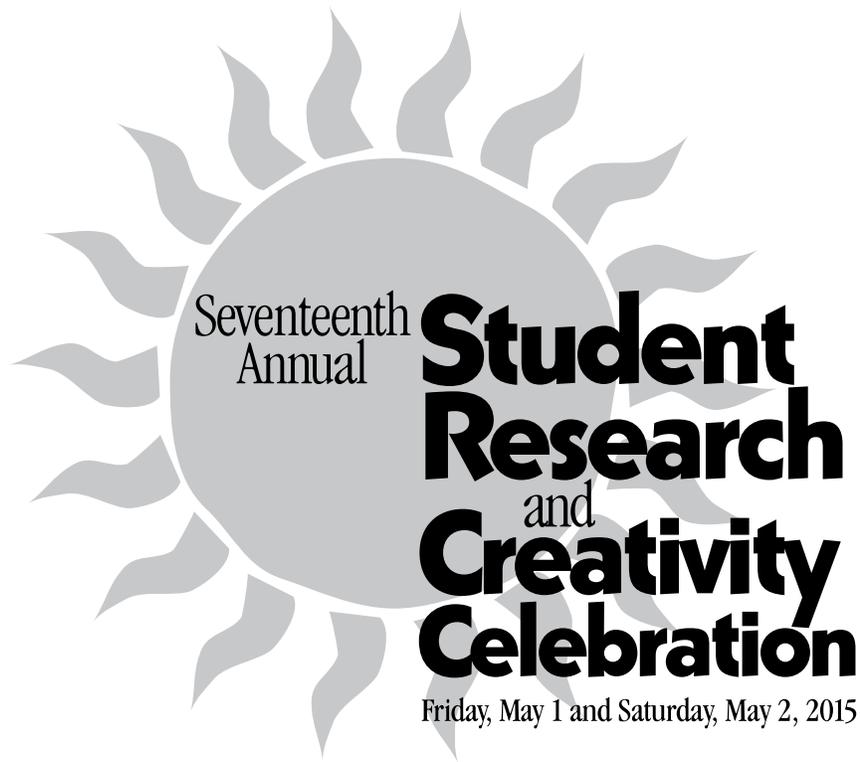
Seventeenth
Annual

Program
& Abstracts
**Student
Research
and
Creativity
Celebration**

Friday, May 1 and Saturday, May 2, 2015



BUFFALO STATE
The State University of New York



Program & Abstracts

Editor

Jill K. Singer, Ph.D.
Director, Office of Undergraduate Research

Sponsored by

Office of Undergraduate Research
Office of Academic Affairs
Research Foundation for SUNY/Buffalo State

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**Department and Program Coordinators for the Seventeenth Annual
Student Research and Creativity Celebration**

Lisa Anselmi, Anthropology
Kyeonghi Baek, Political Science
Sarbani Banerjee, Computer Information Systems
Saziye Bayram, Mathematics
Carol Beckley, Theater
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Eric Dolph, Interior Design
John Draeger, Philosophy and Humanities
Reva Fish, Social & Psychological Foundations
Kelly Frothingham, Geography and Planning
Andrea Guiati, All College Honors Program
Carolyn Guzski, Music
David Henry, Elementary Education and Reading
Deborah Insalaco, Speech Language Pathology
Lin Xia Jiang, Fine Arts
Michael Johnson, Modern and Classical Languages
Jamie Kim, Chemistry

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Dan MacIsaac, Physics
Candace Masters, Art Education
Carmen McCallum, Higher Education Administration
Amy McMillan, Biology
Michaelene Meger, Exceptional Education
Michael Niman, Communication
Jill Norvilitis, Psychology
Kathleen O'Brien, Hospitality and Tourism
Barbara Olivieri, Health and Wellness
Lorna Perez, English
Rebecca Ploeger, Art Conservation
Misty Rodeheaver, History and Social Studies Education
Stephen Saracino, Design
Lynne Scalia, Business
Jim Shea, Engineering Technology
Gary Solar, Earth Sciences and Science Education
Sandra Washington-Copeland, McNair Scholars Program
Jo Yudess, Center for Studies in Creativity

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I am delighted to welcome you to the 17th Annual Student Research and Creativity Celebration at Buffalo State College. We have one of the longest traditions of undergraduate research in SUNY and each year our number of student researchers grows. This year we have over 450 students participating. This tradition provides a unique and exciting opportunity for Buffalo State students to showcase research and creative activities from all academic disciplines. During this two-day event many of our talented students will exhibit their work in a variety of venues such as theatrical and musical performances, gallery exhibits, posters, talks, and demonstrations.

It is through research that we acquire new knowledge, solve many problems and discover new approaches and information for existing theories and laws. Studies have shown that research enhances what students learn in the classroom; engages their intellectual curiosity; satisfies their thirst for discovery, and provides an outlet for their creativity. We believe that many of our students also gain self-confidence and grow intellectually by engaging in research and creative activities. Additionally, research fosters meaningful and long-lasting relationships between a student and his or her faculty mentor and advisor. These relationships often extend beyond graduation and help to keep our alumni connected to the institution and returning to inspire current students.



At Buffalo State we are proud of our efforts to provide stimulating and meaningful initiatives for our students to learn, grow and develop into strong leaders and solid citizens. The Annual Student Research and Creativity Celebration is certainly one of our premier learning initiatives.

I congratulate and commend the talented students who are participating in this year's celebration. I also thank the faculty mentors and advisers who work with such commitment and dedication to bring our students to this level of scholarship.

Again, welcome to all. I hope that you enjoy the 17th Annual Student Research and Creativity Celebration at Buffalo State College.

A handwritten signature in cursive script that reads "Katherine Conway-Turner".

Katherine Conway-Turner, Ph.D.
President

Recommendations for effective educational experiences of college students emphasize the importance of engagement, high-impact learning, student-faculty interaction and experiential learning. All of the above and more are found in the student experiences we embrace at the 17th Annual Student Research and Creativity Celebration.

This celebration is a showcase of the artistic, creative, and intellectual accomplishments of Buffalo State students. It is an opportunity to acknowledge the mentorship of Buffalo State faculty as they assist students in project design, with problem solving, and in experiencing the joy of intellectual discovery. The celebration is an all-campus event magnificently organized and coordinated by Dr. Jill Singer with the support of the Sponsored Programs office, Dean Mark Severson, and many students, faculty, and staff. Thanks to Dr. Singer and to all involved in the planning and implementation of this annual event. And a special appreciation to all who attend and support Buffalo State in our 17th Student Research and Creativity Celebration.



A handwritten signature in cursive script that reads "Dennis Ponton".

Dennis Ponton, Ph.D.
Provost

Welcome to the Student Research and Creativity Celebration!

This year's 'Celebration' is Buffalo State's 17th and the largest ever with over 375 presentations, art exhibits, and performances. Listen as students share their personal and disciplinary discoveries in the pursuit of new knowledge, deeper understandings, and new works of art. The conversations span the arts, humanities, education, natural and social sciences, and computer and engineering technology. Many presentations address community themes, while others reflect scholarly projects that involved international travel. But whether local or 1000s of miles from Buffalo State, the students presenting today have gained an appreciation of the research process, overcoming myriad challenges, and the confidence that they can make meaningful contributions to their discipline while gaining skills that will serve them well as they embark upon graduate school and throughout their professional careers.

Guiding the students along their journey of discovery are dedicated faculty members that provide guidance and encouragement. The direct and indirect benefits of mentoring are not easily quantified, but the interactions between mentor and researcher can nurture the joys of learning and contribute to the student's long-term success. As undergraduate research continues to gain momentum on campuses across the country, Buffalo State contributes to conversations about effective models for integrating undergraduate research into the curriculum and evaluating the impact of undergraduate research.



The Student Research and Creativity Celebration is the culmination of many months of planning and requires the support and assistance from individuals and offices across the Buffalo State campus. I gratefully acknowledge all these individual efforts and enthusiasm shared by the campus for this event. This year, I want to especially thank Dr. Dennis Ponton, Provost and Vice President of Academic Affairs. Dr. Ponton has announced his retirement, and while he certainly has earned it, he will be sorely missed in his daily presence on campus. His steadfast support for student research will leave an indelible impact on the Office of Undergraduate Research, established under his leadership. Dr. Ponton's unwavering support for undergraduate research has allowed opportunities for students to increase even during difficult budgets.

I hope you enjoy listening to and meeting the student presenters. I am certain you will be impressed by the diversity and quality of their presentations. Thank you for attending this event and supporting our student presenters and their faculty mentors.

Enjoy the program!

Sincerely,

A handwritten signature in cursive script that reads "Jill Singer".

Jill Singer, Ph.D.

Professor of Earth Sciences

Director, Office of Undergraduate Research

Our Research and Creativity Celebration showcases the engaged learning and the commitment to excellence that characterize SUNY Buffalo State. The work we all enjoy during this two-day event highlights our faculty's commitment to mentoring and our students' commitment to learning. As research and scholarship are the hallmarks of a graduate education, the Graduate School is proud to support this work. I warmly congratulate all the students participating in this great weekend of intellectual and artistic expression—especially the graduate students—and sincerely thank all the faculty mentors for their contributions to student achievement. As always, we extend a special thanks to Dr. Jill Singer for her passionate leadership and for organizing the Research and Creativity Celebration, now in its 17th year!



Kevin Railey, Ph.D. Associate Provost and Dean, The Graduate School



It is my pleasure to welcome students, faculty, and staff to the 17th Annual Student Research and Creativity Celebration. Buffalo State takes great pride in your contributions to our community of scholars and learners. This program has become a distinctive feature of Buffalo State as it represents students taking courageous steps forward to make original contributions to the body of knowledge or art. We are proud to support you as you continue to explore new ideas and advance the conversation.

Scott L. Johnson, Ph.D., Dean, University College and Associate Vice President for Undergraduate and International Education

Welcome to the 17th Annual Student Research and Creativity Celebration! We are proud to applaud the extraordinary achievements of talented students who are sharing their scholarly pursuits today. We also appreciate the inspiration of their faculty collaborators who continually demonstrate their passion for excellence and commitment to nurturing students. On behalf of the School of Arts and Humanities, I am delighted to congratulate all participants in this celebration.



Benjamin C. Christy, A.Mus.D., Dean, School of Arts and Humanities



The School of Education is particularly excited to welcome students, faculty, staff, and friends of Buffalo State to the 17th Annual Student Research and Creativity Celebration. This yearly event is a dramatic demonstration of the astounding outcomes that result when the ingenuity, inventiveness, and curiosity of our students are coupled with the inspirational and attentive leadership of our faculty. On this day, we focus sharply on your unique contributions to the present volume of knowledge about ourselves and our world, but we also get a vision of the future. Each year you inspire me. Each year exceeds the year before. Each year affirms our mission to serve learners and learning by providing the fertile ground where thought, passion, innovation and hard work can grow an idea into a spectacular cloud of possibilities. Congratulations!

Wendy A. Paterson, Ph.D., Dean, School of Education

I am very pleased to welcome and congratulate the students and their faculty mentors contributing to the 17th annual Student Research and Creativity Celebration. The participation by undergraduate and graduate students in research is one of the highest priorities in the School of Natural and Social Sciences, because it is an extremely valuable and rewarding educational experience for students and faculty alike. This showcase of the outstanding research and creative work of Buffalo State students is very impressive in its size and variety, and proves the importance of this work to the College.

Mark W. Severson, Ph.D., Dean, School of Natural and Social Sciences



On behalf of The School of The Professions, congratulations to all the student presenters participating in the 17th annual Student Research and Creativity Celebration! This wonderful event showcases the outstanding work done across our many different academic programs, and, during this 'Year of The Innovator', we are especially proud of the research and creative endeavors you have undertaken this year. Please know this is a significant academic accomplishment, and your work is inspiring to us all. We extend thanks also to the faculty mentors that encouraged and supported these students.

Rita M. Zientek, Ph.D., Interim Dean, School of the Professions



Saturday, May 2, 2015

E.H. Butler Library

Oral Papers

Rooms 208, 210, 314, and 316

Business, Computer Information Systems, Education, and Engineering Technology

Room 208

8:30 a.m. – 11:45 a.m.

Presenting:

8:30 a.m. – 9:30 a.m. (*each presenter is provided 15 minutes*)

Board Games Don't Have to Be Boring
Austin Stroh, Fine Arts

An Exploration of Brand Preferences Between Apple and Samsung Smartphones
Ahmad Jamjoom, INT 689: Research Design and Methodology

Chaotic Cortex: An Innovative Design Collection
Tomiko Harris, FTT 451: Senior Project

Developing an Anatomy and Physiology Placement Test
Rozanne Redlinski, SCI 690: Master's Project

9:30 a.m. – 10:30 a.m. (*each presenter is provided 15 minutes*)

Are Teachers Prepared to Work With Students With Disabilities: Comparison of Chile and United States?
Chelsea Davidson, EDU 389: International PDS & Service Learning Dominican Republic

Let's Make It Real: Connecting Mathematics to Adolescents' Everyday Lives
Verna Maximin, Mathematics Education

The Rural Educator: Perceptions and Motivating Strategies
Kaitlyn Gardner, EDU 690: Master's Project

Development of an Efficient Transfer Pathway for the Advanced Manufacturing Technology Program at Hudson Valley Community College
Brian Wickham, INT 689: Research Design and Methodology

10:30 a.m. – 11:45 a.m. (*each presenter is provided 15 minutes*)

Live. Travel. Get Rich. Studying Abroad: The Quick Road to Success

Devan Brady, HON 400: Muriel A. Howard Honors Colloquium

An Investigation of Female Unemployment in the Kingdom of Saudi Arabia

Hyfa Barnawi, INT 689: Research Design and Methodology

Classroom Management: Structure, Freedom, or Both? Creating an Effective Learning Environment for Students
Shannon Lafferty, Exceptional Education

Using the Flipped Method of Teaching in a High School AutoCAD Classroom

Stephen Malusa, INT 689: Research Design and Methodology

Enterprise Resource Planning in a Manufacturing Setting: How Companies Succeed and Fail

Cristy Guay, INT 689: Research Design and Methodology

Arts and Humanities: I Room 210

8:30 a.m. – 12:00 p.m.

Presenting:

8:30 a.m. – 9:30 a.m. (*each presenter is provided 15 minutes*)

The Effects of Misogynistic Representations of Female Journalists
Sarah Minkewicz, COM 450: Communication and Society

The Gender Glitch
Joan Nobile, Media Production

The Portrayal of Women in Fairy Tales
Sara Ali, COM 450: Communication and Society

Are We Not All Women?
Ciara Rollins, PHI 401: Respect, Diversity and Disagreement

9:30 a.m. – 10:30 a.m. (*each presenter is provided 15 minutes*)

Geek Gatekeeping: No Girls Allowed
Joan Nobile, COM 450: Communication and Society

From the Bottom Shelf Up: Building an Informal Library
Catherine Morse, English

The Importance of Lightness in Literature
Alexander Mogavero, HON 400: Muriel A. Howard Honors Colloquium

Tenor Passaggio in the Repertoire of the American Musical Theater
Robert Sherman, Music and Theater

10:30 a.m. – 11:30 a.m. (*each presenter is provided 15 minutes*)

The Classic Romantic: A Comparison of Beethoven's First and Last Symphonies
Amanda Paruta, Music

Little Old Lady Who? Yodeling Through the Ages
Caitlyn McCaslin, MUS 440: Ethnomusicology

The Letter, One's Destiny: a Reading of Poe's "The Tell-Tale Heart"
Garrett Busshart, ENG 390: Literary Theory and Criticism

Subterranean Searcher: Kerouac's Life of Jazz and Buddhism
Brian Johnson, English

11:30 a.m. – 12:00 p.m. (*each presenter is provided 15 minutes*)

Lose to Win

Cassandra Elahrag, Rachel Wach, Krystina Lucas, and
Airi Kohlbach, THA 389: Destination Imagination

Making Waves to Feary Tales

Sara Stanish, Briand Taylor, Trevlyn Henry, Diane Jones,
and Shatai Melvin, THA 389: Destination Imagination

Physical Geography, Sciences, and Mathematics: I

Room 314

8:30 a.m. – 11:30 a.m.

Presenting:

8:30 a.m. – 9:30 a.m. (*each presenter is provided 15 minutes*)

Accessing the Human Genome

Eleana Martinez, AMT 495: Applied Mathematics

Mathematics on Predators and Prey

Kaylee Gatto, MAT 491: Research in Mathematics

The Prevalence of a Chytrid Pathogen, *Batrachochytrium dendrobatidis*, in the Eastern Hellbender Populations of New York

Linxuan Wu, Biology

Symmetry Within Music and Art

Jessica Katrein, MAT 491: Research in Mathematics

9:30 a.m. – 10:30 a.m. (*each presenter is provided 15 minutes*)

Using Ground Penetrating Radar for Geoarchaeological Investigations in Western New York

Trevor Jennings, Earth Science

A Novel Approach to Fabricating SERS Substrate

Eric Gauchat, Chemistry

The Potential Plasticizing Effects of Tinuvin® 292 on Varnishes and Adhesive Components for Paintings Conservation

Carlos Rosales, Forensic Chemistry

TNVR: An Effective Humane Approach to Curb Overpopulation of Free Roaming Community Cats

Julie Tatro, HON 400: Muriel A. Howard Honors Colloquium

10:30 a.m. – 11:30 a.m. (*each presenter is provided 15 minutes*)

Acoustic Analysis and Construction of High and Medium Frequency Horn Loudspeakers

Peter Dragos, Mathematics and Music

Global Positioning System Uses, Mathematics, and Privacy Concerns

Edward Block, MAT 491: Research in Mathematics

The Pythagorean Theorem

Emery Fleck, MAT 491: Research in Mathematics

Risk of Survival in the ICU

Sarah Herberger, AMT 495: Applied Mathematics

Humanities: II

Room 208

1:00 p.m. – 3:15 p.m.

Presenting:

1:00 p.m. – 2:00 p.m. (*each presenter is provided 15 minutes*)

You Don't Have to Pull My Chair Out, But it Still is Nice

Briand Taylor, PHI 401: Respect, Diversity and Disagreement

Objectification of Women in Advertising

Michael Marden, COM 495: Project

Handling Casual Racism in the Workplace

Collin Zastempowski, PHI 401: Respect, Diversity and Disagreement

"Redskins"

Nick Lipa, SPC 426: Documentary Film Analysis

2:00 p.m. – 3:15 p.m. (*each presenter is provided 15 minutes*)

Why It's OK for Women to Wear Yoga Pants in Public and Why Men Shouldn't Be Creeps About it

Robert Harms, PHI 401: Respect, Diversity and Disagreement

Plastic Surgery and the Strive for Perfection

Kuburat Ibikunle, COM 450: Communication and Society

Starving for Excellence

Jessica Cassick, SPC 426: Documentary Film Analysis

S4S Campus Clean-up Assessment

Jessica Lauer and Jocelynn Richter, PHI 189: Students For Sustainability

At-Risk Youth Outreach Effectiveness Analysis

Anthony Maldonado, PHI 189: Students For Sustainability

Humanities: III

Room 210

1:00 p.m. – 4:30 p.m.

Presenting:

1:00 p.m. – 2:00 p.m. (*each presenter is provided 15 minutes*)

Advertising and the Destruction of Coral Reefs

Veronica Ponce, COM 450: Communication and Society

The Harmful Global Marketing of Infant Formula

Angel Waggoner, COM 450: Communication and Society

Money Talks

Dave DeLuca, SPC 426: Documentary Film Analysis

Would You Let Your Children Watch That? Advertising Sexual Activity to Children

Elizabeth Roesch, COM 450: Communication and Society

2:00 p.m. – 3:00 p.m. (each presenter is provided 15 minutes)

Food and Health Marketing: Making Money by Misleading

Nicholas Malahosky, COM 450: Communication and Society

Keeping Up with the Joneses: How Media Shapes Perceived Societal Norms

Kelly Mackowiak, COM 450: Communication and Society

Nappy But I'm Happy: Depiction of Black Hair in the Media

Fatoumata Toure, COM 450: Communication and Society

Marketing to the LGBTQ Community

Rachel Doktor, COM 450: Communication and Society

3:00 p.m. – 4:00 p.m. (each presenter is provided 15 minutes)

HockeyTwitter: How Twitter and Hockey Correlate

Brayton Wilson, COM 450: Communication and Society

Catch the Wave: How Has the Hallyu Wave Impacted North America?

Shatai Melvin, COM 450: Communication and Society

Popular Media and the Gross Misrepresentation of Foreign Cultures

Emil Goranov, COM 450: Communication and Society

The Manufacturing of Mental Illness: Taking Advantage of Advertising

Laura Doxbeck, COM 450: Communication and Society

4:00 p.m. – 4:30 p.m. (each presenter is provided 15 minutes)

The Detrimental Effects of Cellular Communication

John Reed, COM 450: Communication and Society

Veteran Health Concerns in Media: PTSD Awareness

Angel Waggoner, HON 400: Muriel A. Howard Honors Colloquium

Physical Geography, Sciences, and Mathematics: II

Room 314

1:00 p.m. – 3:30 p.m.

Presenting:

1:00 p.m. – 2:00 p.m. (each presenter is provided 15 minutes)

Euclid Unparalleled? The Fifth Postulate

Kimberly Hendricks, MAT 491: Research in Mathematics

A Multivariate Regression Model for Stock Market Price

Brian West, AMT 495: Applied Mathematics

Outsourcing Logistics Activities: A Cost Analysis

Stacy Zalamea, AMT 495: Applied Mathematics

Tessellation vs. Penrose Tiling: What's the Difference?

Calvin Leung, MAT 491: Research in Mathematics

2:00 p.m. – 3:00 p.m. (each presenter is provided 15 minutes)

Being a Spy: Encoding, Decoding, and Correcting Errors with Reed-Solomon Code

Mike Grunzweig, MAT 491: Research in Mathematics

Solutions to Polynomials

Angela Zych, MAT 491: Research in Mathematics

Solvability of Higher Order Polynomials

Eleana Martinez, MAT 491: Research in Mathematics

The Relationship between Riemann and the Lebesgue Integral

Tiansheng Zhao, MAT 491: Research in Mathematics

3:00 p.m. – 3:30 p.m. (each presenter is provided 15 minutes)

Fractals: Finding Measure in the Immeasurable

Amanda Rojo, MAT 491: Research in Mathematics

Fractal Models of Real World Phenomena

Alban Morina, AMT 495: Applied Mathematics

Psychology and Social Sciences

Room 316

1:00 p.m. – 4:30 p.m.

Presenting:

1:00 p.m. – 2:00 p.m. (each presenter is provided 15 minutes)

Backyard Nightmares: Surviving Love Canal

Jennifer Kwoka, HIS 300: Research and Writing Seminar

The Body as a Force for Change: Deconstructing Femen's Topless Power-Performances

Sarah Twardowski, ANT 498: Honors Research

Federation, Consociation, and Conflict in Greater Kurdistan:

Exploring the Effects of Transnational Group Power on Intrastate Conflict

Megan Connelly, Political Science

Gettysburg: The Battle of Communication

Daniel Moreno, HON 400: Muriel A. Howard Honors Colloquium

2:00 p.m. – 3:00 p.m. (each presenter is provided 15 minutes)

Betrayal at Veracruz: Santa Anna's Return to Mexico

Eric Szymanski, HIS 300: Research and Writing Seminar

Che: An Argentinian Revolutionary in Bolivia

Zachary Snellings, HIS 300: Research and Writing in History

Irish Republicanism in Transition: The Fenian Brotherhood in the Aftermath of the Failed 1866 Invasion of Canada

James Siniscalchi, History



An Ethnographic Analysis on Government Participation and Perception Among 'Bronies'

Alexandra Agostinelli, Political Science

3:00 p.m. – 4:00 p.m. (each presenter is provided 15 minutes)

Native Americans and Early Buffalo

Anadarlin De Jesus, HIS 300: Research and Writing Seminar

The Affect Afterline

Joseph King, Sociology

Intimate Partner Violence on Campus: An Examination of Attitudes Among Students Attending a Large Urban College

Diamond Briggs, Sociology

Intersections of Identity: Race and Sexuality

Adonis Kernan, Sociology

4:00 p.m. – 4:30 p.m. (each presenter is provided 15 minutes)

Humor in Federal Law Enforcement

Kristine Celeste and Hannah Stryker, HON 400: Muriel A. Howard Honors Colloquium

Self-Exploration and the Benefits of Intrapersonal Skill Development

Naomi Skarupinski, Individualized Studies

Art Exhibits, Dance, and Theatre

Warren Enters Theater, Upton Hall

Tuesday, April 28, Wednesday, April 29, Friday, May 1 at 8 p.m. & Saturday, May 2, 2 p.m. and 8 p.m.

Blue Prints: Dance and Architecture

Casey Weidman, Maiya Carson, Jill Turner, Katie Norris, Amanda Kugler, and Shawambie Webbe, Elizabeth Halstead, Enya Kalia Jordan, Keanna Morrison, Chelsea Rush, Jesse Soto, and joined by 12 additional students
DAN 320: Rehearsal and Production

Flexible Theatre, Donald Savage Theater and Communication Building

Thursday, April 30, 12:15 p.m. – 1:30 p.m.

Growing Women

Courtney Rosiek, HON 400: Muriel A. Howard Honors Colloquium

Rockwell Hall 22 – Dance Studio

Saturday, May 2, 9:30 a.m. – 10:15 a.m.

Exploration of Modern Dance

Elizabeth Halstead, Arts and Letters

Saturday, May 2, 11:00 a.m. – 11:30 a.m.

Traces Choreography Project

Elizabeth Halstead, Arts and Letters

E.H. Butler Library, Mezzanine Level

Presenters will be available Friday, May 1 from 5:00 p.m. – 6:30 p.m. and Saturday, May 2 from 11:30 a.m. – 1:00 p.m.

Images of Community: Buffalo in Typography

Lyndsay Raymond, HON 400: Muriel A. Howard Honors Colloquium

In Memory of the Present

Kenny Leon, Painting

Investigating Rape Culture Through Painting

Molly Bader, HON 400: Muriel A. Howard Honors Colloquium

Revisiting and Appropriating Iconic Masterpiece Paintings of Western Art in the Context of Contemporary Culture

Dustin Perdziak, Painting

Seeing Mental Illness: Altering Perceptions and Addressing the Stigma of Persons Living with Psychiatric Disorders

Marissa Szprygada, HON 400: Muriel A. Howard Honors Colloquium

Poster Sessions and Displays

Butler Library Lobby

8:30 a.m. – 4:30 p.m.

Session I: 8:30 a.m. – 9:30 a.m.

Presenting:

Affordable Care Act: Is it Good for Americans?

Taylor Swiatek, HEW 411: Critical Issues in Health and Wellness

An Analysis of an Unplanned Pregnancy Through the Scope of Film

Madison Amey, HON 400: Muriel A. Howard Honors Colloquium

Apple Cider Vinegar, a Weapon for Diabetes Management and Overall Health

Casey Rice, NFS 330: Integrative and Functional Nutrition

Are Grades the Best Form of Evaluation?

Shannon McCooey, EDU 389: International PDS & Service Learning Dominican Republic

Brides of the Howard D. Beach Collection: The Use of Fashion Trends in Photograph Dating

Alyssa Frije, MST 590: Independent Study

Communicative Teaching in the Foreign Language Classroom

Sarah Banas, EDU 690: Master's Project



- Detrimental Slumber
Raymona Bell, HEW 411: Critical Issues in Health and Wellness
- Do it for the Kids
Samaleh Kahin, HEW 411: Critical Issues in Health and Wellness
- The Efficacy and Safety of Homeopathic Traumeel® vs NSAIDs in Pain Management and Healing
Kerry Keyes and **Christina DiFrancesco**, NFS 330: Integrative and Functional Nutrition
- Fecal Microbiota Transplant: An Alternative Approach to Treating *Clostridium difficile* Infections
Melissa Rosenburg and **Mary Gleason**, NFS 330: Integrative and Functional Nutrition
- Flipping an English Second Language Classroom with Tablets
Michael Masich, EDU 690: Master's Project
- Get a Clue, Fight the Flu
Kaitlyn Gustafson, HEW 411: Critical Issues in Health and Wellness
- Get Screened for Prostate Cancer: It Can be a Life Enhancer
Michael Burgard, HEW 411: Critical Issues in Health and Wellness
- ¿Habras Español? Investigating Effective Methods of Teaching the Spanish Language to English Speakers
Mindy Lamb, HON 400: Muriel A. Howard Honors Colloquium
- I Eat When I'm Unhappy and I'm Unhappy When I Eat
Alexandra Opera, HEW 411: Critical Issues in Health and Wellness
- Kindergarten Writers Learning in a Writing Workshop Approach
Devon Printup, EDU 690: Master's Project
- Let's Do Some Thinking: German vs. United States Classrooms
Taharra Battle, Early Childhood Education
- A Place of Our Own: Preserving Ruthenian Identity and Traditions Through a Community Cultural Center
Deirdre Reynolds, MST 640: Museum Administration
- Play in Cabarete, Dominican Republic
Jessica Arana, EDU 389: International PDS & Service Learning Dominican Republic
- A Property Value Impact Assessment: The Case of Tim Hortons in Buffalo, NY
Laura Stetzko, Economic Geography
- Real Men Wear Purple
Michael Agro, HEW 411: Critical Issues in Health and Wellness
- Runway 8.0: Innovative Comfort Collection
Hannah Trainer, FTT 451: Senior Project
- Stages to Excellence: Early Intervention
Asia Ceasar, HEW 411: Critical Issues in Health and Wellness
- Student Teaching in Torremaggiore, Italy
Anna Morton, EDU 389: International PDS & Service Learning-Italy
- Subtraction: Moving Beyond Standard Algorithms
Christine Kling, EDU 651: Theory, Research, and Practice in Mathematics Instruction
- Swallowing Disorders in Elderly Patients
Anna Gordon, HON 400: Muriel A. Howard Honors Colloquium
- Teacher Certification: New York State vs. the Dominican Republic
Sarah Priore, EDU 389: International PDS & Service Learning Dominican Republic
- Teaching Spanish Using a Project Methodology Approach
Jessica Hills, EDU 690: Master's Project
- Teen Mom: Niagara County
Amanda Nassar, HEW 411: Critical Issues in Health and Wellness
- They Say People Are Crazy: We Have No Idea
Kelsey Broadley, HEW 411: Critical Issues in Health and Wellness
- Tracking Erie County Public Health: Impact of Substance Abuse Prevention Activities
Iecha Bermudez, Criminal Justice, **Brian Morris**, Economics, **Yasmine Payton**, Public Communications, **Tiffany Perez**, Biology, **Je'Tyra Perry**, Business, **Racquel Praino**, Dietetics, **Kayla Tanksley**, Individualized Studies, and **Bianca Williams**, Psychology
- Wading Through Dietary Supplements on Regulations and Claims
Elizabeth Davis and **Rebecca Pitman**, NFS 330: Integrative and Functional Nutrition
- Working Memory in Typically Developing Adolescents
Hayley Payne, Speech-Language Pathology
- Young Adult Literature in Secondary Education
Jena Nunnari, HON 400: Muriel A. Howard Honors Colloquium

Session II: 9:30 a.m. – 10:30 a.m.

Presenting:

- Addicted to Love... Diamonds, Clubs, and Spades
Savanna Terreberry, HEW 411: Critical Issues in Health and Wellness
- Analysis of Wagers on College Basketball Games as Influenced by the Mafia
Andrew Gagola, SPC 426: Documentary Film Analysis
- Are Probiotics Effective Remedy for Irritable Bowel Syndrome?
Brandon Gross and **Matthew Pellerite**, NFS 330: Integrative and Functional Nutrition
- Behavior Management with Dojo
Annalise Stark and **Alexandra Seibert**, HON 400: Muriel A. Howard Honors Colloquium
- Believe in the Fight
Paul Arzu, SPC 426: Documentary Film Analysis
- Breastfeeding is a Gift That Lasts a Lifetime
Elizabeth Coffie, HEW 411: Critical Issues in Health and Wellness

Chelation Therapy for Alzheimer's Disease

Samantha Williams and **Aubrey Wilkins**, NFS 330:
Integrative
and Functional Nutrition

Community, Language, and Education: History of the Deaf
Community in WNY

Hannah Fish, HIS 300: Research and Writing Seminar

Determining Citizen Preference: Why Are We So Different?

Taryn Moss, PSC 470: Senior Seminar

DHA: An Important Essential Fatty Acid to Delay Onset of
Cognitive Impairment

Heather Kelleher and **Lindsey Vonreyn**, NFS 330: Integrative
and Functional Nutrition

The Effects of Telomeres on Aging and Disease

Elizabeth Hartz, NFS 330: Integrative and Functional Nutrition

Gender Difference in the Perception of Color Using Event-Related
Potentials

Abigail Beyler, **Marissa D'Orazio**, **Tanajah Davis**, **Tracy
McLeod**, **Jennifer Steinhorst**, and **Michael Thompson**, FTT
475: Senior Seminar in Fashion Merchandising and Marketing

Held Mentally, Trapped Physically

Daniel Gilbert, HEW 411: Critical Issues in Health and Wellness

I'll Rise...But I Won't Shine

Arisbel Gil, HEW 411: Critical Issues in Health and Wellness

The Impact of Education on Crime

Brandon Myers, PSC 470: Senior Seminar

The Impact of the Food Safety Modernization Act of 2011

Jamison Powell, HON 400: Muriel A. Howard Honors
Colloquium

The Influence of Hip-Hop on the Sports World

Montez Walker, SPC 426: Documentary Film Analysis

Is There a Causal Link Between Age and the Complexity and Type
of Crime?

William Knight, Political Science

It's a PT

Brandon Carmouche, HEW 411: Critical Issues in Health and
Wellness

Knowledge is the Best Protection from HIV

Joseph Fortunato, HEW 411: Critical Issues in Health and
Wellness

Make Every Breath Count!

Nicole Paszek, HEW 411: Critical Issues in Health and Wellness

One Day in September: A Study in Film

Carrisa Welch, SPC 426: Documentary Film Analysis

Plant Foods Battle Cancer

Carly Dryden and **Drew Hemler**, NFS 330: Integrative and
Functional Nutrition

The Power of Foods for Prevention of Cancer

Hannah Santoro and **Jason Stewart**, NFS 330: Integrative and
Functional Nutrition

Public Opinion and its Effect on American Foreign Policy

Dyllan Robert Wloch, PSC 470: Senior Seminar

Public Service Announcements: Do They Work or Not?

Harris Danenza, PSC 470: Senior Seminar

The Role of the School Schedule in Student Learning

Emily Honsberger, Elementary Education

Sober Up 101: A Crash Course in Buzzed Driving

Alexis Weigel, HEW 411: Critical Issues in Health and Wellness

Sound and Innovation in Hospitality and Entertainment

William McDermott, HTR 495: Project

Sports and Inner City Youths

Charles Walker V, SPC 426: Documentary Film Analysis

Starving for Perfection

Iesha Hamilton, HEW 411: Critical Issues in Health and
Wellness

"Steep": The Price of the Adrenaline Rush in Extreme Sports

Alyssa Burry, SPC 426: Documentary Film Analysis

Tour Around the World: Using Books to Teach Third-Grade
Students About Countries

Sara Garfinkle, EDU 690: Master's Project

Unzipped: Hollywood Glamour Meets Modern Innovation

Sabrina Carey-Cooke, FTT 451: Senior Project

Welfare and Higher Education: Breaking the Cycle of Poverty

Courtney Slisz, PSC 470: Senior Seminar

Youngstown Prisoners

Joseph DiBiase, SPC 426: Documentary Film Analysis

Session III: 10:30 a.m. – 11:30 a.m.

Presenting:

Analysis of Different Iron Compounds in Dietary Supplements

Jessica Spencer, HON 400: Muriel A. Howard Honors
Colloquium

Are Literacy Specialists Prepared to Work with ELs in PDS
Partnerships?

Elizabeth Kuttesch, Literacy Specialist B-12

Before Games Were Gold Mines

Daniel Almasi, SPC 426: Documentary Film Analysis

The Benefits of Nutrition Supplementation and Naturopathic
Medicine on Anxiety and Depression

Larissa Weinheimer and **Ameisha Thomas**, NFS 330:
Integrative and Functional Nutrition

Bone Damage Due to Scavengers in Central New York

Jefferson Sinnott, HON 400: Muriel A. Howard Honors
Colloquium

Boys in the Hood: Code Black

Gerald Alexander Jr., HEW 411: Critical Issues in Health and
Wellness

Breaking News: Osteoporosis on the Rise

Thuy Vo, HEW 411: Critical Issues in Health and Wellness



- A Breath of Fresh Air
Allyson Wrazen, HEW 411: Critical Issues in Health and Wellness
- Building an Efficient Kiln: Materials, Fuel and Time
Stephanie Fowler, Ceramics
- Can Women Have One-Night Stands with Self-Respect?
Maria Lema, PHI 401: Respect, Diversity and Disagreement
- The Classrooms of Diversity
Yasmin Davis, Katrina Clark, Lily Dezervos, Colvina Mitchell, Kara Rudnick, and Alexandria Ziccardi, EDU 312: The Teaching of Mathematics and Science
- Did You Just Say N-----?
Crystal Goodwin, Biology and Psychology
- Does the Size of Your Wallet Matter: Poverty and Education?
Katelyn Warden, EDU 389: International PDS & Service Learning Dominican Republic
- The Fabricated Self
Stephanie Kahn, Metals/Jewelry Design and Dietetics
- Fungus Among Us: A Look at Medicinal Mushrooms for the Prevention and Treatment of Cancer
Cara Fiasco, NFS 330: Integrative and Functional Nutrition
- Gender Inequality and Young Women in Sports
Rose Portner, SPC 426: Documentary Film Analysis
- How Does Parent-Teacher Interaction Affect a Child's School Success?
Morgan Allender, EDU 389: International PDS & Service Learning Dominican Republic
- How Prepared Are Teacher Candidates for Technology in the Classroom?
Daniel Klein, Elementary Education and Reading
- Is Excessive Drinking Really That "Cool"?
Janine Thompson, HEW 411: Critical Issues in Health and Wellness
- Is There Romance Without Respect?
Tatyanna Picou, PHI 401: Respect, Diversity and Disagreement
- Liver is Off the Menu: Cirrhosis
Michelle Rossi, HEW 411: Critical Issues in Health and Wellness
- Lung Cancer Mortality: Help Make a Change
Jenna Clarke, HEW 411: Critical Issues in Health and Wellness
- Mark Making to Stimulate Creative Process
Sean Leavell, Painting
- Non-Fiction Cross-Curricular Integration
AnnMarie Henesey, EDU 690: Master's Project
- Omega-3: Mega Help for the Brain
Tina Jernatowski, NFS 330: Integrative and Functional Nutrition
- One Day in September: The Olympic Games as a Stage for Globalization
Andrew Capuano, SPC 426: Documentary Film Analysis
- The Roles of Filmmakers
Taylor Stuewe, HON 400: Muriel A. Howard Honors Colloquium
- The Role of Genetics and Environmental Factors on the Risk of Breast Cancer
Laila Elnashef, NFS 330: Integrative and Functional Nutrition
- Rustic Roots: The Use of Natural Materials in Fashion
Ashley Waters-Schmitt, FTT 451: Senior Project
- STEM to STEAM: Noyce Scholar's Perspective on the Nexus of Art and Science
Nancy Spector and Elisa Lorenz, SCI 445/545: Literacy for Teaching Science
- Steroids in Baseball
Andrew Kuczkowski, SPC 426: Documentary Film Analysis
- A Summer Enrichment Program's Take on Digital Literacies for Mathematics Learning and Instruction
Melissa Heidenreich, Mathematics Education 7-12
- Sustainable Innovation Connect Project: The Lifecycle of Denim Jeans
Jennifer Steinhorst, Fashion Merchandising
- Tell Us Your Story
Danielle Fletcher, HEW 411: Critical Issues in Health and Wellness
- "That Damn Nigger"
Asia Evans, PHI 401: Respect, Diversity and Disagreement
- The Use of Nutrition Education in Improving the Quality of Life of Teenage and Young Adult Cancer Patients
Stephanie Busse, Dietetics and Nutrition
- What's New and Beneficial About Quinoa: A Super Grain?
Jenna Fadale, NFS 330: Integrative and Functional Nutrition

Session IV: 11:30 a.m. – 12:30 p.m.

Presenting:

- All About Hawaii: Music and Culture
Emily Abbey, MUS 440: Ethnomusicology
- The Blues Influence in Torch Songs
Rebecca Hall, MUS 440: Ethnomusicology
- College Stress
Carolyn Sciabarrasi, PSY 499: Independent Study
- Directorial Style in James Marsh's Documentary, "Man On A Wire"
Rico Argentieri, SPC 426: Documentary Film Analysis
- Education for Girls in Zambia
Charmaine Amey, Elementary Education and Reading

Educational Status of Women in the Dominican Republic
Kaitlyn Gardner, EDU 389: International PDS & Service Learning Dominican Republic

Effects on Reaction Time of Heading During Soccer Play in Women and Men College Athletes
Sasa Vann, Psychology and Hospitality Administration

Family Ties
Rachel Krzyzanowski, FAR 440: Senior Studio in Sculpture

Gamelan and On: The Spread of a Secret Music
Matthew McQuilkin, MUS 440: Ethnomusicology

Get the Lead Out: Education on the Importance of Reducing Lead Exposure
Tom Lauricella, HEW 411: Critical Issues in Health and Wellness

Health at Stake: Drug Resistant Campylobacter and Antibiotic Use in Livestock
Marilyn Merola, HEW 411: Critical Issues in Health and Wellness

The Healthful Effects of Drinking Red Wine
Kathleen Norstrand and **Kelsey Bukowski**, NFS 330: Integrative and Functional Nutrition

The History of Metal Inlay Through Damascene
William Prendergast, Metals/Jewelry Design

If it Bleeds it Leads: How Aggression Affects Sports
James Widger, SPC 426: Documentary Film Analysis

It Truly Takes a Village: Community and Family Collaboration Foster Literacy Development in Children
Crystal Holmes-Smith, Childhood Education and Social Studies

Justice for Injustice: Black and Latino Men in Prison
Solomon Johnson, PSC 470: Senior Seminar

Living in the Hood
Shyazia Mason, HEW 411: Critical Issues in Health and Wellness

Mise en France
Veronica Perez, HTR 318: Cultural Tourism

Motivated to Drop Out: Native American Views of Education
Elizabeth Malinowski, HON 400: Muriel A. Howard Honors Colloquium

My Stomach Hurts: Overdosed on Sugar
Elle Anderson, HEW 411: Critical Issues in Health and Wellness

No Time for Time Outs
Kendall Szafnicki, EDU 389: International PDS & Service Learning Dominican Republic

Oh Sugar! What About High Fructose Corn Syrup?
Evan Barnett, HEW 411: Critical Issues in Health and Wellness

Prenatal Cigarette Exposure and Language Development
Shakila Randall, PSY 499: Independent Study

Search and Destroy: Disordered Eating Among Adolescents
Brad Fedele, HEW 411: Critical Issues in Health and Wellness

Shakespeare's Audiences - "Henry V" at the Globe Theatre, on Film, and in Delaware Park
Felicia DeLibero, English

Spectator Sports: The Intensifying Risks
DeVon Lee, SPC 426: Documentary Film Analysis

Teaching Growth, Development, and Reproduction Through English Language Arts and Science
Jocelyn Stein, EDU 690: Master's Project

Teaching Montessori: Differences and Similarities Seen in the Dominican Republic and United States
Jasmine Davis, EDU 389: International PDS & Service Learning Dominican Republic

There is No I in WE
Moctar Sissoko, PHI 401: Respect, Diversity and Disagreement

The Traditional Irish Music Revival
Marissa O'Connor, MUS 440: Ethnomusicology

Trait Negative Urgency and Sensation Seeking Behaviors: Predictive Factors of Aggression
Emma O'Connor, PSY 499: Honors Thesis

Turmeric: "The Golden Goddess" Medicinal or Myth?
Mary Jo Hilferding, NFS 330: Integrative and Functional Nutrition

Twinkle Twinkle Little Star, How I Wonder How Old You Are: The Origin of Children's Folk Songs
Jessica Hamilton, MUS 440: Ethnomusicology

Unjust Stigma: How America's View on Prostitution Harms Women
Ryan Donnelly, PHI 401: Respect, Diversity and Disagreement

Vitamin B12 and Folic Acid on Brain Function and Cognitive Activity
Blair Boller and **Christine Capruso**, NFS 330: Integrative and Functional Nutrition

Within and Without
Monica Nickles, Sculpture

Session V: 12:30 p.m. – 1:30 p.m.

Presenting:

Action Research and Design-Based Research for Physics Teacher Preparation in Germany: A Pilot Study
Joseph Heimburger, PHY 690: Master's Project

Analyzing Threats to Hellbender Salamanders
Nicholas Engl, Integrative Biology

Big Data in Transit
James Corpening, CIS 490: Senior Seminar

Can Antibodies Raised Against the Vertebrate Chaperone GRP170 be Used to Study the Invertebrate Homologue?
Raven Baxter-Christian, Biology



Continuity

Rachel Krzyzanowski, FAR 343: Advanced Sculpture

Cosmic Connection: A Look at Muon Showers

Jacob Oddy, HON 400: Muriel A. Howard Honors Colloquium

Cultural Icons Study: How Princess and Superhero Priming Influences Women's Views of Mathematics

Emma Walsh, Psychology, **Jenna Turchiarelli**, Psychology, **Brianne Wright**, Individualized Studies, and **Kelly Yunhke**, Psychology

Decorated Human Remains

Nicollette Winiewicz, ANT 498: Honors Research

The Effect of Exercise on Oxygen Consumption in Small and Large Animals

Safia Hosein, BIO 402: Comparative Animal Physiology

Field and Laboratory Study of Rock Unit Patterns in a New 3-D Outcrop, Sebago Area, Southern Maine

Brandon Luther, Earth Sciences

For the Love of Tango

Emily Bauerlein, MUS 440: Ethnomusicology

From Field Biologist to Teacher Through the Robert Noyce Teacher Scholarship and 100k in 10

Robert Wardwell, SCI 690: Master's Project

Fuel Cells: Fueling the Future!

Jordan Silva, Mechanical Engineering Technology

The Golden Fabric of Ragtime

Hillary Hunt, MUS 440: Ethnomusicology

Habitat Use and Behavior of Map Turtles and Slider Turtles in the Upper Niagara River

Brian Haas, Biology and **Jeremy Henderson**, Biology

Harps, Pipes, and Whales: The Music of the Daoine Sídh of Ireland

Charles Coughlin, MUS 440: Ethnomusicology

Hawaiian Culture: The Role of Hula

Fateema Villani, Ant 499: Indigenous Hawaiians

The Impact of Personal Factors on Subjective Judgments of Distance and Headway in Traffic Situations

Charlene Moultrup, Psychology

In Moving Color: Motion Controlled Art Program

Adam Doktor, CIS 490: Senior Seminar

Mathematics Attitude and Achievement in Chinese and American Students

Xin Dong, MED 690: Master's Project

The Misuse and Abuse of Mummies

Nikkia Spencer, ANT 499: Independent Study

Modern Production with Ancient Techniques

Christopher Walsh, DES 499: Market Furniture

Movement By Design: Finding Inspiration in Dance

Amanda Kugler, Communication Design

Mummification of Cats in Ancient Egypt

Alyssa Casale, ANT 499: Mummies of the World

Noyce Scholar Seeks to Understand the Power of Blogging

Sarah Franklin, SCI 690: Master's Project

Period Research: The Importance of Being Earnest

Allyssa Pellino, Theater

Promoting Sustainability within the Buffalo State Community

Ashley Coleman, PHI 189: Students For Sustainability

The Relationship between College Students' Diets and Factors Associated with Success

Laura Helda, Psychology

Role of Complementary Therapies in Mental Health: Depression and Psychosis

Anna Copeland and **Jenna Lynn**, NFS 330: Integrative and Functional Nutrition

SAE Baja: Buffalo State Motorsports

Devon Galloway, Alex Strauss, Colin Black, and Collin Runkel, ENT 422: Machine Design II

Shapeshifter of Py

Steven Maciejewski, CIS 490: Senior Seminar

Shell Forming Influenced by Protective Mechanisms in Nature

Sarah Kieffer, Metals/Jewelry

Urban Growth and Education: Can the Implementation of Universities Stimulate Growth in Cities?

Sara Dzielski, PSC 470: Senior Seminar

Using Inverse Relationships in Mathematics Instruction

Lucille Perry, EDU 651: Theory, Research, and Practice in Mathematics Instruction

Using RTOP and Other Reflective Tools to Build and Strengthen High School Physics Teaching

Griffin Harmon, Physics Education 7-12 with Alternate Certification

Varying Effects of the 1918 Influenza Pandemic on Buffalo, New York

Nikkia Spencer, ANT 418: Seminar in Physical Anthropology

Worship Where it All Began: The Origins of Church Music

Nicholas D'Amaro, MUS 440: Ethnomusicology

The Woven Way: Indigenous Looms and Textiles of the Americas

Kristin Hatch, ANT 498: Honors Research

Session VI: 1:30 p.m. – 2:30 p.m.

Presenting:

Activation of a Stress Related Signal Transduction Pathway in Response to Loss of GRP170 Chaperone

Camila Bonemann Bender, BIO 495: *C. elegans* Genetics

Are Closed Channels Really Closed? Characterizing the Water Permeability of Gap Junctional Hemichannels

David Littere, HON 400: Muriel A. Howard Honors Colloquium

Bold Spirit, Loose Morals

Megan Cavanaugh, Sculpture

Chaotic Motion of a Billiard Ball

Raymond Hutchings, HON 400: Muriel A. Howard Honors Colloquium

Costume Design: Creating the Look

Carrisa Welch, THA 335: Costume Design for Theater

Creating a Watch Face for Android Wear

David Dulski, CIS 490: Senior Seminar

Depletion of Boron in Radiation Treatment Room Door Due to Neutron Shielding

Hope Genco, HON 400: Muriel A. Howard Honors Colloquium

Dissecting a Channel: Identifying the pH Sensitivity Elements of Cx50 Hemichannels

Mariah Schaus, HON 400: Muriel A. Howard Honors Colloquium

Evaluation of Changes in Channel Geometry Following Environmental Dredging in the Buffalo River

Mark Legeza, Interdisciplinary Master's

Folkin' Around: Bob Dylan and the Folk Music Revival

Jacqueline Rondinelli, MUS 440: Ethnomusicology

Genetic Counseling and Connexin 31

Desiree McConnell, Individualized Studies

Hydrodynamics of a River Undergoing Environmental Restoration: Buffalo River, NY

Matthew Kraft, Earth Science

Introspection Transcended: Beethoven's Ninth Symphony

Lillian Inglut, MUS 303: Music History: Classic-Modern

An Investigation into the Impacts of Land Use Change on Urban Stream Health: Scajaquada Creek

Alexandra Santora, GEG 430: Senior Thesis

Investigation of Transliteration Algorithm Operation in Real Time for Augmented Reality

Jon Battison, CIS 490: Senior Seminar

Layers

Monica Nickles, Sculpture

Modern Engraving: The Use of Powered Tools in Contemporary Work

William Prendergast, Metals/Jewelry Design

On Their Toes: The Power of Isicathamiya Music in South Africa

Melanie Case, MUS 440: Ethnomusicology

P'ansori and Sanjo: Delve Deep into Korea's Musical Dramas

Ben Martin, MUS 440: Ethnomusicology

Prototyping a Cleaning Pad to Avoid the Residue

Brenden Burry, Delmar Bennett, Hamad Buhamad, Matt Szarleta, and Reuel Pruyn, ENT 422: Machine Design II

The Puerto Rican Mambo

Robert Sherman, MUS 440: Ethnomusicology

Pump Up the Volume: Practical Mathematical Applications

Caleb Moore, Mathematics Education 7-12

Rainfall/Snowmelt Event: Effect on Water Quality in Cayuga Creek, Erie County, NY

Spencer Podsiadlo, GEG 430: Senior Thesis

Renin Gene Expression and Spermatogonial Cell Lineage in the Murine Testis

Carlos Rosales, Forensic Chemistry

The Shofar: Is it Only a Musical Instrument?

Elizabeth Ruth, MUS 440: Ethnomusicology

Sitar: Essential Instrument of Raga

Dylan Goldman, MUS 440: Ethnomusicology

The Smart Shower: Digitally Controlled Shower System

Racquel Hazlewood, Fikret Mehmedovic, Chris Lippert, and Jorel Ferguson, ENT 465: Electrical Design

Structure-Function Analysis of Rectifying Electrical Synapses

Viviani Jardim, BIO 495: Independent Study

The Students' Live Blog

Ewurabena Ashun, CIS 490: Senior Seminar

Testing the Methane Content of Water at Eternal Flame in Chestnut Ridge

Nicholas Miller, GES 460: Environmental Field Methods and Analysis

The Urban to Rural Shift: Measuring the Gradient

Katelyn Reed, HON 400: Muriel A. Howard Honors Colloquium

Using Arctic Ice Thickness and Floe Size to Estimate Ice Thickness on Europa

Hiruni Senarath Dassanayake, Geology

Session VII: 2:30 p.m. – 3:30 p.m.

Presenting:

Adopted Women: Narratives of European-American Women in Native American Captivity

Alyssa Casale, ANT 499: Advanced Indigenous Studies

Balancer Chromosomes to Generate a Source of *Caenorhabditis elegans* Lacking the Chaperone GRP170

Tiago Zaninelli, BIO 495: *C. elegans* Genetics

A Calm Mind with the Meditation Music of Taiwan

Kathryn Allison, MUS 440: Ethnomusicology

Casting Iron

Patrick Anhalt, Sculpture

DC Comic Design in PyGame

Antoine Williams, CIS 490: Senior Seminar



Determining Frost Depth Using Ground Penetrating Radar
Justin Blicharski, Geography and Planning

Didgeridoo: Tapping into the Australasian Spirit
Craig Abraham, MUS 440: Ethnomusicology

Do You Wanna Tejana?
Ellen Pieroni, MUS 440: Ethnomusicology

Does the ER Stress Response Allow Cells to Survive in Loss of the Protein Folding Chaperone, GRP170?
Diogo Portella, BIO 495: *C. elegans* Genetics

Does the Nearby Lancaster Sanitary Landfill have an Impact on the Tillman Wildlife Management Area?
Jacob Stanek, GES 460: Environmental Field Methods and Analysis

Electrical Transport Measurements on Magnetic Oxide Thin Films
Michelle Pascolini, HON 400: Muriel A. Howard Honors Colloquium

Embedded Microcontroller for Sensor Data Collection and Transmission
Luis Moscoso, **Lyndon Hunter**, and **Dimitri Foster**, ENT 465: Senior Design

Enhancing the Performance of Turbulent Magnetic Field Modeling
Timothy Schuler, Physics and Mathematics

Evaluating Two Approaches for Measuring Sunshine at Buffalo State
Justin Blicharski, Geography and Planning

Finding the Zen State in Furniture Design
Ryan Simpson, DES 451: Senior Studio Wood Design

Forensic Investigation of Gasoline Residues on Household Materials
Michael Swierczynski Jr., Chemistry and **Kelly Grau**, Chemistry

Growth and Optical Properties of YFe₂O₄ Thin Films
Josh Hinz, PHY 495: Project

Heart Disease in Males and Females Buried at Forest Lawn Cemetery, Buffalo, NY
Sabrina Sharrif, ANT 418: Seminar in Physical Anthropology

An Investigation of Invasive Shrubs on Native Moth and Butterfly Populations
Lauren Grunzweig, Biology

Investigating Relationships between Riparian Buffers and Measures of Bank Stability and Water Quality in Niagara Greenway Streams
Megan Klein, GEG 430: Senior Thesis

Lather, Rinse, Repeat: The Effect of Germ Theory on Age At and Cause of Death
Kristin Hatch, ANT 418: Seminar in Physical Anthropology

Open Source Data Collection System
Donnie Herman, ENT 465: Electrical Design

Phytoremediation of Heavy Metal Contaminated Substrate at the Former Republic Steel Site
Joshua Konovitz, GES 460: Environmental Field Methods and Analysis

Redesigning Cast Iron Parts Using Modern Thermoplastics
Amy Jernatowski, **Erica Agle**, **Stephen Dewes**, **Andrew Enseleit**, **Brandon Arcuri**, and **Christopher Sclavunos**, ENT 422: Machine Design II

Refugee Adjustment in Buffalo, NY
Jacquelyn Pason, PSY 499: Independent Study

Role of the GRP170 in the Larval Development of the Nematode *Caenorhabditis elegans*
Layara Santana de Carvalho, BIO 314: Advanced Cell Biology

Scajaquada: The Culverted Creek and Analysis
Nickey Sereluca, GES 460: Environmental Field Methods and Analysis

Soil Contamination in Red Jacket Riverfront Park
Lindsey Chadderdon, GES 460: Environmental Field Methods and Analysis

Spatial Analysis of Invasive Japanese Knotweed (*Fallopia japonica*) and Its Habitat in Erie County, NY
Jiazhen Zhang, Great Lakes Ecosystems Science

Stress, Academic Burnout, and Student Debt
Brendan Roman and **Vyktoria Staufenberger**, PSY 496: Independent Study

Student Opinions of First Dates and Rape
Marisol Gomez, **Allyson Lindell**, **Lauren Marinelli**, **Ashley Wetzel**, and **Samantha Zak**, PSY 488: Internship

A Survey of 3D Printing: Applications for Furniture Design
Adam Ianni, Wood/Furniture Design

That's So Kabuki: Expressions of Change
Christopher Nichols, MUS 440: Ethnomusicology

Type-O's
Andrew Wagner, CIS 490: Senior Seminar

Which Tissues in Animals Depend on the Chaperone GRP170 for Protein Folding?
Mengxin Wang, Biology

A Worm's Life Without the Protein Chaperone GRP170
Madeleine Pope, BIO 498: Honors Research

Session VIII: 3:30 p.m. – 4:30 p.m.

Presenting:

3D Visualizations of Temperature and Humidity Along the Lake Erie Shoreline Applying Unmanned Helicopter Remote Sensing
Chenliuli Jiang, GEG 518: Great Lakes Ecosystems Science

- Audio-Visual Input Helps Understanding of Phonologically and Structurally Difficult Sentences
Leanna Kalinowski, Psychology, **Aroosa Syed**, Psychology, **Kelly Yuhnke**, Psychology, and **Caley Wekenmann**, Psychology
- Classing Up the Joint
Adam Ianni, DES 451: Wood - Senior Studio
- Coining Apparatus
Adler Moldenhauer, **Herman Cortez**, **Michael Farrell**, **Steven Waleszczak**, and **Roger Holloway**, ENT 422: Machine Design II
- Coracles: Replicating the Irish Fishing Boat Through Experimental Archaeology
Mary Clark, ANT 400: Ancient Materials
- Designing an Air-Conditioned Shelter to Assist the Treatment of a Victim of Heat Illness
Ke Chen, **Michael Bojanowski**, **Raysa Cristiano**, **Paulino Pereira**, and **Mousa Alsayegh**, ENT 422: Machine Design II
- Distinct Physiological Roles for the Two Isoforms of the ER Chaperone GRP170 in *Caenorhabditis elegans*
Yuanyuan Li, Biology
- Environmental Impact of Combined Sewer Systems in Buffalo Public Parks
Marc Young, GES 460: Environmental Field Methods and Analysis
- Evaluating Bicycle Infrastructure Improvements
Nathan Mroz and **Keith House**, PLN 410: Sustainable Transportation
- Fela Kuti, Afro-Beat, and the Political Nature of Funk
Patrick Jackson, MUS 440: Ethnomusicology
- Is the Fountain in Hoyt Lake Changing the Water Quality?
Bre'Asia Andrews and **Kelly Mellon**, GES 460: Environmental Field Methods and Analysis
- Lending a Helping Hand: Individual Differences Modulate How Gesture Facilitates Working Memory
Danielle Bellman, Psychology
- Let Me Choro the Music of Brazil!
Dominic Scaduto, MUS 440: Ethnomusicology
- Malware Analysis: A Different Approach
Thomas Stachowski, CIS 490: Senior Seminar
- Measuring Impeller-Tip Clearance
Bradley Brooks, **Morgan Allis**, **Charles Mantell**, and **Jeff Villont**, ENT 422: Machine Design II
- The Nature and Behavior of Oscillations in the Buffalo River, Buffalo, NY
Kari Clayton, Earth Science
- Overcoming Western Auditory Perspectives: Listening to the 'Ud
Ruth Gifford, MUS 440: Ethnomusicology
- The Phenomenon of Benford's Law and Its Presence at Buffalo State
Timothy Miller, HON 400: Muriel A. Howard Honors Colloquium
- Radiocarbon Dating of Paleosols of Santa Ana Volcano, El Salvador
Guilherme Oliveira, Geology
- The Relationship between Personality and Empathy
Jennifer Milbouer, Psychology and **Amanda Gon**, Psychology
- The Secret of the Ooze: Revelations of Bog Bodies
Dianna Urbanski, ANT 499: Mummies of the World
- Silo Sessions: Transformation Through Music and Space
Samantha Kittinger, ANT 499: Field Work-Silo Sessions
- Skatology: A Brief History of Ska Music
Joshua Kerns, MUS 440: Ethnomusicology
- Spatial Relationships
Megan Cavanaugh, Sculpture
- Spatial and Temporal Distributions of Air Particulate Pollution in Beijing, 2009 – 2011
Yingyu Zhang, Great Lakes Ecosystems Science
- Spring Brook Stream Visual Assessment Protocol
Megan Klein and **Alexandra Santora**, GEG421: Watershed Analysis
- Stereotypes and Memory Recall
Nicole Deci, HON 400: Muriel A. Howard Honors Colloquium
- Striking a Chord: An Exploration of Classical Guitar Pedagogy
Brian Geary, Music
- Sustainability in Hotels: Recycling in Hotel Restaurants
Ashley Coleman, HON 400: Muriel A. Howard Honors Colloquium
- Synergistic Design
Christopher Walsh, Wood/Furniture Design
- Walkability and Neighborhood Change in Buffalo, NY
Paula Jones, GEG 430, Senior Thesis
- Water Elevation Changes in the Fox River, Green Bay, Wisconsin
Brandon Franks, Physics
- What Your Texting Content and Style Say About Your Personality
Deborah Butler, Psychology, **Sara Cappellino**, Psychology, **Adam Milton**, Psychology, **Carly Pershyn**, Psychology, and **Dylan Vlaovich**, Psychology
- Your Words Have Meaning: A Design Interpretation of the Text-based Art of Nancy Dwyer
Michael Downey, HON 400: Muriel A. Howard Honors Colloquium
- Zombie Game with a Twist
Rafi Safwan, CIS 490: Senior Seminar

Danielle Bellman, Psychology

Faculty Mentor: Professor Stephani Foraker, Psychology
Abstract Title: **Lending a Helping Hand: Individual Differences Modulate How Gesture Facilitates Working Memory**

Danielle Bellman is a Psychology major graduating in May 2015. After graduation she plans to attend graduate school in psychology.

Danielle's research focused on detailed annotation of people's hand gestures and speech as they multi-tasked. She created several measures of communication efficiency and developed a regression model to predict when gesturing while speaking improves one's memory accuracy. Danielle presented her research at the Eastern Psychological Association conference in Philadelphia in March 2015. She is a co-author on a manuscript in preparation for submission to a psychology journal.



Stephanie Busse, Nutrition and Dietetics

Faculty Mentor: Professor Carol DeNysschen, Nutrition and Dietetics
Abstract Title: **The Use of Nutrition Education in Improving the Quality of Life of Teenage and Young Adult Cancer Patients**

Stephanie Busse is graduating in May 2015 with a B.S. in Dietetics and Nutrition. She plans to pursue a career as an oncology dietitian.

Stephanie's research investigated the impact of nutrition education and fitness instruction on the quality of life of teenage and young adult cancer patients. Various cancer-specific quality of life and fatigue survey tools were utilized. Participants in the study gained lean body mass (muscle) and expressed enhanced quality of life. The results of this study have implications on the best treatment care plan for young survivors to assist them in making healthy lifestyle choices into adulthood. Stephanie presented her research at the American Institute of Cancer Research conference in Washington, D.C. in October 2014.



Megan Cavanaugh, Sculpture

Faculty Mentor: Professor Kenneth Payne, Fine Arts
Abstract Title: **Spatial Relationships**

Megan Cavanaugh is majoring in Sculpture and in Painting and is graduating in May 2015 with a B.F.A. in Sculpture. She plans to pursue a graduate degree in Sculpture and continue her studio work at the professional level.

Megan's research has centered on melding the two and three-dimensional disciplines of painting and sculpture. Using several new materials and techniques Megan created a substantial body of work. Her works were exhibited the Czurler-Nelson Gallery and the Bacon Gallery on campus and at the Rogue Gallery in New York City as an Lombardo award recipient.



Megan Connelly, Political Science

Faculty Mentor: Professor Kyeonghi Baek, Political Science

Abstract Title: **Federation, Consociation, and Conflict in Greater Kurdistan: Exploring the Effects of Transnational Group Power on Intrastate Conflict**

Megan is a Political Science major with a minor in International Relation. She is graduating in May 2015. Megan is the recipient of the New York State Political Science Best Student Paper Award (2014) and the Buffalo State Outstanding Student in Political Science Award in 2015.

Megan's research is a reaction to the failure of institutional solutions to the ethnic conflicts of the late 20th and early 21st century. Recognizing that state-specific solutions to conflicts ignore regional variables, Megan created a dataset designed to isolate regional factors that influence ethnic conflicts and travelled to Turkey to interview Iraqi, Turkish, and Iranian Kurdish leaders about the impact of regional politics on their parties' activities. While her quantitative findings indicate that transnational ethnic power dynamics influence the likelihood and intensity of ethnic conflict, her qualitative research found flaws in the assumption that ethnic groups act cooperatively, even against a common enemy. She presented her research at the Southern Political Science Association annual conference in January 2015.



Felicia DeLibero, English

Faculty Mentor: Professor Lisa Berglund, Arts and Humanities

Abstract Title: **Shakespeare's Audiences – "Henry V" at the Globe Theatre, on Film, and in Delaware Park**

Felicia DeLibero is an English major concentrating on British Literature. She is graduating with a B.A. in May 2015, after which she plans to attend graduate school. Felicia hopes to earn a Ph.D. and teach at a college or university.

Felicia worked with the Shakespeare in Delaware Park team, designing, distributing and processing a two-tiered survey of the audiences who attended this summer's production of "Henry V." She examined the play's performance history, studying films of five productions and focusing on the affiliations theater has with literature, as well as interpreting how different productions present separate views of patriotism and war. Shakespeare in Delaware Park is using these data to develop audience outreach programs for its upcoming 40th anniversary season.



Nick Engl, Biology

Faculty Mentor: Professor Amy McMillan, Biology

Abstract Title: **Analyzing Threats to Hellbender Salamanders**

Nicholas graduated with a B.A. in Integrative Biology in December 2014. Nicholas plans to seek employment with a state or federal conservation agency or serve as a volunteer at a field station in Peru.

Nicholas investigated threats to North America's giant salamander, the hellbender. He surveyed sites in the Susquehanna Drainage that had historically held hellbender populations or in streams that looked like promising habitat. He used ArcGIS to map perceived threats to hellbenders or hellbender habitat and investigated point source discharge, dams, game fish stocking, public fishing access, land use and invasive species.



Stephanie Fowler, Ceramics

Faculty Mentor: Professor Colleen Toledano, Design

Abstract Title: **Building an Efficient Kiln: Materials, Fuel and Time**

Stephanie Fowler is a Ceramics Design major and will graduate with a B.S in May 2016. After graduation she plans to continue making work as a ceramic artist and may pursue a masters in art therapy.

Stephanie built a low-cost wood outdoor kiln that was fuel efficient and provided sustainable firing. She used the kiln to explore various glaze and firing treatments that provided her with the earth tones that she desires for her wood-grain inspired artwork. These sculptural and functional pieces that were later displayed in exhibitions at Buffalo State and in New York City.



Eric Gauchat, Chemistry

Faculty Mentor: Professor Jinseok Heo, Chemistry

Abstract Title: **A Novel Approach to Fabricating SERS Substrate**

Eric Gauchat is majoring in chemistry and will graduate in May 2016. After graduation, he plans to enter a graduate program in biochemistry.

Eric developed a simple and cost-effective method to fabricate Surface Enhanced Raman Scattering (SERS) substrate using a gold nanoparticle solution. This SERS substrate does not require special equipment for its preparation. The SERS substrate could be used for detecting micromolar concentration of analyte. Eric presented his research at the SUNY Undergraduate Research Conference in April 2015.



Brian Geary, Music

Faculty Mentor: Professor Evan Drummond, Music

Abstract Title: **Striking a Chord: An Exploration of Classical Guitar Pedagogy**

Brian Geary is a Music major with a minor in Digital Music Production and is graduating in May 2015. After graduation he plans to continue his studies at the graduate level.

Brian researched the advancement of guitar pedagogy from the 18th century through the 21st century. Using this information, he created a pedagogical binder outlining a guitar curriculum with each section of the binder including findings from his research and from interviews conducted with leading guitar authorities including William Kanengiser, Scott Tennant, Roland Dyens, and Ken Meyer. Brian presented his findings at the Great Lakes Guitar Society and has submitted his work for publication in the Sound Board Magazine and Seconda Prattica LLC.



Lauren Grunzweig, Biology

Faculty Mentor: Professor Robert Warren, Biology

Abstract Title: **An Investigation of Invasive Shrubs on Native Moth and Butterfly Populations**

Lauren Grunzweig is a Biology major and is graduating in May 2015. After graduation, she plans on going to graduate school in biology.

Lauren sampled moths and butterfly caterpillars on native trees and on exotic invasive shrubs (buckthorn) at Tift Nature Preserve in Buffalo. She found very few caterpillars on the buckthorn plants, but plentiful and diverse on common native species, such as maples, sycamore and hackberry. Lauren presented her results at the SUNY Undergraduate Research Conference in April 2015, and she is co-author on a manuscript that was submitted to the journal, *Arthropod Plant Interactions*.



Elizabeth Halstead, Arts and Letters

Faculty Mentor: Professor Janet Reed, Theater

Abstract Title: **Exploration of Modern Dance**

Elizabeth Halstead is an Arts and Letter major concentrating on Dance. She is graduating with a B.A. in May 2015, after which she plans to attend graduate school. Elizabeth ultimately hopes to pursue her studio training and to teach in higher in higher education.

Elizabeth attended two Martha Graham dance residencies/intensives in Toronto and New York City. Upon her return to Buffalo State College, she shared with other dancers this contemporary technique. She taught a workshop with the Dance Association in fall 2014. Elizabeth related to the other dancers her personal experience in quickly learning these two approaches to Graham technique. One being more of a pure form, and the other used the basis of Graham technique but fused it with the director's personal style. From this experience Elizabeth discovered how to use a technical concept and use it to develop a unique voice or idea for her work.



Melissa Heidenreich, Mathematics Education

Faculty Mentor: Professor Jevon Hunter, Elementary Education and Reading

Abstract Title: **A Summer Enrichment Program's Take on Digital Literacies for Mathematics Learning and Instruction**

Melissa Heidenreich will graduate in December 2015 with a B.S. in Mathematics Education (7-12). She plans to pursue a master's degree in education and eventually a doctorate degree after obtaining a teaching position.

Melissa conducted qualitative research on the use of digital literacy in mathematics. Her findings suggest that the levels of interactions between student and teacher are influenced by the forms of digital literacy employed in mathematics learning and instruction. She also found that the student and teacher familiarity with technology greatly impacts instructional practices, student participation, and academic engagement. Melissa presented her work at the 2014 Association of Mathematics Teachers of New York State conference.



Crystal Holmes-Smith, Elementary Education and Reading
Faculty Mentor: Professor Kim Truesdell, Elementary Education and Reading
Abstract Title: **It Truly Takes a Village: Community and Family Collaboration Foster Literacy Development in Children**

Crystal Holmes-Smith will graduate in August 2015 with a degree in Childhood Education with a Social Studies extension. After graduation, she plans to continue at Buffalo State for a M. Ed. in Literacy Education.

Crystal explored how young children learn to interact with books and learn to read. Her research included a literature review and data collection from the children and their families at Global Book Hour. Crystal determined the benefits of reading to children, how to motivate children to read, how to create effective read-alouds, and the importance of family involvement in children's literacy development. Crystal presented her research during Buffalo State's Anne Frank Project and at the Professional Development Schools annual retreat and National Association of Professional Development Schools conference.



Adam Ianni, Wood/Furniture Design
Faculty Mentor: Professor Sunhwa Kim, Design
Abstract Title: **A Survey of 3D Printing: Applications for Furniture Design**

Adam Ianni is a junior in the Wood/Furniture Design B.F.A. program. He will graduate in Spring 2016. After graduating, he plans to continue his studies at the Art Institute of Chicago.

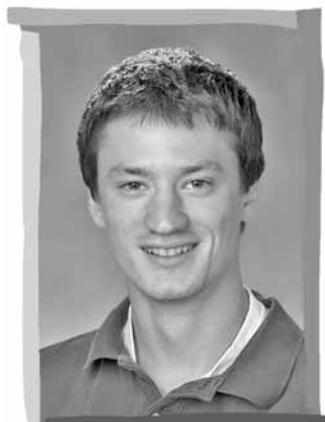
Adam's research consisted of experimentation with different 3D fabrication techniques and processes. Using a Makerbot printer and Rhino CAD software, Adam modeled a variety of objects and explored the capabilities of the printing process through them. He traveled to New York City to seek inspiration for his digital designs and applied his research to design functional printed lamps.



Trevor Jennings, Earth Sciences
Faculty Mentor: Professor Kevin Williams, Earth Sciences and Science Education
Abstract Title: **Using Ground Penetrating Radar for Geoarchaeological Investigations in Western New York**

Trevor Jennings is earning a B.S. in Earth Sciences with minors in Environmental Science, Anthropology and Geology and will graduate in May 2016. After graduation, Trevor plans to attend graduate school in geology.

Trevor's research involved interpreting ground penetrating radar data collected at two cemeteries and two historical sites in Erie and Niagara counties. Trevor's results have provided information on the locations of unmarked and otherwise lost burials at the two cemeteries, have identified several possible foundation remnants associated with the Buttery Elevators site along the Niagara Gorge, and have revealed the locations of buried foundations, trash pits, and other structures at Old Fort Niagara. Trevor presented his results at the Northeastern Section of the Geological Society of America in March 2015 and at the SUNY Undergraduate Research Conference in April 2015.



Adonis Kernen, Sociology

Faculty Mentor: Professor Thomas Weinberg, Sociology

Abstract Title: **Intersections of Identity: Race and Sexuality**

Adonis Kernen is a sociology major and is graduating in May 2015. He plans to enter a doctorate program in sociology and eventually obtain an academic position.

Adonis' research project examined the perception of self with respect to multiple marginal identities and how social forces shape and control the black homosexual/bisexual/questioning male's perceptions of masculinity and race. Using structured in-depth interviews, Adonis' research examined men's self-perceptions, how they deal with stigma and their perceptions of their relationship to both the African American and LGBTQ communities.



Sarah Kieffer, Metals/Jewelry

Faculty Mentor: Professor Tara Nahabetian, Design

Abstract Title: **Shell Forming Influenced by Protective Mechanisms in Nature**

Sarah Kieffer graduated with a B.F.A. in metals/jewelry in December 2014. After graduation, she is interested in starting her own jewelry and metalwork design business.

Sarah's project focused on learning a variety of shell forming techniques in metal. She visited local nature preserves to gather design resources for the project. Sarah's research and experimentation has resulted in a series of sculptural work that contains smaller jewelry pieces. The work created was included in her senior exhibition, Natural Deviation, at 464 Gallery in November 2014. In addition the work was included in the Lombardo Award Exhibition at the Czurles Nelson Gallery in August 2014 and Rogue Space Chelsea in October 2014.



Shannon Lafferty, Exceptional Education

Faculty Mentor: Professor Angela Patti, Exceptional Education

Abstract Title: **Classroom Management: Structure, Freedom, or Both? Creating an Effective Learning Environment for Students**

Shannon Lafferty was an Exceptional Education major who graduated in December 2014. Since graduation, she has enrolled in a graduate program in English as a Second Language Education that she will begin in the fall of 2015.

Shannon researched the similarities and differences in classroom management approaches between a classroom in a Montessori school in the Dominican Republic and a classroom in a rural, public school in Western New York. She reviewed relevant professional literature to draw conclusions about best practices in classroom management. In her research, Shannon found differences across settings across a number of variables including classroom rules, level of student independence, and instructional techniques utilized.



Brandon Luther, Geology

Faculty Mentor: Professor Gary Solar, Earth Sciences and Science Education

Abstract Title: **Field and Laboratory Study of Rock Unit Patterns in a New 3-D Outcrop, Sebago Area, Southern Maine**

Brandon Luther is a junior Geology major and will graduate in Spring 2016. He intends to pursue a Ph.D. in geology to realize his career goals of obtaining an academic position.

Brandon's research consisted of both fieldwork on a single large exposure in southern Maine, and corresponding laboratory work on collected specimens from the site, and map-making using his field data. Brandon produced a geological map and sections from those field data, and examined his collected specimens using standard microscopy in order to further understanding of the field relations. Brandon presented the results of his research at the Northeastern Section meeting of the Geological Society of America in March 2015 and at the SUNY Undergraduate Research Conference in April 2015.



Charlene Moultrup, Psychology

Faculty Mentor: Professor Dwight Hennessy, Psychology

Abstract Title: **The Impact of Personal Factors on Subjective Judgments of Distance and Headway in Traffic Situations**

Charlene Moultrup is a Psychology major graduating in May 2015. After graduation, her plans include pursuing a graduate degree in Psychology.

Charlene's study involved determination of personal factors that impact judgment of space and distancing between vehicles in the traffic environment. Participants viewed two video clips and were asked to stop each video at a specific distance between the vehicles. Charlene found significant misjudgments at 260 feet for those high in trait driver fatigue, aggression, thrill seeking and violations, and significant misjudgments at 175 feet for trait thrill seeking drivers. Charlene presented these findings at the Eastern Psychological Association conference in 2015.



Hayley Payne, Speech-Language Pathology

Faculty Mentor: Professor Constance Dean Qualls, Speech-Language Pathology

Abstract Title: **Working Memory in Typically Developing Adolescents**

Hayley Payne is an Honors student and Speech-Language Pathology major with a minor in Psychology. She is graduating in May 2015 and plans to pursue her graduate degree in Communication Sciences and Disorders.

Hayley conducted research investigating working memory in typically developing adolescents. After gaining knowledge about normal and disordered language in the brain, Hayley prepared to and collected cognitive and language data from adolescents. The results of Hayley's research have implications for understanding working in typically developing adolescents and those with traumatic brain injury. Hayley presented her findings at the SUNY Undergraduate Research Conference in April 2015.



Dustin Perdziak, Painting

Faculty Mentor: Professor Lin Xia Jiang, Fine Arts

Abstract Title: **Revisiting and Appropriating Iconic Masterpiece Paintings of Western Art in the Context of Contemporary Culture**

Dustin Perdziak is a Fine Arts Painting major. He will graduate with a B.F.A. in December 2015, after which he plans to attend graduate school. Dustin's ultimate goal is to pursue his studio practice at a professional level and to teach in higher education.

Dustin focused on examining the historical timeline of painting for technical differences and styles and iconic ways of representation within those major styles and genres. Covering major styles that include classical realism, French Impressionism, Surrealism, Abstract Expressionism and collage/deconstructionism, Dustin produced a series of eight paintings. Each of the paintings represents a different compilation of techniques that fit into a major historical genre. He presented several paintings during the Lombardo Show in a NYC Gallery in October 2014.



William Prendergrast, Metals/Jewelry

Faculty Mentor: Professor Stephen Saracino, Design

Abstract Title: **The History of Metal Inlay Through Damascene**

William Prendergrast is a Metals/Jewelry major and will graduate with a B.F.A. in December 2015. William plans to pursue an M.F.A. in Metalsmithing and eventually teach at the college-level.

William's research involved learning the technical practice of damascene as well as the history of the cultures that utilized it. With this information, he was able to craft a selection of specialized tools and used them to create works focusing on the art of metal inlay, using copper, brass and fine silver, on both flat and curved volumetric surfaces. The completed research work centered more on experiments with the invented tools and the depth of the cuts in the metal and varied types of metal used in the inlays. The finished example, a stylized belt buckle design, resulted from utilizing his most successful experiments.



Carlos Rosales, Forensic Chemistry

Faculty Mentor: Professor Rebecca Ploeger, Art Conservation

Abstract Title: **The Potential Plasticizing Effects of Tinuvin® 292 on Varnishes and Adhesive Components for Paintings Conservation**

Carlos Rosales is forensic chemistry major. He is graduating in May 2015, after which he plans to attend graduate school to pursue some aspect of analytical forensic chemistry.

Carlos' research was a piece of a larger international project investigating consolidating adhesives for painted layers. Carlos took on the task of looking at potential plasticizing effects of a common light stabilizer on various adhesive components using differential scanning calorimetry. His results are important for the development of new materials for art conservation. He was able to travel to the Museum of Modern Art in NYC to present his findings and to participate in discussions with project partners.



Robert Sherman, Music and Theater

Faculty Mentor: Professor Holly Bewlay, Music

Abstract Title: **Tenor Passaggio in the Repertoire of the American Musical Theater**

Robert Sherman is a double major in Music and Theater and is graduating with two B.A. degrees in May 2015. Robert hopes to pursue a career as a singing actor specializing in American Musical Theater.

Robert's research included voice screening using software to measure his passaggio (breaks in his singing voice.) A series of voice lessons were recorded and analyzed to determine when the passaggio sounded optimal. To evaluate the results, Robert was recorded while performing at the American Musical Theater. The effect of smoothening the lower passaggi helped Robert's F-F#4 area on consonant "n". Future work includes applying this approach on the "Ah" vowel. Robert presented his findings at the SUNY Undergraduate Research Conference in April 2015.



Chris Walsh, Wood/Furniture Design

Faculty Mentor: Professor Philip Ogle, Fine Arts

Abstract Title: **Synergistic Design**

Christopher Walsh is a Wood/Furniture Design major and is graduating with a B.F.A. in Spring 2015. His future goal includes opening his own design firm.

Chris' research project involved an investigation into how computer science could inform furniture design. Studying both circuitry and programming to develop an understanding about potential applications, Chris designed a drawer that opens by a human touch through capacitive sensing. The drawer uses the latest advances in technology that includes an Arduino board, rubberized gear track, and a high efficiency direct current motor. The use of this type of technology in furniture design may help improve the lives of individuals with limited mobility.



Arts

All About Hawaii: Music and Culture

Emily Abbey, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

The song “He Mele No Lilo” by Mark Keali’i Ho’omalulu embodies the beautiful native music and language of Hawaii. While this sound world has drawn in audiences through popular films like “Lilo” and “Stitch”, the music can often provoke questions from Americans unaccustomed to its traditional practices and overall aesthetic. Indigenous Hawaiians inhabited a rich landscape surrounded by wildlife, allowing them to make costumes from abundant natural materials for dance and musical performances. Hawaiian musical instruments are also made of materials from the islands, and the poetry of their songs may be inspired by their exotic surroundings. Hawaiian music is structurally comprised of five basic genres that fulfill a variety of functions, such as religious or social. Dance is often a central element, and music and hula dancing complement each other purposely. My presentation will discuss facets of Hawaiian culture as they relate to the folk songs of its people, and will link traditional genres with modern musical practice in this region.

Presentation Type and Session: Poster IV

Blue Prints: Dance and Architecture

Casey Weidman, Maiya Carson, Jill Turner, Katie Norris, Amanda Kugler, and Shawambie Webbe, DAN 320: Rehearsal and Production

Faculty Mentors: Professor Carlos Jones, Theater, Professor Joy Guarino, Theater, and Professor Janet Reed, Theater

The authors above, along with Elizabeth Halstead, Enyali Jordan, Keanna Morrison, Chelsea Rush, Jesse Soto perform as the Buffalo State Dance Theater in Blue Prints. In this dance concert we explore the connection between dance and architecture. Architecture inspires the choreography either literally or abstractly. Carlos Jones is working with the concept of building foundations with exploration of the rhythms of construction. Leanne Rinelli draws her inspiration from the walls or buildings and examines how we, as a culture, function in our daily lives with the walls we erect for ourselves. Michael Lambert utilizes Gothic architecture to influence his choices in movement design. Joy Guarino has collaborated with a composer and the dancers to develop music and movement reflective of three prominent Buffalo architectures; the Albright-Knox Gallery, Kleinhans’ Music Hall, and the Darwin Martin House. Janet Reed’s works are created in response to super scrapers and vertical gardens. . . architecture of the future. Being able to contribute to the creative process as students has influenced our understanding of the importance

of research within the artistic process. The dancers of the Buffalo State Dance Theater are joined by 12 additional students how perform as a support dance corps.

Presentation Type and Session: Warren Enters Theatre, Upton Hall, Tuesday, April 28, Wednesday, April 29, Friday, May 1 at 8 p.m. & Saturday, May 2, 2 p.m. and 8 p.m.

The Blues Influence in Torch Songs

Rebecca Hall, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

The Great American Songbook, created by Tin Pan Alley composers such as George Gershwin and Cole Porter, is music that has attracted audiences with its passion. My research focuses on female vocalists of the 1930s who achieved fame in the Torch song genre, whose subject was unrequited love. These songstresses transported their audiences to an empathetic atmosphere where they were invited to vicariously share in the singer’s experience. I will begin with a brief history of the Blues and identify key female Blues singers. I will also provide a brief history of Torch and the Blues musical influence heard in it. My research concludes with an explanation of the significance, setting, and musical and vocal techniques of the Blues that became so influential in the Torch song genre.

Presentation Type and Session: Poster IV

Board Games Don’t Have to Be Boring

Austin Stroh, Fine Arts

Faculty Mentor: Mr. Ted Mallwitz, Educational Opportunity Program

As people grow from being a child and into adulthood, they find board games to be less interesting. This is especially true since our society has only invented a few high-quality popular games since the early 20th century (Monopoly, Life, Battleship, Clue, etc.). It is in this modern society in which video games reign supreme, that board games have grown to be seen by most individuals as dull or boring. This project will explore various solutions to a lack in creativity regarding typical board games. This presentation explores my work in designing several interesting board games that have unique formatting and styles. I had also experimented with different techniques and mediums when designing each board game. As an artist and a board game enthusiast, I thought I would put my talents to use and find an intriguing way of making art that would be interactive. Each piece was blueprinted and designed by hand and created all by myself. The purpose of these creations is so that they may entertain those who choose to use them perhaps even more than a store-bought game would. Additionally I am seeking to enlighten designers of board games to develop board games with more creative themes so that it might seem more fascinating to those who find board games to be dull or boring. Then by incorporating visually appealing styles with fun new

games, the board game industry might be given an opportunity to re-invent itself. My presentation will include a talk that describes the project, several examples of my creations, how I came up with the idea to pursue this path, and future plans.

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

Bold Spirit, Loose Morals

Megan Cavanaugh, Sculpture

Faculty Mentor: Professor Kenneth Payne, Fine Arts

In their most intimate moments, neither lover is “subject” or “object.” Eroticism stems from a deep and nontraditional internal knowledge. Beyond embodied physical and social differences, regardless of body type, pleasure bonds people together. We all have wants, needs, and desires. In my work, I am examining the social standards of sexuality. Examining the body’s reality, leaving behind the construction of misogynistic mythologies to redefine the overexposed female body with subjectivity. I am interested in the complexity of sexuality, whether it can exist unmediated by culture, and women’s genuine desire. I want to further align myself with the tradition of genre painting by depicting scenes neo-burlesque. In the neo-burlesque culture, desire is not divided by classification of transsexuality, lesbianism, gayness, or heterosexuality. Through fluid forms of sexuality, the notion of identity opens up, while social stigma and gender hierarchy are challenged. In Burlesque the performers do not create themselves in response to the male fantasy, they are responding to their own feelings of sensuality. Unlike the exploitation of women’s bodies in media, these performers openly sexualize themselves as means for empowerment. Neo-Burlesque delves into prevalence of body image, embedded in systems of insecurities, vulnerability, self-exposure, and admitting one’s sexual desires. There is a sense of magic that occurs when the performer invites the voyeuristic audience to view their uninhibited sexual desires and unique fantasies. In my work, I want to express this sensational and equitable interaction. I am interested in capturing the viewer’s personal transformation of accepting their fundamental desires and sensual feelings involving their body.

Presentation Type and Session: Poster VI

Building an Efficient Kiln: Materials, Fuel and Time

Stephanie Fowler, Ceramics

Faculty Mentors: Professor Colleen Toledano, Design and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

It is difficult for a beginning ceramic artist to afford a kiln and the expenses that come with it. These expenses could be in the materials for building the kiln, the kiln furniture, clays and glazes, and fuel to fire it. I wanted to research ways to make a more cost, time and fuel efficient and sustainable outdoor kiln. I feel that these all go hand-in-hand and begin with the choice of a kiln. I

reviewed the literature and online resources as well as sought advice from ceramic professors about their outdoor kiln experiences. After gathering and evaluating this information, I selected the ‘Fred Olsen Fast Fire’ kiln as the one I would build. Unlike other kilns that are limited to one type of fuel, the Fred Olsen kiln can be modified to accept different forms of fuel, including wood, oil, gas or a combination of fuels. The kiln also has a shorter firing time, which helps reduce the amount of fuel used. Firing with these various types of fuels will produce the organic and earth tone surfaces that I strive for in my wood-grain inspired functional and sculptural work. In my presentation, I will illustrate both the firing process and the ceramic pieces produced using the kiln.

Presentation Type and Session: Poster III

A Calm Mind with the Meditation Music of Taiwan

Kathryn Allison, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

My research focuses on the Buddhist culture of Taiwan, which embodies one of the most important religious practices of this global region. My discussion will incorporate how music and movement can play a large role in traditional spiritual meditation, as seen in performance with the Cloud Gate Dance Theater of Taiwan. I will explore how meditation, music, and spirituality function holistically, as well as synergistically, in Buddhist life. My topic may even teach Westerners a bit about how to manage our own stress in everyday life!

Presentation Type and Session: Poster VII

Casting Iron

Patrick Anhalt, Sculpture

Faculty Mentor: Professor Kenneth Payne, Fine Arts

My aesthetic is working in simple geometric forms. The nature of these structures is to be representative of the man-made world. That is, forms of sharp angles and edges that are comprised of flat planes. I am drawn to the materiality of the media and I am process driven. Letting the nature of the material and casting process dictate the outcome of the sculpture. Keeping defects and blemishes caused by the casting process. With this particular sculpture project, I intend to research the process of working at a large scale (10’x12’) utilizing 2 different metals, wood and stain- and be able to hang said piece from a frame. The piece I will be working on will be cast twice, first in iron and then in bronze. I am drawn to the materiality of the media and I am process driven. Letting the nature of the material and casting process dictate the outcome of the sculpture. Keeping defects and blemishes caused by the casting process. I find the process of casting fascinating. From the ability of being able to melt and control the metals in their liquid state, to turning them into their solid form and transforming them into a final piece is hard, but satisfying work. When one casts a piece in metal, it becomes

something more, something permanent. Up until now I have worked on small and medium scale sculptures, but I crave to understand the process of creating larger sculptures that are more marketable. Monumental size sculptures are the ones that call for attention. My hope is to create a piece that while working on it with my personal focus and aesthetic will catch someone's visual attention.

Presentation Type and Session: Poster VII

The Classic Romantic: A Comparison of Beethoven's First and Last Symphonies

Amanda Paruta, Music

Faculty Mentor: Professor Ricky Fleming, Music

This presentation will explore the differences and similarities found in Beethoven's first and last symphonic works. It will include score examples from both works as well as an example work of Josef Haydn, the original nurturer of Beethoven's symphonic endeavors and whose influences remain apparent throughout all stages of Beethoven's career. There are many clear attributive gestures from Beethoven to his old mentor located throughout his major works, particularly within the genre of symphony. The analyses and comparison of these works will include a discussion of compositional techniques such as orchestration, phrasing, and structure, as well as the inclusion of audible examples of each work to further emphasize findings. Research techniques for this presentation will include intensive score study for both Beethoven symphonies as well as a piece composed by Haydn (which will be determined upon findings within the Beethoven scores), actively listening to the pieces, and researching the historical context of each and how they relate to the events of Beethoven's personal and professional life. Beethoven was an incredibly complex individual whose music reflected the intricacies of his very soul. He expanded the strict boundaries of the symphonic structure and launched the music world into the Romantic era with his groundbreaking last symphony. This will be an opportunity to explore the parallels between his premier symphony and his last grand scale contribution to the world of music.

Presentation Type and Session: Oral – Arts and Humanities: I

Classing Up the Joint

Adam Ianni, DES 451: Wood - Senior Studio

Faculty Mentor: Professor Sunhwa Kim, Design

All too often designers emboldened with the power of technology and the cultural traditions of the West turn their aesthetic prowess towards a perceived problem and lose sight of the needs and desires of the end user. I see my work as a criticism of the designers' hubris that convinces us we have all the knowledge and tools necessary to solve problems we may know nothing about. I offer up my milk crate line of furniture as a piece of satire on that note. Playing my part as the self assured humanitarian, I have designed a line of furniture to help the uncomfortable and unstylish homeless or transient population. I bring to the table, luxury goods, crafted in timeless

silhouettes, referencing the decedent design and moral authority of the Victorian era. The strong conflict of emotions, the dissimilar materials conjure and the juxtaposition of the fit and finish of said materials allude to the conflict between the user and the designer. I want my work to communicate the importance of the user in the design process through the humorous destruction of milk crates: objects with an unlimited amount of utility to any user. With my work, the hobo jungle will forever transformed into a more fabulous place.

Presentation Type and Session: Poster VIII

Continuity

Rachel Krzyzanowski, FAR 343: Advanced Sculpture

Faculty Mentor: Professor Kenneth Payne, Fine Arts

As a child I struggled with communication, and the fear of failure. As an adult artwork communicates my point of view, when verbal communication is difficult. Using struggles experienced in my personal life, which are universal life issues, I am able to acknowledge them in my sculpture. My need to communicate is what motivates me to create sculpture. Through the use common materials, and manipulation I create a cohesive texture. This texture is used to cover and build up the form of my sculpture. Once a project is started, I am greatly influenced by the process of working with the material. This process-focused method of working allows me to understand the natural movement of the material I am working with. Simplifying and abstracting work allows my sculpture to be seen more textural terms. This means that the texture is very important in expressing the message of a piece, so the audience can share my point of view. The influence of cultures I don't completely understand is of great interest to me, and how other people live in their own culture. There are many universal life experiences that are beautiful in the fact that so many people experience them. I explore these in my sculpture, for example the relationship between mother and child. The little moments are what I am looking to show in my work. The moment when a child is looking up at their mother for forgiveness, and having enough trust to ask for forgiveness. At that moment there is a rebirth of their bond. I take ideas like this, and put them into abstract forms, striving to evoke some kind of nostalgia from the audience. I want to learn and grow in my art. I am striving to express my ideas onto the canvas of my life.

Presentation Type and Session: Poster V

Costume Design: Creating the Look

Carrisa Welch, THA 335: Costume Design for Theater

Faculty Mentor: Professor Ann Emo, Theater

How is a costume created? Who does it? What is the process of designing? The research I did this semester was about the process of costume design in theater. I had the chance to experience this process first hand in my Costume Design class. For the class I had to design four characters from the play *La Ronde*, in both contemporary and period style dress. I will be presenting a poster

describing and picturing the process I went through to create my designs with the end results. I want audience members to learn about how much work goes into any design in theater. Costume design is not simply picking out clothes for actors because they look nice. There is a lot of research, preliminary drawings, and time that goes into it. I hope this will open up people's minds about designing, costumes, and theater overall.

Presentation Type and Session: Poster VI

Didgeridoo: Tapping into the Australasian Spirit

Craig Abraham, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

One of the most bizarre and unfamiliar of all musical instruments that Americans may encounter, the didgeridoo is also one of the most widely misunderstood. As one of the few people who play didgeridoo, in my eyes it seems that many Americans today think of the didgeridoo as nothing more than a novelty instrument with a bizarre timbre. Through this project, my goal is to help change that. I will be diving deep into the rich history and cultures of the Aborigines and Maori peoples to seek out the true significance of the didgeridoo in the contexts of religion, social life, celebration, rituals, conflict, and personal enjoyment. Along the way, I will uncover many of the elusive playing techniques that the Aborigine and Maori players have been using since the instrument's conception. My goal is--with hard work and some luck--to become a dramatically more authentic and skilled didgeridoo player, and to develop a deeper sense of connection to the peoples from whom I will have learned.

Presentation Type and Session: Poster VII

Do You Wanna Tejana?

Ellen Pieroni, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

Tejano music emerged in the 1990s in the Texas-Mexico border region. "Musica tejana" is one of the many transformations of Tex-Mex conjunto, orquesta, corrido, and cancion ranchera music. This unique sound merges rock, soul, and funk musical styles. Also known as "Tex-Mex" music, the genre was widely popularized by Selena, the "Queen of Tejano," who was Tejano music's first crossover artist. Selena's role as one of the most celebrated Mexican-American entertainers of the 20th century made her 1995 murder even more tragic. My presentation will explore the roots of Tejano music, focusing on its characteristic instrumentation and timbral qualities. As a whole, Tejano is an extremely diverse style that covers a wide range of genres, ensembles, and artists and has had a strong appeal among the large Latino population in the United States.

Presentation Type and Session: Poster VII

Exploration of Modern Dance

Elizabeth Halstead, Arts and Letters

Faculty Mentor: Professor Janet Reed, Theater Department

My research involved an exploration of styles of modern dance and its current applications for performance and learning. I attended two intensives for dance; one in New York City and the other in Toronto, Canada. I studied under the instructors of the two companies to experience their techniques as well as their choreographic and teaching styles. This experience morphed my understanding of modern dance techniques and the modern dance companies of today. It also gave me the opportunity to observe these different approaches in style and helped me to form my opinion which one would work best for me. For the showing, I will explain and then demonstrate for the participants what I discovered and how I learned the material. The powerful movement of Martha Graham's technique was heavily emphasized in both companies and will therefore play a major part in my solo demonstration. I will also teach a segment of choreography I co-created in Toronto to further relate my experience. I believe this method of presentation will bring a better understanding of the movement of modern dance that I practiced.

Presentation Type and Session: Rockwell Hall 22 - Dance Studio, Saturday, May 2, 9:30 a.m. - 10:15 a.m.

The Fabricated Self

Stephanie Kahn, Metals/Jewelry Design and Dietetics

Faculty Mentor: Professor Tara Nahabetian, Design

The metalwork in this exhibition explores the relationship between social structures and manifestations of "the self". There are numerous ways in which an individual is shaped and crafted by the expectations and precepts of society. Each of these jewelry pieces embodies sociological concepts through the use of form, imagery and repetition. They also exemplify an individual's entrapment within social structure and their fight to be unique. This constant battle can be tiresome and taxing. I use color as a metaphor for the individual. By varying proportion, emphasis and intensity I illustrate the different ways social structure affects the individual. My intent for this series is to compel viewers to assess their own thoughts and actions in order to identify how their identity has been crafted by other's expectations and beliefs. Many people get swept up in their day-to-day actions, lose site of the bigger picture and consequently become complacent. When one realizes that the person they thought they were was not a construction of their own, they may take some time to reevaluate their thoughts, morals and own beliefs. I want to encourage the viewer's ownership of the concept of "the self" but more importantly, I want to create awareness. Ultimately, I want people to be able to identify how much influence social structure has on them.

Presentation Type and Session: Poster III

Family Ties

Rachel Krzyzanowski, FAR 440: Senior Studio in Sculpture
Faculty Mentor: Professor Kenneth Payne, Fine Arts

I would like to explore the idea of family relationships. How growing up you change, yet these changes happen slowly, and it can be your family that does not see the change. How do people interact with their family? Is that different from how someone acts when they are outside the family environment? I feel that this change that comes with growing up, and the struggles it can create is a universal idea. This is why I would like to address it in my sculptural work. I would like to show how reality and ideals interact with each other. By displacing the human figure in a state somewhere between reality, and an alternate reality, I feel I will be able to express this idea. I am very influenced by the process by which I make a sculpture. I would like to learn how to life cast because I would like to see where it could lead me in my personal aesthetic as an artist. Life casting is the process in which you take a mold directly from the human body. By using the human figure, I would like to make my sculpture relatable, yet slightly uncomfortable. This idea of discomfort is to help express the discomfort that can come with accepting change when we don't expect it.

Presentation Type and Session: Poster IV

Fela Kuti, Afro-Beat, and the Political Nature of Funk

Patrick Jackson, MUS 440: Ethnomusicology
Faculty Mentor: Professor Carolyn Guski, Music

My research explores the political and musical legacy of Nigerian musician and Afrobeat pioneer Fela Kuti. Kuti combined the culture and music of his native Nigeria with Western musical training, resulting in a popular genre form performed today by contemporary groups devoted to his legacy (the Broadway musical "Fela" is based on Kuti's life). Using elements of jazz, soul and funk, Kuti created infectious popular songs combined with politically charged lyrics. Marrying these two elements, Kuti was able to inspire a unique social movement advocating for the important issues he championed in his music. This music has become synonymous with a type of rebellious advocacy, which in turn influenced the Western styles that Kuti absorbed at the start of his popular career. Today Afrobeat enjoys a steady following in the United States through acts associated with Daptone Records, an independent label and studio based out of Bushwick, Brooklyn. Using his musical voice to impact social and political change in Nigeria, Kuti started a rich tradition of activism associated with Afrobeat, one that gives his music a lasting legacy.

Presentation Type and Session: Poster VIII

Finding the Zen State in Furniture Design

Ryan Simpson, DES 451: Senior Studio Wood Design
Faculty Mentor: Professor Sunhwa Kim, Design

I am researching a concept in furniture design. The concept

could best be described as a combination of nature and furniture. The word nature in relation to my work would best be identified as natural materials such as sand, salt, water, and plant life. Furniture with beautiful wood grain has an innate aura of peacefulness. I have found through previous research and many tests that bringing these elements together can produce a fascinating user experience and sense of tranquility. This thought process began after designing a highly successful coffee table in the Fall 2014 semester. The concept of this table began with the idea of illuminating sea salt. I incorporated a lit salt garden into a coffee table. The effect hit me hard and I knew I had to pursue the idea intently. If it worked in this piece, I thought that I could make it work even better in future pieces. Next, came the idea of sand as a material and the concept of an hourglass. From that point, I was determined to build a piece of furniture using the idea of a deconstructed hourglass. This led to many samples, sketching, and testing. The effect of sand falling from wooden forms through the air was mesmerizing. I am currently looking for a solution to maximize the sound of the falling sand. Other concepts include small, self-contained plant and water environments for the home. I am looking to achieve the design idea of "Intricate Minimalism": minimalist in form, intricate in design. I plan to present my results in a poster with photographs showing the progress of the work and concept.

Presentation Type and Session: Poster VII

Folkin' Around: Bob Dylan and the Folk Music Revival

Jacqueline Rondinelli, MUS 440: Ethnomusicology
Faculty Mentor: Professor Carolyn Guzski, Music

The revival of folk music in the United States during the 1960s was a time of revolution in the music industry. My research focuses on the life of the iconic singer-songwriter Bob Dylan and his significance to the folk music scene. I am particularly interested in the ways in which Woody Guthrie may have exerted an influence on Dylan's art. What was it about Guthrie's music that impelled Dylan to join the folk movement? I will also discuss and comment on the dynamic social forces in Dylan's America that sparked the movement. My sources will include contemporary testimony as well as modern critiques of the era. I hope to convey both specific musical knowledge, and a social understanding of folk music and the significance it has had in American culture.

Presentation Type and Session: Poster VI

For the Love of Tango

Emily Bauerlein, MUS 440: Ethnomusicology
Faculty Mentor: Professor Carolyn Guzski, Music

The historic tango of Argentina is all about the music combined with dance, which still holds true today. It is the most popular dance in Argentina, particularly in Buenos Aires. Traditionally, it has been about the dance but has since moved from its original use in the dance hall to the concert hall as a musical genre. Astor Piazzolla

introduced the dance form as a concert genre. The term that was used to describe the change is “nuevo tango” or “new tango.” Was there a conflict when the change was introduced to the people of Argentina? I will discuss both the early and new tango styles. Melodic material and characteristic instrumentation are essential to the tango. The bandoneón, a lamellophone similar to the accordion, is the featured instrument of the tango. The art and style of the passionate tango has captured the attention of people around the world. I will show how tango is the most important style of music and dance in the Argentinean world.

Presentation Type and Session: Poster V

Gamelan and On: The Spread of a Secret Music

Matthew McQuilkin, MUS 440: Ethnomusicology
Faculty Mentor: Professor Carolyn Guzski, Music

The musical style known as Gamelan is deeply tied to the spiritual culture and religious beliefs of Southeast Asia (specifically the islands of Indonesia), predating the spread of Hindu and Buddhist culture in the region. Its popularity, however, has diminished in recent decades as a result of globalization and increased exposure to outside cultures. The word “gamelan” refers to the typical “orkest” group of musicians, typically performing on multiple pitched metallophones, small drums, and sometimes bowed string instruments. As the signature sound of the region, this unique instrumental timbre marks religious ceremonies, evokes the spirits of the gods, and provides a soundtrack to ceremonial dance and theater performances. Modern Western composers such as Claude Debussy and Lou Harrison have famously used the gamelan’s sound as a fresh source of inspiration. My research goal is to explain the Indonesian gamelan’s discreet yet relevant influence in our evolving world.

Presentation Type and Session: Poster IV

The Golden Fabric of Ragtime

Hillary Hunt, MUS 440: Ethnomusicology
Faculty Mentor: Professor Carolyn Guzski, Music

Exactly a century ago, Ragtime was well into its final phase and the United States had begun its transition to the Jazz Age, which soon took precedence. Having only originated in the late 19th century, Ragtime’s popularity was comparatively brief. Was there something off-putting about its tempo, meter, pitches, or perceived simplicity? Perhaps we’ll never truly know. My research explores Ragtime’s roots, history, and development, as well as key composers and players. I will also explore the period of its rebirth in the 20th century. “Ragtime” as a term is misleading; it sounds too colloquial. It was actually a vibrant and sophisticated genre in musical history, with roots in minstrelsy and elements destined to branch off into many different musical styles. Stay tuned--pun intended!

Presentation Type and Session: Poster V

Growing Women

Courtney Rosiek, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor Drew Kahn, Theater and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

American girls are over saturated with unfair media expectations. Girls are becoming ‘women’ at an earlier age, but are they growing into women of substance, or pursuing an impossible quest for female perfection? My proposed project features an original piece of theater and workshop written with fellow undergraduate theater majors. In our play, entitled “Growing Women,” we will address three issues that young girls currently battle. First, we will surface the messages in the media, and the dangers of “buying” what they are “selling.” Second, we will combat negative self-talk, and poor body image – epidemics consuming the lives of young girls. Lastly, we will unearth the issue of generational rigidity, exhibited between female members of the family unit. In the workshop we will provide tools and vocabulary to combat the issues presented in the play. We aim to build communication bridges between older and younger generations. We aim to create understanding about the adverse pressures young girls face today. My goal is for our audience to leave knowing that growing a dynamic woman is a community effort. Through the play and workshop we will provide tools that can spread from the micro-community created in the workshop, to the worldwide community.

Presentation Type and Session: Flexible Theatre, Donald Savage Theater and Communication Building, Thursday, April 30, 12:15 p.m. – 1:30 p.m.

Harps, Pipes, and Whales: The Music of the Daoine Sídhe of Ireland

Charles Coughlin, MUS 440: Ethnomusicology
Faculty Mentor: Professor Carolyn Guzski, Music

“Bocht an fear bhíos gan cheol” – “Poor is the man that is without music”. The Daoine Sídhe, or Fairies, are a mythical people of Ireland and Scotland – some of the fieriest, scariest, and most manipulative creatures of the world, yet they also can be kind, protective, and very musically adept. Although Ireland’s ancient songs are said to originate with the Sídhe, most of the development of this music comes from the commoners, farmers, and fishers of Ireland. I will discuss the history, songs, and techniques of three traditional instruments and show why the music is so identifiably Irish. Though the harp (the “uillian pipes”) and the fiddle may seem like modern instruments, their origins and playing techniques represent ancient traditions. My research is based on a recent semester abroad in Ireland, where I studied the land’s culture, history, and – most importantly – its traditional music. I hope to inspire appreciation of Celtic artistic culture, and hopefully give listeners inspiration to seek out some of its great music.

Presentation Type and Session: Poster V

The History of Metal Inlay Through Damascene

William Prendergast, Metals/Jewelry Design

Faculty Mentor: Professor Stephen Saracino, Design

As a jewelry designer, I am constantly looking to improve and accent my work in new ways. With the practice of inlaying metal, I am able to bring new ideas to the table and push the second dimension further with an ancient technique. I began by searching for any available information on the subject online and in text. Soon after I went to work to better understand the craft. By creating small steel chisels, I was able to cut channels into which soft metal was hammered. The metals used were copper and brass for the main body with silver wire and sheet for the inlay. I was able to create unique pieces that served as a display of not only the technique, but a combination of ancient and modern themes. The main work exhibits a collection of interlocking circular lines to form a 6-sided focal point in the center into which silver sheet was inlaid. The next piece is a pendant that utilizes the different colors and properties of copper, brass and silver brought together to create contrast. The final piece is a formed piece which uses inlaid line on a three dimensional surface.

Presentation Type and Session: Poster IV

Images of Community: Buffalo in Typography

Lyndsay Raymond, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor Carol Townsend, Design and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Being a Buffalo native, I am a little ethnocentric when it comes to describing my community in that I want everyone to love it as much as I do. However Buffalo, although rich in heritage and tradition, is often assigned a negative connotation in the media regarding myths about our legendary snowfalls, or performance of our sports teams etc. The best way I know how to translate my message is by combining my two passions in life that are community involvement and design in order to combat this negativity, to prove that above all else, we are the “City of Good Neighbors.” My project is based on the treasures Buffalo has to offer, such as the exquisite architecture, Canalside, the cultural marketplaces, the communal response to recent brutal winters, and the people that make up this vibrant community. The resulting design work will serve as both an advertisement for non-locals, and point of pride for residents. My research has involved photographic references, news of current renovations/restorations in the area, and polling residents about what things come to mind when they hear the word “Buffalo.” After compiling a list of words I felt best portrayed the positivity of Buffalo, I deconstructed each word and incorporating my research through the design process, I carefully added illustrated imagery to make a cohesive visual statement. This includes removing some letters and replacing them with artwork, or changing the letterforms themselves

while still being able to read the word as a whole. These images are drawn from references to food, buildings, and culture, etc. Overall, the viewer should be able to look at the finished pieces and understand what I am describing and appreciate where I call home. My goal is for the resulting design work to have a true “Buffalo feel.”

Presentation Type and Session: Library Mezzanine Level, Friday, May 1 during the Opening Reception 5:00 p.m. – 6:30 p.m. and Saturday, 11:30 a.m. – 1:00 p.m.

In Memory of the Present

Kenny Leon, Painting

Faculty Mentor: Professor Anthony Peter Gorny, Fine Arts

These woodcut monoprints respond to Buffalo’s gentrification, refuting myths of progress it presents citizens. Born in Buffalo’s Lower West-Side, I lived in government-substituted housing. This background allows me insights lending itself to artistic exploration of current changes contrasting with life experienced by us under adverse conditions. This disconnect of experience is not discussed in Buffalo. I see Elmwood Village in drastic contrast to Kensington Avenue or Niagara Street. They diverge widely from the news reported in the Buffalo News! The all-encompassing magic solution of expanding businesses and residences for outsider-affluent-suburbanites leads to displacement, frustration, and conflict for others. Urban renewal with bulldozers only makes outsiders comfortable during their takeover. Problems in my community are ignored and pushed aside while costs quickly increase. Employing satire and cartoon iconography juxtaposed against realistic looking backgrounds sourced from my photos, I demonstrate the two-dimensional understanding an unconcerned public displays toward urban environments, while setting up barriers to maintain separations. I challenged myself by combining large woodblocks, acrylic & oil paint printing media to create three 3’ x 3’ prints. Each represents a hallucination of impoverished Buffalo transformed by businesses and new patrons while remnants of old neighborhoods still remain on display. Brightly saturated patrons now stand out from the downplayed neutral irreality of surrounding spaces they now possess and occupy.

Presentation Type and Session: Library Mezzanine Level, Friday, May 1 during the Opening Reception 5:00 p.m. – 6:30 p.m. and Saturday, 11:30 a.m. – 1:00 p.m.

Introspection Transcended: Beethoven’s Ninth Symphony

Lillian Inglut, MUS 303: Music History: Classic-Modern

Faculty Mentor: Professor Carolyn Guzski, Music

I offer a variety of historical and analytical viewpoints on Beethoven’s Symphony no. 9 in D Minor, op. 125, one of the most beloved works in the classical music canon, premiered just three years before the composer’s 1827 death. I explore how Beethoven’s final symphony was the first of its kind to include a full chorus and vocal soloists, with its final movement based on Friedrich Schiller’s

inspiring poem “Ode to Joy.” The use of vocal forces and a poetic text distinguishes this work from historic symphonic models of the First Vienna School. How have this composer and symphony served generation after generation by acting as a symbol and anthem of justice? My research investigates situations in which performances of the work have proved influential in empowering people against oppression, accompanying political events such as the end of the Second World War and the fall of the Berlin Wall. Beyond its unusual structure, I investigate the philosophical ideals that motivated Beethoven to write the work. The symphony was crafted during the composer’s painful late period, as he struggled with profound hearing loss. The Ninth Symphony enlightens listeners with an understanding of Beethoven’s struggle as reflected in his music.

Presentation Type and Session: Poster VI

Investigating Rape Culture Through Painting

Molly Bader, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Alice Pennisi, Art Education and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Art is a powerful tool to inspire change within a society. I am an artist with a great passion for social justice, and have become intrigued and horrified by the mistreatment of women in our society. Rape culture is a set of social norms and expectations that contribute to the sexual violence against, dehumanization of, and objectification of women. I am conducting an artistic research project about the sexual violence and rape culture that surrounds us. Using imagery to reflect themes that arise from my research on the topic, my aim is to tell a cohesive story through paintings, drawings, and mixed media. I have a research background on this topic through my part in the creation of *Shattered*, a devised play about consent and sexual violence, through the Anne Frank Project. My research includes the creation of a visual journal that I can use as a starting point to explore my idea, which then informs larger pieces of art. I am primarily a painter but am interested in exploring the use of drawing and mixed media as well. I strongly believe that art and imagery can open doors for conversation and allow people to process overwhelming topics and so I am very interested to share my research through my journal and my finished works. I hope to continue my project throughout the summer for inclusion in the 2015 Anne Frank Project. It is my hope that this project will spark interest in ending rape culture because it is a prevalent issue on our campus and campuses across the country.

Presentation Type and Session: Library Mezzanine Level, Friday, May 1 during the Opening Reception 5:00 p.m. – 6:30 p.m. and Saturday, 11:30 a.m. – 1:00 p.m.

Layers

Monica Nickles, Sculpture
Faculty Mentor: Professor Kenneth, Fine Arts

I am greatly influenced by the Japanese tradition called Wabi-

Sabi that is a murky state when things become blurry, vague, or attenuate quality. There is a beauty in things that are imperfect, impermanent and incomplete. In this state life becomes modest and humble. I am drawn to the raw beauty of natural materials because these materials play a huge role in my work. I am very interested in how nature has a way of taking from and giving life back to the earth. It symbolizes the universe being sacred and divine and represents the infinite nature of energy. My work has included investigating how one moment layers and shapes each and every other and also shows how everything is built of multiple little moments. I created sculptural forms that look like they are caused by natural forces, and doing this reinforced my idea of how powerful nature is. I like to imbed natural organic materials into the clay to create intricate/delicate layering as well as use organic materials such as pressed flowers, moss, feather, and fungi. By doing this it reinforces my idea of how life is built up of multiple layers/moments.

Presentation Type and Session: Poster VI

Let Me Choro the Music of Brazil!

Dominic Scaduto, MUS 440: Ethnomusicology
Faculty Mentor: Professor Carolyn Guzski, Music

My research focuses on Choro, the charming and buoyant musical style indigenous to Brazil. Although the word Choro literally means to “cry” or “lament”, the music is often very upbeat, joyous, and lively. As with the American genre of ragtime, Choro’s roots are rhythmically and melodically derived from Europe and Africa. Commonly played at parties or in the streets as entertainment, Choro is a very informal genre. Its instrumentation is often transparent, consisting of a melody instrument such as flute or clarinet, acoustic guitar harmony, and percussion. I incorporate both textual and musical sources in my presentation. As a percussionist interested in the rhythmic value of music, I will be transcribing common rhythms played by the pandeiro, a small hand drum similar to the tambourine whose presence in Choro is ubiquitous. In multiple ways, the music that came to socially divide the musical landscape of Brazil was integrated with radio and the technology of sound recording. Choro laid a solid foundation for generations of musical influence.

Presentation Type and Session: Poster VIII

Little Old Lady Who? Yodeling Through the Ages

Caitlyn McCaslin, MUS 440: Ethnomusicology
Faculty Mentor: Professor Carolyn Guzski, Music

From practical to exotic, historical to comical, yodeling has swept throughout nations on lederhosen and cowboy hats. Centuries ago, yodeling began as a way of calling herds of sheep and cattle in the Swiss Alps. The range of the voice, sung at a very loud dynamic, made it possible for callers to be heard from mountains away. Fast forward to the 20th century, when yodeling grew from practical communication to a form of entertainment. In Switzerland and many other European countries, yodeling choirs dress up in their

finest lederhosen for a night on the town to perform in concert. In America, quite a different scene takes place. Ranchers and cowboys often used yodels to communicate to their companions and herds. Soon yodeling began to appear in musical genres such as vaudeville, minstrelsy, and country music. Currently yodeling is not quite as popular, but seems to be making a slow comeback by way of TV competitions such as “America’s Got Talent.” I will show how the yodel has progressed from a raw form of communication to the unique musical technique it is today.

Presentation Type and Session: Oral – Arts and Humanities: I

Lose to Win

Cassandra Elahrag, Rachel Wach, Krystina Lucas, and Airi Kohlbach, THA 389: Destination Imagination

Faculty Mentor: Professor Carol Beckley, Theater

We will be showcasing our solution to a challenge from the international creativity organization Destination Imagination (DI). DI Educators and industry experts work together for more than a year to develop annual challenges in six academic areas. Solutions require creative and critical thinking while developing project management, leadership and collaborative skills. The challenge we choose is called “Lose to Win” and requires our team to design and build the lightest structure possible that continues to support the weight of a ten pound pressure board while parts of the structure are removed. The only products allowed are wood, playing cards, glue and adhesive tape and the structure has specific size parameters. Our team must also build an additional item that is transformed to reveal something completely different while we perform an original 8-minute story about transformation. Our presentation will include a performance of our solution and a discussion of our process.

Presentation Type and Session: Oral – Arts and Humanities: I

Making Waves to Feary Tales

Sara Stanish, Briand Taylor, Trevlyn Henry, Diane Jones, and Shatai Melvin, THA 389: Destination Imagination

Faculty Mentor: Professor Carol Beckley, Theater

We will present our solution to a challenge developed by the international creativity organization Destination Imagination (DI). DI Educators and industry experts work together for more than a year to develop annual challenges in six academic areas. Solutions require creative and critical thinking while developing project management, leadership and collaborative skills. We choose the challenge, “Making Waves”, requiring our team to design and construct a sound machine that produces two different live sounds and integrates two displays of visible sound waves. Through the process we decided to change our selected challenge to “Feary Tales”. This challenge requires creating a character, a phobia and an original story depicting the main character either overcoming or succumbing to the phobia. We must incorporate two original art pieces as well as an illusion. Our technical, theatrical, and creative skills will all be utilized in the solution. Our presentation will include

our challenge solution and a discussion of our process.

Presentation Type and Session: Oral – Arts and Humanities: I

Mark Making to Stimulate Creative Process

Sean Leavell, Painting

Faculty Mentor: Professor Philip Ogle, Fine Arts

The fundamental building block of all two dimensional visual art is the mark. A mark can be as simple as a line created by a child as they casually doodle or as complex as a brush stroke used to create the illusion of flesh around a human eye-lid in a painting done by a renaissance master. As an artist and a painter, I am interested in how the marks that I make in the creative process can affect the outcome of my work and how the viewer perceives it. I explored how different mark making tools can be used to stimulate and free the creative process. I spent significant time learning about pigment sticks that are made of oil paint and are durable, maintain a consistent shade and texture, and enable artists to more immediately reflect the image. When I want to paint in a more gestural way similar to drawing, pigment sticks allowed me to create quickly and without interruption allowing me to capture some of the spontaneity and emotions in my paintings. Using these pigment sticks, I completed a series of ten painting studies making use of the figure model from different points of view, with free, expressive marks and nontraditional painting tools. I completed these works swiftly to maintain a loose and expressive feel, repeating the series through variations in depth of color schemes and nontraditional painting tools. I observed the emotional content of the image as expressed through the use these tools, while making a comparison of the effect of a monochromatic color scheme to that of a full color scheme. I plan to apply what I learned from this series to create a large-scale painting in full color.

Presentation Type and Session: Poster III

Modern Engraving: The Use of Powered Tools in Contemporary Work

William Prendergast, Metals/Jewelry Design

Faculty Mentor: Professor Tara Nahabetian, Design

The goal of my research was to learn how the art of metal engraving has changed with the invention of air and electric powered tools. Until recently, the technique has been done with manual methods, requiring a great deal of time to both learn and implement. By using power tools, the time to create pieces and learn the skill is decreased, in addition to increased accuracy. Metal engraving is the process of using a chisel type tool called a graver to remove material from a base metal, creating an image or design in relief. Whereas manual tools rely on either pushing or hammering towards the artist, powered tools utilize a blend of each of these processes. A piston driven graver is driven at hundreds to thousands of strokes per minute to emulate the hammer method, but is instead pushed away from the user. The high speed of the cutting edge keeps it both smooth and speedy. By acquiring a pneumatic engraving

kit, I was able to create several samples displaying engraving from a beginner's standpoint. By viewing videos, reading texts and practicing a range of styles, I was able to achieve a good deal more than I would have in more time with manual tools. The knowledge and skill gained from the research process has laid a strong foundation on which to build my ability and accomplish a body of work. I plan to display these findings in a poster presentation.

Presentation Type and Session: Poster VI

Modern Production with Ancient Techniques

Christopher Walsh, DES 499: Market Furniture
Faculty Mentor: Professor Sunhwa Kim, Design

I investigated how I can acquire the beauty of time-honored techniques in a high production setting. The two main techniques I will be focusing on are forging and Asian lacquer. Both of these techniques were once extremely popular but have since been replaced by modern production techniques to keep the cost of goods down. Both of these techniques also produce extremely beautiful work. Modern blacksmiths and lacquer artists charge a premium for their work and deservedly so, due to their timely nature. My first objective is to become experienced in these techniques. I will be doing testing on a large scale to discover where the beauty lies in the processes. The next step will be taking these processes into the 21st century. I envision that casting processes will be my way of achieving this. Casting allows me to take pieces I have created through forging and replicate them in various materials such as plastic and ceramic. Plastic is a cheap, lightweight material that is highly used in modern production. It can be easily cast and is not susceptible to warping and movement. This is important for the lacquer process because only one layer will be needed, as opposed to the norm of wood, which has to be coated many times to account for the movement of the wood. This will reduce the man-hours and make it cheaper to produce. Ceramic is also an exciting material because, again, it is easily cast and I can achieve great finishes through different firing techniques. I will be able to achieve a metallic-like finish through Raku firing which could mimic the forged work. My presentation will be a representation of my findings.

Presentation Type and Session: Poster V

Movement By Design: Finding Inspiration in Dance

Amanda Kugler, Communication Design
Faculty Mentor: Professor Joy Guarino, Theater

Communication design majors are required to take courses in areas of graphics, web design, advertising, and illustration. This curriculum provides a good understanding of composition, color, and line quality. It has allowed me to execute my work using multiple graphic programs as well as classic art mediums. The dance education courses within my second major in Arts and Letters (Dance and Communications), have exposed me to the idea

that when dance is experienced at school or through community programs it is often introduced as an artistic and cultural aesthetic rather than commercial dance. The opportunity to design a logo for the Buffalo State Dance Association initiated the combining of my knowledge of graphics with my passion for dance. The conversations surrounding the logo design inspired my reflecting on whether a dance establishment's approach to dance (commercial, artistic, or cultural) has an effect on their graphic design needs and ultimately my design work. The process began by connecting with three diverse children's dance companies at the Dance and the Child International 2014 Gathering in Seattle, Washington. Interviews were conducted, first with the teachers individually and then the students in discussion groups. The interview data and observations with the studio owners revealed that the foundation of the studio did not affect my design work. I found, however, that the inspiration came from the dancers rather than their teachers. Through the dancers' stories, the teacher's philosophy or approach was authentically expressed. The stories were direct reflections of what was being mandated in the studio. My presentation will demonstrate the most vital portions of the interviews as well as samples of my design work inspired by the findings of each studio. I will share the rewarding and useful information obtained from the students that guided the end result of my research.

Presentation Type and Session: Poster V

On Their Toes: The Power of Isicathamiya Music in South Africa

Melanie Case, MUS 440: Ethnomusicology
Faculty Mentor: Professor Carolyn Guzski, Music

From the coal mines of the KwaZulu-Natal midlands in the 1920s, to present-day competitions in Johannesburg and Durban, Isicathamiya music has made profound statements both politically and emotionally in South Africa. This *a cappella* vocal style, accompanied by cat-like, tiptoeing choreography, has given the people who sing it--whether they be performers or migrant workers--opportunities they may have never experienced otherwise. Isicathamiya has also provided its singers with a "voice" during a time of strict Apartheid rule. I will present not only how Isicathamiya has had an impact on political issues in South Africa, but also how it evokes a potent sense of nostalgia and longing for home, for both performers and listeners.

Presentation Type and Session: Poster VI

Overcoming Western Auditory Perspectives: Listening to the 'Ud

Ruth Gifford, MUS 440: Ethnomusicology
Faculty Mentor: Professor Carolyn Guzski, Music

My research answers the primary question, "What musical, cultural, and emotional meaning does the 'ud hold for Syrians?" This traditional chordophone originated in Damascus and spread throughout Europe, where it gained a new name: lute (l'ud).

Who played this stringed instrument, and in what settings was it performed? The most popular myth, dating from the 9th-10th centuries, suggests that Lamak, a descendant of Cain, invented the 'ud. How has such an ancient part of history shaped the Syrian music heard today? Hearing the music of such a prominent and familiar instrument must be a comfort among the Syrian diaspora. It can be difficult, however, for Westerners to understand and relate to the unfamiliar sound of Arabic music. To overcome this hurdle, I will transcribe a portion of a Damascene "whirling dervish" piece into Western notation, analyzing its function and exploring its historical context.

Presentation Type and Session: Poster VIII

P'ansori and Sanjo: Delve Deep into Korea's Musical Dramas

Ben Martin, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

P'ansori is the definitive traditional Korean musical drama. It is traditionally performed with a hand drum (puk) that provides a rhythmic base and a solo singer. The singer and the drummer illustrate epic tales using rhythmic patterns as well as vocal expression. Perfecting the art of p'ansori requires years of training and practice. Sanjo is a musical practice that grew out of p'ansori. By integrating p'ansori's use of rhythmic patterns and melodic progressions with different instruments, as well as adding improvisation, sanjo acquired a life of its own. The rhythmic accompaniment is provided by a changgo (large two-sided drum), and a skilled performer will be able to follow the melody and add slight nuances to the performance. Improvisation is traditionally comprised of embellishments on previously composed melodies. Much like p'ansori, sanjo requires years of painstaking practice, divided into four different stages of training. My presentation will discuss the performance traditions of both musical styles.

Presentation Type and Session: Poster VI

Period Research: The Importance of Being Earnest

Allyssa Pellino, Theater

Faculty Mentor: Professor Ann Emo, Theater

Hairstyles say a lot about a person. They also say a lot about a time period. The recent production of *The Importance of Being Earnest* was set in 1895 and I had the privilege of designing the hair and wigs for that production. A significant amount of research went into this design not only to achieve accurate styles aesthetically but also technically. I approached this project by looking into a book full of photographs taken during that time period. It allowed me to see what their clothing and hairstyles were like, without being misled by fashion illustrations. I also utilized the Internet to discover the purpose and reasons behind specific styles. In addition to the period research I had use my creative skills to blend the actors' own facial features with hairstyles appropriate to the character. This included

facial hair. This presentation shows the arc of my research, creative process and the outcome of the collaboration with the costumes design as well as the effect on the performer. The experience of having a design actually produces was a significant addition to my educational path.

Presentation Type and Session: Poster V

The Puerto Rican Mambo

Robert Sherman, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

My research discusses the Cuban origins of the musical and dance style known as Mambo, and its migration into Puerto Rican culture during the 1950s. I will focus on the ethnomusicological structure, sound and setting of the Mambo in Puerto Rican society. Paralleling the music of Mambo, the ballroom dance associated with this Latin American music will also be discussed. To provide visual understanding, musical notation examples will be employed to illustrate the series of syncopated polyrhythmic patterns found throughout. These syncopated polyrhythms are emphasized with musical accents, typically played by maracas and claves. I will also explain the full instrumentation characteristic of the Mambo style, which includes the use of Western instruments such as trumpet, trombone and percussion.

Presentation Type and Session: Poster VI

Revisiting and Appropriating Iconic Masterpiece Paintings of Western Art in the Context of Contemporary Culture

Dustin Perdziak, Painting

Faculty Mentor: Professor Lin Xia Jiang, Fine Arts

My research involved a chronological investigation and study of the major inventions, conventions and techniques as well as subject matters and genres developed by leading artists of their prospective time period. My main goal was to understand the different methods and styles of oil painting as a form of expression, starting from the beginnings of the early Renaissance, in the early 1400's, to the present. Each painting was done with a different technique that is linked to the major movements or genres that painting has undertaken. My motivation for each of my compositions had a contextual base, which is a synthesized understanding of how certain artists have worked during their specific time period. Whether it is of allegorical significance, an attempt at capturing a fleeting moment, or representing reality in a different way, the backing and my rationale of all my choices stemmed from my individual experiences and perspective as well as my understanding of the culture that I am living in and relevant to me.

Presentation Type and Session: Library Mezzanine Level, Friday, May 1 during the Opening Reception 5:00 p.m. – 6:30 p.m. and Saturday, 11:30 a.m. – 1:00 p.m.

Shell Forming Influenced by Protective Mechanisms in Nature

Sarah Kieffer, Metals/Jewelry

Faculty Mentor: Professor Tara Nahabetian, Design

I gravitate towards organic forms with nature as a limitless source of reference and inspiration. Taking detailed photographs as a method of collecting visual references I visited nature preserves to begin generating concepts for my designs. The resulting body of work uses seedpods as the main source of design inspiration influencing the metal forms created in my pieces. I also began to use the reference of seedpods to convey the concept of containment in my work. The pod acts as a protective barrier to the outside environment, which paralleled my desire to create sculptural pieces that contained or held jewelry objects. Shell forming techniques were used to manipulate sterling silver and copper sheet metal into abstracted seed pod forms. Shell forming encompasses a multitude of techniques that are used to move metal in order to create complex curves, resulting in organic forms. The pieces are sculptural metalwork containing smaller jewelry objects adding an unexpected and mysterious quality to the overall object. When viewing the work it is imperative to investigate the pieces to see where the removable jewelry pieces are placed in the compositions. The three individual pieces make up a small series of work influenced by protective containment that seedpods provide in nature.

Presentation Type and Session: Poster V

The Shofar: Is it Only a Musical Instrument?

Elizabeth Ruth, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

The ram's horn (shofar) has held central significance during Jewish high holy days (Yom Kippur and Rosh Hashana) and can always be heard, along with Jewish music and dancing, during the Jewish feasts. But is this instrument really used as a musical instrument or is there greater significance behind the traditional four blasts of the shofar? I have grown up immersed in Jewish celebration and culture, accustomed to the blasts of the shofar, but also aware that its ceremonial use was limited to prescribed days on the Hebrew calendar. My research explores the significance of these blasts, because they truly represent spiritual meaning beyond their purely auditory jubilation. Along with exploring the various times in which the shofar is traditionally heard, I would like to answer the question: "Does its power hold any meaning for non-Jews as well?"

Presentation Type and Session: Poster VI

Sitar: Essential Instrument of Raga

Dylan Goldman, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

My presentation is about the sitar, the classic chordophone of South Asia, and its relevance to both Indian and world musical cultures. The sitar is an essential part of Indian classical music and

can express certain meditative qualities due to its resonating strings, droning overtones, and pitch-bending capabilities. Sitar music is composed using the concept of *raga*, a scale system used in Indian music which traditionally places more emphasis on framework or emotional expression than the exact pitches being played. Virtuoso masters of the instrument such as Ravi Shankar have introduced sitar music and its raga system to many different cultures. These cultures have often assimilated Indian music into their own artistic styles. As a result, music may be holistically advanced by incorporating global influences, creating a hybrid melting pot of cultural harmony.

Presentation Type and Session: Poster VI

Skatology: A Brief History of Ska Music

Joshua Kerns, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

Ska is a musical practice that found its roots in Jamaica. Close in nature to reggae, this music differs, however, in that it usually contains a horn section. Ska music is also very upbeat, as well as offbeat, with catchy horn descants. Ska music of the Jamaican people found its way to the United States, where it became music of revolution as it spread from Jamaica to New York City. Three waves of Ska occurred in the 20th century during the 1930s-60s as part of the Caribbean diaspora. Musicians trained in jazz and bebop often chose this more laid-back style of music to perform. This may have been because Ska music is part of their culture. My research focuses on the musical and social significance of the Ska universe. It's music like no other.

Presentation Type and Session: Poster VIII

Spatial Relationships

Megan Cavanaugh, Sculpture

Faculty Mentor: Professor Kenneth Payne, Fine Arts

The theme of my work entails reconstructing a model to redefine femininity, self, and sexual identity. Traditional biological roles of gender are falling apart. My motto for my work is "bold spirit, loose morals." I set out to make my own myth, a goddess that uses eroticism as a sense of empowerment. The goddesses have virtues of sexual power, self-knowledge, and a strong sense of self. Eroticism runs a deep and nontraditional internal knowledge. My inspiration was through subversive cultures of femme fatales, strippers, and burlesque. I began working with a new material- Plexiglas. Plexiglas gave me the possibility to explore the sculptural potential of painting. The painted full-sized figures left the realm of leaning against the wall. The viewer could walk around them; my ladies would morph with the viewer's steps. The figures participate with the energy of the room. The viewer could have a relationship with it. I explored methods of sensuality through the application of paint. I used the paintbrush to carve out the lushness of the feminine form.

Presentation Type and Session: Poster VIII

Striking a Chord: An Exploration of Classical Guitar Pedagogy

Brian Geary, Music

Faculty Mentor: Professor Evan Drummond, Music

My research explores the advancement of classical guitar pedagogy throughout the past 250 years. My research addresses the manner in which the classical guitar is currently taught in the 21st century by looking at its evolution from the 18th century to the present. My research consisted of working through the prominent etude and method books published over this rich 250-year period. I paralleled this with research on the history of the guitar, as well as studies from the medical field on the hands. After my initial research was completed, I formulated a series of questions and set out to interview some of the top pedagogues in the field of classical guitar, including William Kanengiser, Scott Tennant, Roland Dyens, and Ken Meyer. This took me to Los Angeles, Germany, Spain, and France. Using the information I collected from these interviews I formulated a method of my own to help a student progress through a four-year program. My work will be showcasing select pedagogical topics with important answers from the interviews. I will also be showcasing brief descriptions about key information attained from my travels undertaken during my research. I also will showcase various fundamental techniques for guitarists and why they are relevant in the 21st century.

Presentation Type and Session: Poster VIII

A Survey of 3D Printing: Applications for Furniture Design

Adam Ianni, Wood/Furniture Design

Faculty Mentor: Professor Sunhwa Kim, Design

As a designer, the importance of an idea cannot be overstated. They come and go at a moments notice and capturing them is paramount. My summer research focused on a technology that promises to shorten the distance between an idea and a physical object, bringing a new sense of immediacy to the design process. 3D printing has offered me the ability to transfer my sketches into 3D space in fractions of the time it takes to produce traditional maquettes. It has helped me capture and explore an objects sense of mass, quality of light and shadow. Rapid prototyping is valuable not just for engineers, but for the craftsperson as well. I found 3D printing to shine not only as a modeling aid, but also as a medium in its own right. Objects produced have a quality that is not replicated in the other crafts and is growing into its own aesthetic. I tried to use the 3D modeling software's reliance on polygons in my lamp designs, and reference the planar nature of early computer graphics. Those graphics arose at a time when home computer adoption was in its infancy, much like the current environment for 3D printers.

Presentation Type and Session: Poster VII

Synergistic Design

Christopher Walsh, Wood/Furniture Design

Faculty Mentor: Professor Philip Ogle, Fine Arts

I conducted research focusing on certain aspects of the technology that surrounds us and incorporate it into my furniture design. I specifically explored the computer science field and how it can be applied to design. With a basic understanding of electronics wiring and computer programming countless opportunities have opened up to expand and improve the products I design. I gathered this knowledge mostly through being a direct under study to a computer sciences professor in the greater Los Angeles area. Together we worked on building a 3D printer that involved a lot of wiring and programming. I completed the rest of my research through trial. I purchased a kit in which had preset wiring diagrams and programs that were set up to teach a beginner programmer. I currently am still using this knowledge to put together circuits and programs that suit my design's needs. I will present a piece of furniture that contains several pieces of technology that work together for a singular purpose. I will also have an exploded model of one of the pieces of technology to show the audience the intricacies of what I have learned.

Presentation Type and Session: Poster VIII

Tenor Passaggio in the Repertoire of the American Musical Theater

Robert Sherman, Music and Theater

Faculty Mentor: Professor Holly Bewlay, Music

According to Dr. Richard Miller's "The Structure of Singing," tenore robusto's (dramatic tenor's) secondo passaggio (second break) occurs on the notes F4-F#4. The purpose of my research was to find treatments to this second tenor passaggio, (F4-F#4), in my voice, which would gradually produce consistently smooth tones. This research pertained to the repertoire of the American Musical Theatre as songs strictly from this category were selected and included: "Younger Than Springtime" from South Pacific, "Maria" from West Side Story, "Later" from A Little Night Music, "Giants in the Sky" from Into the Woods, and "Something's Coming" from West Side Story. Pre-research, mid-research and post-research voice screening sessions using Multi-Dimensional Voice Program (MDVP) software were conducted to detect my existing passaggi. Pre-research, mid-research and post-research video recorded performances of the repertoire listed above with a pianist were also conducted to detect the treatments' progress during the research process. The treatment included 10 voice lessons with Dr. Holly Bewlay. All lessons were audio recorded, analyzed, and documented in journals. My analysis of the lessons resulted in the creation of 3 different versions of practice methods conducted between the lessons. While the lessons progressed, adjustments to my practice and preparation habits were made to suit the specific needs of the voice as it grew. My findings include the effectiveness of consonant

“N” in vocal exercises. The use of “N” strengthened my vocal folds in the *passaggi* specifically targeted, which gradually resulted in consistently smoother sound (one devoid of gaps). This finding was applied to the repertoire and the final performance recording includes the evidence of the development of my *passaggi* work.

Presentation Type and Session: Oral – Arts and Humanities I

That’s So Kabuki: Expressions of Change

Christopher Nichols, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

Said to date from 1596, Kabuki has come to represent an important part of Japanese artistic culture. One can compare Kabuki to modern Western opera; however, the social aspect that Kabuki brings to the Japanese public is far greater. Kabuki performances typically relate to everyday life and correlate with the changing characteristics of society. A changing world sparks changes in society and culture: things that were strange or unconventional, for example, were considered “Kabuki,” such as someone’s strange clothing or social behavior. Through many changes and additions, this theatrical and musical art form has likewise become increasingly intricate and complex. With philosophical concepts of Yin and Yang incorporated into the theatrical element, the audience is also invited to experience a spiritual dimension to the musical and dramatic expression. My presentation will investigate the interplay among musical, dramatic, and social elements in this vital Japanese art form.

Presentation Type and Session: Poster VII

Traces Choreography Project

Elizabeth Halstead, Arts and Letters

Faculty Mentor: Professor Joy Guarino, Theater

My project combines my first two years of college as a Fine Art major and my last two years as an Arts and Letters major concentrating in dance to create a choreographic work, *Traces*. I am exploring how to combine paint with dancing to create art on canvas while performing modern dance. My knowledge of how the paint brush functions inspires the dancers’ movement. The process began with experimenting with canvas that is compatible with the desired movement. Choreographing, as a painter would begin painting, I used acrylic nontoxic paint on the dancers’ bodies and manipulated their limbs to imitate the action of the brush. To apply the paint on the canvas, the choreography explored movement that is mostly on the floor or utilized a prop that enhanced the paintbrush quality. During the rehearsal process we improvised individual and group sweeping floor movements. I hoped to discover what it is like to choreograph on dancers in a unique way and to present it as a performance of my own. What inspires me to work in this manner is not only my love of all the arts but also the challenge to create choreography on canvas that is a definitive picture. In my searches for previous dancing painters, I have not found one that has

successfully produced art that was a clear picture. I was excited to take on the experiment and to present my completed choreographic works in the form of a performance so that the audience members can experience in real time the movement and how the body manipulates the paint onto the canvas.

Presentation Type and Session: Rockwell Hall 22 - Dance Studio, Saturday, May 2, 11:00 a.m. – 11:30 a.m.

The Traditional Irish Music Revival

Marissa O’Connor, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

My study focuses on traditional Irish music. Music in Ireland has held a significant presence in the region’s history, dating as far back in prehistory as the Stone Age. For centuries, however, Irish musical traditions have been diluted in a variety of ways through the impact of external forces. These events include the Great Famine of the 1840s and subsequent mass emigration. Through it all, traditional Irish music has had a significant impact on its people. I will explain its influence and the Irish music revival as achieved by Sean O Riada. I will also discuss Celtic instruments used throughout the ages and how musical expression was preserved and transformed with the help of O Riada and his folk group, *Comhaltas Ceoltóirí Eireann*. I will use musical transcriptions to provide an understanding of the impact that the revival of traditional Irish music continues to have today, both within Ireland and beyond.

Presentation Type and Session: Poster IV

Twinkle Twinkle Little Star, How I Wonder How Old You Are: The Origin of Children’s Folk Songs

Jessica Hamilton, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

Since childhood, we’ve all heard simple, repetitious melodies designed to teach rhymes, morals, stories, and traditions. Folk songs have served as a gateway between child play and education for centuries. As an aspiring teacher, I use them because I recognize their immense educational value. Curious as to their origins, I desire to find the origin and evolution behind these beloved songs. In my research, I have found folk songs to be at the center of many cultures, transmitting not only musical knowledge, but history and societal morals as well. The social “evolution” of folk song is fascinating, in that societies often continue to utilize unaltered traditional folk songs of their ancestors. My research will musically identify the basic melodies, rhythms, and harmonies that we’re surrounded with in today’s society and discuss their enduring cultural significance.

Presentation Type and Session: Poster IV

Within and Without

Monica Nickles, Sculpture

Faculty Mentor: Professor Kenneth Payne, Fine Arts

I explore fear and use nostalgia in my artwork to communicate how fear can be conquered by remembering past experiences. This can help improve an individual's mood and sense of well-being. My exploration led me to incorporate into my works of art materials such as tree bark, sewing pattern paper, poems, and cast iron. I create whimsical forms by layering tree bark to create the form and then apply sewing pattern paper, brushing it smoothly onto the surface with glue, to give the piece a textured decayed skin-like quality. I next write poems about death on this papered surface. I do this to create a way to draw people into my work, closely and intimately as they search for the words. As an artist, I aim to use my works of art to show how nostalgia lessens fear and do this by using assorted materials. In particular, I want to communicate the emotions of comfort and acceptance using organic abstract forms that have a hint of something that is intriguing, beautiful, and unable to be put into words. Other forms are vile and leave the viewer with an eerie feeling, yet there is something within the piece that causes intrigue and creates a sense of nostalgia.

Presentation Type and Session: Poster IV

Worship Where it All Began: The Origins of Church Music

Nicholas D'Amaro, MUS 440: Ethnomusicology

Faculty Mentor: Professor Carolyn Guzski, Music

People often engage with worship music as a conventional component of a church service, but often lack a full understanding of where it all began. My research explores the evolution of Christian worship music from early American church services, beginning with *The Sacred Harp* and its unusual shape-note notation, and culminating with contemporary Christian musical worship and praise. I will discuss the creation and distribution of these sacred songs, as well as how the nineteenth-century Sacred Harp collection continues to be used in modern-day worship services. My research methodologies will include historical sources on the evolution of Christian worship music, and musical transcriptions that offer examples of traditional melodies.

Presentation Type and Session: Poster V

Your Words Have Meaning: A Design Interpretation of the Text-based Art of Nancy Dwyer

Michael Downey, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor Gerald Mead, Design and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Heavily spoken and transcribed among languages for communication; words are critical channels of expression. With modern technological advancements, communication occurs

instantaneously. Individuals are in fact exposed to more text today than ever before. This increased need to rapidly process text can lead to a disregard for the connotations of words and decreased consideration for how others perceive the use of words. Contemporary artists such as Nancy Dwyer have sought to direct attention to the meaning of words by implementing text in their art. This poses the question that I will address through my research; how and why do words evoke meaning when they are incorporated into contemporary art? In search of an answer, I will identify and analyze elements and principles of design as they are utilized in specific artworks in various media by Nancy Dwyer. Furthermore, I will seek commentary from Ms. Dwyer on the subject of my examination and if obtained, will use this insight to further my analysis of the intentions, perceptions, and connotations of text based art/design. By viewing many of Dwyer's contemporary works in this analytical fashion I hope to achieve clarity and encourage the realization that "your words have meaning."

Presentation Type and Session: Poster VIII

Business and Fashion & Textile Technology

Chaotic Cortex: An Innovative Design Collection

Tomiko Harris, FTT 451: Senior Project

Faculty Mentors: Professor David Brinson, Fashion and Textile Technology and Professor Lynn Boorady, Fashion and Textile Technology

The overall theme of the Fashion department's 2015 Runway show is "innovation." "Innovate" means to creatively incorporate a new idea into a design. Using chaotic prints inspired by human expression will bring awareness to mental depression/anxiety. Many people suffer from mental disorders such as anxiety and depression. My senior collection, titled "Chaotic Cortex," gives a visual of what the thoughts of these individuals may look like. Creating garments with asymmetrical lines and clashing printed fabrics will further reveal the beauty of the human brain and the abstract nature of human emotions. The colors chosen for this concept are inspired by the colors presented in thermal scans of the human brain. Two prints will be used in the Chaotic Cortex collection. Channeling racing thoughts into drawings can help manage depression and anxiety, the first print is inspired by the drawings that one might find inside the notebook of a person suffering from an anxiety disorder. The second print is a repeated and rotated pattern of a figure raising its arms out of relief, which is inspired by Keith Haring's artwork. A total of six garments were carefully picked at the beginning of the Fall 2014 semester, all of which tie together and form a cohesive collection. This fashion line is targeted towards young women from the ages 20-30 who label themselves as "trendsetters."

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

Gender Difference in the Perception of Color Using Event-Related Potentials

Abigail Beyler, Marissa D'Orazio, Tanajah Davis, Tracy Mcleod, Jennifer Steinhorst, and Michael Thompson, FTT 475: Senior Seminar in Fashion Merchandising and Marketing

Faculty Mentor: Professor KeunYoung Oh, Fashion and Textile Technology

We compare male and female consumers' reactions to the color of apparel. To do this, we conducted event-related potential (ERP) experiments; ERPs are non-invasive ways to measure electrical changes in the brain by placing electrodes on an individual's scalp. Our ERP experiment examined how consumers perceive different colors and whether there is any gender difference in the perception of colors in apparel. Unlike the previous event-related potential (ERP) studies on the selection of color, or the combination of color and other visual features, using apparel products as a visual stimulus may expand the applicability of neuropsychological research

findings to more applied sciences. The participants of our ERP experiments wore a fitted 'electro' cap with electrodes connected to an amplifier and recorder. Our initial hypothesis is female consumers would be more responsive to colors compared to male consumers. This is based on the literature that finds females better at color discrimination. Results of our experimental study will be presented.

Presentation Type and Session: Poster II

The Impact of the Food Safety Modernization Act of 2011

Jamison Powell, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor Lori Till, Hospitality and Tourism and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

In 2011, the Food Safety Modernization Act was passed and became the most significant U.S. food safety reform in the last 70 years. This law functions as a preventative action rather than responding to food contamination. As a result, the power of the US Food and Drug Administration (FDA) has increased drastically with an outreach to not only domestic food producers, but also international producers. This research aims at understanding the expected costs of implementation and enforcement of the law, and its potential economic consequences. This project also examines what repercussions the FSMA may cause in industries, mainly the hospitality industry as well as identify countries that are currently blocked from importing foods to the U.S.

Presentation Type and Session: Poster II

Live. Travel. Get Rich. Studying Abroad: The Quick Road to Success

Devan Brady, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor John Karlis, Communication and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

As an avid traveler, I looked into the benefits traveling and studying abroad can have on college students. I have focused my research on this topic in order to urge more colleges to put financial aid behind study abroad programs. Studying abroad is a beneficial path that many students have begun to consider during their undergraduate years. This experience not only aids in personal success, it can also help to push a student to finish undergraduate school in a timely fashion. In a study conducted by Isaiah O'Rear, Richard Sutton, and Donald Rubin; their findings show that studying abroad had a strong influence on the student's ability to finish in four years. After examining multiple studies on the subject of studying abroad, interviews with students on campus who have benefited from their time abroad will be used to complete my research. My findings will be compiled in a short video containing research, personal testimonies, and videos from student's time abroad. In addition, I will present factual research in a talk

before my video presentation, and will be available for questioning following the presentation.

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

Mise en France

Veronica Perez, HTR 318: Cultural Tourism

Faculty Mentors: Professor Kathleen O'Brien, Hospitality and Tourism and Professor Rebecca Dowsey, Hospitality and Tourism

Mise en place is a French phrase that translates to “putting in place” as in, set up. It is used in professional kitchens to refer to organizing and arranging the ingredients that a cook will require for the menu items that are expected to be prepared during a shift. The practice is also effective in home kitchens. The Cultural Tourism class will apply this concept to the study of cultural tourism. Cultural identity is important for people’s sense of self and how they relate to others. “Cultural tourism has been defined as ‘the movement of persons to cultural attractions away from their normal place of residence, with the intention to gather new information and experiences to satisfy their cultural needs’. These cultural needs can include the solidification of one’s own cultural identity, by observing the other. How is the itinerary for “Taste of France” arranged to meet the expectations of the “cultural tourist (students)?” What attractions and experiences in the different cities (Nice, Monaco, Avignon, Lyon and Paris) lead to a better understanding of one’s own cultural identity? Students will adopt a qualitative approach in this research study. Blogs and journal entries will serve as the source of documentation along with photos that will be analyzed for evidence that cultural needs of these tourists (students) were met. Students will offer an explanation of how culture, diversity and history shape a tourism destination and offer opinions of how impactful the experience was to their own cultural identity.

Presentation Type and Session: Poster IV

Runway 8.0: Innovative Comfort Collection

Hannah Trainer, FTT 451: Senior Project

Faculty Mentor: Professor David Brinson, Fashion and Textile Technology

The Runway 8.0 Fashion Show’s theme for this year is ‘Innovation. My project involved conducting trend research to translate this theme into a collection of garments I designed using patternmaking methods. I created a collection of six garments themed ‘Sleepy Comfort’. A favorite indie designer “For Love and Lemons” and their use of lingerie for formal wear inspired me. They took something usually worn indoors and made it acceptable and elegant to wear for formal events. My innovative spin off was to make sleepwear/pajamas into formal wear. When I think of innovation, I imagine making people’s lives easier and more comfortable. My collection takes sleepwear--something people find the most comfortable, but might be acceptable for wearing only

around the house--and transformed it into something desirable and acceptable to wear for any occasion outside of the home. I did this by applying the simple, loose, and flowing aspects of sleepwear into my collection. The outfits are made of lightweight, jersey knit fabric, with a blend of Polyester, Rayon, and Spandex, and insertions of body mesh for aesthetic purposes. My presentation will highlight the design process as well as include some of the garments from my collection.

Presentation Type and Session: Poster I

Rustic Roots: The Use of Natural Materials in Fashion

Ashley Waters-Schmitt, FTT 451: Senior Project

Faculty Mentor: Professor Lynn Boorady, Fashion and Textile Technology

The foundation of my project began with research into the use of often-wasted deerskin. As a way to make use of an available, but wasted product and encourage sustainability my goal was to create a fashionable collection of garments out of this material. The skins are tanned using natural products, mainly a salt solution, and occasionally dyed. The use of natural materials, such as this, minimizes chemical waste and pollution. Furthermore, the absence of a grain on leather allows for maximum use of the material as a pattern can be laid out in any direction. Much of the scrap material can be saved and turned into ‘leather lace’. After conducting trend research, I selected a trend that most inspired me for this idea. Constructing garments from leather is a lesser-known technique that required in-depth research. I used this research, and my own creative techniques to develop my final senior project. The ultimate goal of my final collection is to encourage a future where society is inspired by the past, and its use of natural materials, to help preserve and create a more sustainable, eco-friendly society.

Presentation Type and Session: Poster III

Sound and Innovation in Hospitality and Entertainment

William McDermott, HTR 495: Project

Faculty Mentor: Professor Kathleen O'Brien, Hospitality and Tourism

This research study will explain the importance of sound and innovative technologies in the Hospitality and Entertainment Industry and define its impact on the total guest experience. The 21st Century has ushered in an era of new media where hospitality venues can be staged much like a theatrical production. In venues such as hotels, restaurants, private clubs and public spaces, audiences gather for social and entertainment purposes. Audiovisual equipment, sound, and lights transform spaces. The research will address a series of questions as part of the study. First, how is the total guest experience transformed by these venue elements? Second, what does it take to “wow” the guest in a world embedded in new media?

What skills and knowledge are needed by hospitality professionals to effectively utilize these technologies in the venues they manage? The approach to carrying out the project is qualitative research combined with observation. A literature review on topics including new media, staging events, acoustics and sound, technologies, guest experiences and venues will be completed. Also, the researcher will observe an audience at an event and offer an explanation of the impact venue elements (innovative technologies) have on the total guest experience. A list of best practices in the use of Sound and Innovative Technologies for hospitality managers will be published. This tool will benefit Event Planners or General Managers of Properties that host events and occasions for entertainment and social purposes.

Presentation Type and Session: Poster II

Sustainable Innovation Connect Project: The Lifecycle of Denim Jeans

Jennifer Steinhorst, Fashion Merchandising

Faculty Mentor: Professor Lynn Boorady, Fashion and Textile Technology

Recycling in the fashion industry spans the reuse of the product to give it a second life to breaking the garment down to its original fiber to make new fabric. While nearly everything in the fashion industry is recyclable, several million tons of fabric end up in U.S. landfills; the total amount much higher worldwide. In my research, I follow the lifecycle of a pair of denim jeans from processing the cotton fiber to manufacturing. I explore options for its disposal including donating, recycling, and reuse. My research was part of the CONNECT project, a much larger international collaborative effort to raise awareness among students about sustainability in the apparel industry. As part of this collaboration, teams composed of students and faculty from four institutions – Buffalo State, Manchester Metropolitan University, Manchester, England, Royal Melbourne Institute of Technology, Melbourne, Australia, and the Beijing Institute of Fashion Technology, Beijing, China - visited each university to hold discussions on issues including: consumption; environmental impact of textile waste; and creative solutions. At each host university site I gained greater appreciation about the culture, lifestyle, habits, and hopes of the students while being exposed to ethnic crafts, retailing differences, fashion style, architecture, and education. This experience helped me better understand how students, as global citizens, should be encouraged to become active in the effort to reduce the impact on the environment through sustainable practices. My experience convinced me that you do not need to compromise creativity even while adhering to sustainability practices in all phases of the fashion cycle from sourcing, manufacturing, design, and recycling. To help communicate this, I am sharing my research on the Connect project website.

Presentation Type and Session: Poster III

Unzipped: Hollywood Glamour Meets Modern Innovation

Sabrina Carey-Cooke, FTT 451: Senior Project

Faculty Mentor: Professor David Brinson, Fashion and Textile Technology

I am investigating construction techniques to be used in my senior project collection of evening wear gowns. In my collection “Luxury Allure,” I use 1930’s eveningwear fashion as inspiration to create new and innovative designs. Specifically, the use of zippers in eveningwear during the 1930s was a big innovation of the time. Inspired, I took that idea further and used zippers not only traditionally, but I also use them as a trim (non-functional decoration). The focus of my research will be to develop construction methods appropriate to attach zippers to fabric as a trim while also having the method appear invisible. To attach the zipper to the garment, I will modify and/or create stitching that will appear unseen. A length of the zipper will be attached to the garment fabric, the teeth being locked in place using some sort of permanent binding agent so that the zipper teeth do not unzip. As for non-traditional functions, a section of the same zipper will be unzipped, splitting off into two lengths of zipper tape that are to be used as functional straps. To document my project, I will illustrate the steps I used to develop the technique. I also plan to photograph and document how each technique appears using the steps illustrated. Explanation of the techniques developed and what possible end uses the techniques could be used for will accompany the photographs. This will not only explain how I used the techniques in my own apparel, but also how others can use the same techniques for their own projects.

Presentation Type and Session: Poster II

Computer Information Systems and Engineering Technology

Big Data in Transit

James Corpening, CIS 490: Senior Seminar
Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

Public Transit systems manage the flow of millions of riders daily, but the big data collected from transit systems can be burdensome to analyze and understand. This no doubt provides a huge amount of data to analyze. The current research project analyzes the train rider data that are typically collected at turnstiles, and that would likely be date and time of day. Analysis of the time data could include grouping the data into time intervals (e.g., 8:00-9:00, 14:00-15:00) to reveal the peak periods of traffic flow as well as the nadirs. The goal of this research project is to develop a computer-based system to organize time data from multiple turnstiles, import those into a statistics/graphics program, and create a histogram of rider data based on a pre-defined time interval (e.g., 30 minutes). In lieu of using actual turnstile data, a homebrew, customized Visual Basic program was written to create a .csv file with dates and times. Then, using the language R – a language conducive to analyzing big data – data structures are created, and interval times are counted and saved to a different text file. Finally, the multidimensional Python language is used to read that text file and create a histogram showing the interval turnstile data. Additional research is being done to perform statistical analysis on the times data or inter-day data. When used by the Transit Authority, this approach will allow them to deploy trains and buses more efficiently.

Presentation Type and Session: Poster V

Coining Apparatus

Adler Moldenhauer, Herman Cortez, Michael Farrell, Steven Waleszczak, and Roger Holloway, ENT 422: Machine Design II
Faculty Mentor: Professor Edward Purizhansky, Engineering Technology

The project objective is to design and test a Coining Apparatus for Moog, which would guarantee repeatable and predictable results. Current fixture that the company is using in the manufacturing process requires resets and checks after every operation. Coining is the process, which implies an axially compressive load through a steel ball to leave an impression on a part. This process is commonly employed for creating a highly precise “ball check valve”, which is used in the fluid network assembly to regulate fluid flow. The coining apparatus we design will ensure zero leakage at the valve-sealing surface. We accommodated a high precision sensor to measure force and displacement of the ball in the process of coining. This will

allow an operator to graph the strain versus displacement during the seating process, thus achieving a high level of precision and consistency of use.

Presentation Type and Session: Poster VIII

Creating a Watch Face for Android Wear

David Dulski, CIS 490: Senior Seminar
Faculty Mentors: Professor Sarbani Banerjee, Computer Information Systems, Professor Andrew Garrity, Computer Information Systems and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Wearable technology is widely considered to be the future of mobile computing. Devices such as the LG G Watch, Samsung Gear Live, and Motorola’s Moto 360 can be paired with smartphones running Android operating systems to track fitness, send email, and check weather forecasts, all from your wrist. These “smartwatches” not only make a useful companion to your smartphone but also offer a unique programming environment for developers. Users interact with their devices using a touchscreen with updates and alerts delivered via card-based notifications. Not to be overlooked in the list of features is the most basic function of a watch, to clearly display the time. For this research project Android Studio will be used to design and implement a digital watch face for an LG G Watch. The algorithm of the program will consider the obvious first step by creating a watch face for Android Wear and then to actually design the watch face. Several aspects that this research project will consider are the inclusion of the shape of the device and the amount of color or animation. The watch face must also be drawn to display any relevant information such as notification cards, the date or temperature, and the “Ok Google” hot words. In order to actually use a watch face on an Android Wear device it must be packaged inside the Android Wear app that users must download to their phone. It is this process that makes it possible to install the watch face to the wearable device. All of this is done to allow users to visualize time clearly.

Presentation Type and Session: Poster VI

DC Comic Design in PyGame

Antoine Williams, CIS 490: Senior Seminar
Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

DC comics have been struggling to keep up with the success that Marvel comics have experienced in multiple ways. Video game is an opportunity for DC Comics to gain a higher fan base if they add enjoyable video games to the market. The goal of this research project is to make a great strategy/fighting game using DC comic characters. This can be implemented with PyGame and can be created using ideas and influences from other games that are popular. The game would only be made to handle one player but would have the capability of being played by two players. There would be multiple levels with different backgrounds and sound

effects that would enhance the game playing experience. There are four spots that the two characters can move between and when they meet in a spot and they would automatically go into a combat and then move away to adjacent spots. Depending on which character one picks the character would have particular advantages. The character would be able to fight physical, charge their attacks and fight shooting projectiles into spots chosen by them. Both fighters choose where to move their character and what they will do at the same time. This game would mix aspects of luck and strategy to make a game that would be perhaps more marketable. A demonstration of the game with four playable characters and moderate graphics would be presented.

Presentation Type and Session: Poster VII

Designing an Air-Conditioned Shelter to Assist the Treatment of a Victim of Heat Illness

Ke Chen, Michael Bojanowski, Raysa Cristiano, Paulino Pereira, and Mousa Alsayegh, ENT 422: Machine Design II
Faculty Mentor: Professor Edward Purizhansky, Engineering Technology

Heat illness is a problem that affects many workers, including construction workers working outside in the area with “hot weather”, very dry or very wet. For this project, weather data were used for two US cities: Sacramento, California and Atlanta, Georgia. These data was analyzed for development of proper air conditioning system. The objective is to design a portable collapsible conditioned shelter that can be assembled in the field to assist in the treatment of a victim of heat illness, based on ASHRAE 2015 Applied Engineering Challenge. An air-conditioned protective system development is the method chosen in this project for prevention or treatment of the heat inflicted illness. Therefore, the project is divided into two sections: the structural design of the shelter and the design of the air conditioning system.

Presentation Type and Session: Poster VIII

Development of an Efficient Transfer Pathway for the Advanced Manufacturing Technology Program at Hudson Valley Community College

Brian Wickham, INT 689: Research Design and Methodology
Faculty Mentor: Professor John Earshen, Engineering Technology

Many students entering a technical degree program at a community college arrive narrowly focused on completing a two-year course of study that will prepare them to secure discipline-specific employment. For many such entering students, the notion of continuing on to earn a baccalaureate degree is not a primary consideration. However, evidence shows that as 2-year students realize a measure of academic success, a significant number ‘warm-up’ to the idea of continuing their education beyond the associates-degree level. Unfortunately, for students who have not followed a

curriculum path specifically targeting transfer to a 4-year school, the credit transfer process can be disappointingly inefficient. The investigator has been an instructor at Hudson Valley Community College (HVCC) for five years in the Advanced Manufacturing Technology (AMT) Program. The underlying research problem to be addressed in this study: In the AMT program and several other technical programs at HVCC, many students are not receiving clear direction regarding the most appropriate curriculum pathway to maximize the efficiency of credit transfer to follow-on baccalaureate programs. To understand the problem from the point of view of the technical student, a questionnaire will be devised and administered to several population groups at two separate institutions (targeting day/evening students; part/full time; and various technical programs). Data collected will be analyzed in light of existing scholarly research on this topic. Additionally, a case study of another community college will be conducted to understand how it incorporates general education classes into an engineering program.

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

Embedded Microcontroller for Sensor Data Collection and Transmission

Luis Moscoso, Lyndon Hunter, and Dimitri Foster, ENT 465: Senior Design

Faculty Mentors: Professor Stephanie Goldberg, Engineering Technology and Professor Tomas Henriques, Music

The software coding for an embedded microcontroller system, which collects data from several sensors, is being developed. The collected data will be forwarded wirelessly to a PC where it will then be processed and used in a real-time application similar to today’s game control systems. Several technical issues will be addressed such as system timing to reduce latency and scaling to interface sensor output levels with application requirements. The project includes multiple push button sensors, directional control joysticks, mini vibrator motors, accelerometer sensors, a gyroscope sensor, wireless (xBee) modules, force sensing resistors, pulse sensors, skin conductance sensor. Most importantly the system will center on the Arduino Fio microcontroller (A.F.M.). The A.F.M. will be used to communicate with the electronic sensors. The A.F.M. programs will be coded using the C computer language and free software provided by the open source Arduino platform. There are many controllers available, but none of which offer significantly different functionality. Gaming controllers have offered the same structure of functionality across many platforms, this controller is designed with different, innovative functionality that offers different ways of controlling a game or piece of software. The presentation will consist of the controller being used to control some software/game showcasing the different functionalities of the system.

Presentation Type and Session: Poster VII

Enterprise Resource Planning in a Manufacturing Setting: How Companies Succeed and Fail

Cristy Guay, INT 689: Research Design and Methodology
Faculty Mentor: Professor John Earshen, Engineering Technology

By its very nature, Enterprise Resource Planning (ERP) systems are integrative and therefore affect the entire organization. A wide variety of both turn key and customized ERP solutions are available to day. The problem is that ERP adoption and implementation is notorious for its high barriers to entry: long lead-times, organizational culture shifts, and considerable investment of time and treasure. Yet, the adoption of an ERP system is increasingly essential for those companies seeking efficiency improvements through organizational integration. Four guiding questions will form the structure of this study: 1) What factors most affect the success or failure of ERP implementation? 2) What are ERP's major limitations? 3) How should companies approach implementation to avoid failure? 4) How should a company evaluate the success of an ERP implementation? Using the case study approach, a series of ERP implementation examples will be reviewed, with an eye toward the development of generalizable implementation guidelines. The expected outcome of this project is a useful research-based guideline that would assist a company as it enters the process of ERP system implementation.

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

An Exploration of Brand Preferences Between Apple and Samsung Smartphones

Ahmad Jamjoom, INT 689: Research Design and Methodology
Faculty Mentor: Professor John Earshen, Engineering Technology

The increasing ubiquity of the smartphone has made consumers more aware of brand-specific features and shortcomings. Furthermore, today's smartphone is beginning to overtake functions that were previously accomplished on a traditional computer. Tasks that used to be accomplished only on a traditional computer, are increasingly now being accomplished on small hand held devices (such as e-mail transactions, and word-processing). This investigation will examine consumer preferences across two popular smartphone companies: Apple and Samsung. The problem facing the consumer is: which brand is best suited to my needs? In this research project, a questionnaire will be designed and administered to a carefully defined population. The aim will be to collect very specific user opinion regarding the features of each of these two competing brands. A statistical comparison of the resulting data sets will be conducted. It is expected that a strong correlation will be identified between individual consumer preference and selection of a particular brand of smartphone device. Ultimately, the findings of this study will prove useful to those contemplating which brand of device to purchase.

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

Fuel Cells: Fueling the Future!

Jordan Silva, Mechanical Engineering Technology
Faculty Mentor: Professor John Earshen, Engineering Technology

Fuel cells are likely to have many uses in the future, from powering cars to running homes, backup power as generators and driving our increasingly energy-dependent world. The goal of this project is to design a Hydrogen Proton Exchange Membrane Fuel Cell, and collect the by-product water, to be reused and see if we can turn this liquid back into fuel efficiently. Most fuel cells generally produce energy by means of a chemical reaction. Atoms enter the fuel cell system and a chemical reaction splits the Hydrogen atom into protons and electrons. The electrons then move through the system carrying an electric current to be used. After the energy is used, the Hydrogen atom bonds with Oxygen and releases a byproduct of water. The most common type of fuel cell, the Hydrogen Fuel Cell, is limited in how long and how much energy it can produce, and pure Hydrogen to run these cells are not readily available. By reusing the water produced, we may be able to create a cycle to keep producing energy for a longer period of time. A fuel cell will be constructed; water and gas produced will be reused with the aim of creating a continuous cycle. Readings will be obtained to measure the efficiency of the system. The goal is to achieve greater than 35% efficiency in this system. This will be greater than any gas-powered vehicle available today. My findings about the impact of low-pollution, renewable energy technologies on climate change will be discussed.

Presentation Type and Session: Poster V

In Moving Color: Motion Controlled Art Program

Adam Doktor, CIS 490: Senior Seminar
Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

Computer hardware has greatly expanded from the standard keyboard and mouse. Touch screens seem to be taking over that field. Recently a new technology has been developed that offers an alternative to touch screens. Myo is a motion-controlled armband that uses hand and arm gestures to control various Bluetooth devices. The objective of this research is to create a program that uses Myo's capabilities as its main control device. The primary focus of the program is drawing. Expectations include using Myo to draw on a blank canvas, control the utensil color, control the utensil size, as well as change the type of utensil. The research will investigate language compatibility of Myo that is capable of using several languages such as Java, C++ , Python, and many adaptations to other languages. This research project will experiment with multiple languages to see which one is most compatible for its purpose. Myo is still in development stages, so more possibilities may open up. New gestures are being recorded which could be translated into tasks. Future research will experiment with what these developers have in store for Myo, and expand the project to test Myo's limits.

Presentation Type and Session: Poster V

An Investigation of Female Unemployment in the Kingdom of Saudi Arabia

Hyfa Barnawi, INT 689: Research Design and Methodology
Faculty Mentor: Professor John Earshen, Engineering Technology

The Kingdom of Saudi Arabia is located in the southwest of Asia. It is one of the wealthiest countries in the Arab-Muslim region, as well as one of the main influential forces in the Middle East. In recent times, the Kingdom has witnessed considerable population growth and there have been many changes in the social, political and economic sphere. According to The Arab Investment and Export Credit Guarantee Corporation (AIEGCG), the average annual income per capita in 2014 was \$104,655 (US). Eighty percent of the public and private work force in Saudi Arabia is male. While many women in the Kingdom have received a high level of formal education (baccalaureate degrees and higher), as a group, they experience considerable difficulty securing professional employment. The objective of this research project is to study the existing literature relative to this unemployment phenomenon and then to suggest potential avenues to improve the professional employment prospects for women of the Kingdom.

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

Investigation of Transliteration Algorithm Operation in Real Time for Augmented Reality

Jon Battison, CIS 490: Senior Seminar
Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

The ability to understand and translate languages is a sought after commodity. Modern computers are capable of translation, but require the user to disengage from their environment to operate. The research will show that the capability exists to create a device that would not separate the user with their environment while still allowing them to comprehend foreign languages. The goal of the research is the ability to produce an apparatus that can translate text seamlessly while moving its displayed field of vision in step with the users' movements. To achieve this effect three distinct operations must be done quickly. First, input will be taken from the users' perspective in the form of digital video using an Ovrvision 1 stereoscopic camera, which features a wider field of vision than that of the user allowing for predictive translation. Following this an Android translation algorithm will be applied to this input to filter out words of a language other than that of the user, in order to replace those words with the ones translated. The algorithm should do so in a way that simulates the words appearance in the raw input in order to offer the user an accurate reproduction of the environment. This augmented video will then be returned to the user by means of the Oculus Rift virtual reality system, thereby achieving

the desired result of translating all that is in the users' field of vision without disruption.

Presentation Type and Session: Poster VI

Malware Analysis: A Different Approach

Thomas Stachowski, CIS 490: Senior Seminar
Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

Malware is defined as any code that intentionally disrupts normal computer operation and includes programs like viruses, worms and Trojan horses. While most are mere annoyances, they potentially have dire financial, legal and even national security implications. Strangely, very little has changed in the field of detection since the first antivirus programs came into existence, with nearly all relying on signatures of each individual malware. Given the millions of malware in existence, this leads to many problems, including software bloat and even greater vulnerability to security threats. A new approach that observes the behavior of files on the system and monitors the system itself for any unauthorized changes may prove a better, more efficient method of detecting malware. The research presentation will include discussion of detection methods, where current methods will be criticized and a new method will be proposed. The presentation will also consist of a demonstration of a different method for detection based on system monitoring and the behavior of programs running on the system. A program is being developed for the demonstration that monitors changes to the state of the system and detects any potentially dangerous changes to files on the system.

Presentation Type and Session: Poster VIII

Measuring Impeller-Tip Clearance

Bradley Brooks, Morgan Allis, Charles Mantell, and Jeff Villont, ENT 422: Machine Design II
Faculty Mentor: Professor Edward Purizhansky, Engineering Technology

FS-Elliott, a centrifugal compressor company, seeks solutions to maximize efficiency of their compressors by controlling and monitoring distances between the impeller blade tip and the compressor shroud, as the impeller tip clearance is directly proportional to efficiency. Current design does not allow for monitoring these distances and this makes control and maintenance of the units very expensive. Our proposed solution is based on two steps approach. The first step is the installation of a sensor measuring the impeller tip clearance. We examined ways to measure the clearance to determine the distance output that will be able to activate the dynamic impeller-tip-to-shroud system. The capacitance sensing technology will be applied to measure the required distance. A probe coupled with an amplifier, analogue processor electronics and the oscilloscope will be used to measure the tip clearance. It will

provide this information to the HMI (human-machine interface) unit for control and subsequent processing. The second step will be the redesign of the assembly to allow for a quick adjustment of the clearance to bring it to a desirable distance between the impeller blade tip and the shroud. We will demonstrate the proposed solution and the test results of the control system after the first phase of the project will be completed.

Presentation Type and Session: Poster VIII

Open Source Data Collection System

Donnie Herman, ENT 465: Electrical Design

Faculty Mentor: Professor Robert Finton, Engineering Technology

This Smart Data Collector is an open source, high performance instrument designed for collecting analog data from any device under test. It can store and display collected data to users in various ways. The Smart Data Collector is a complete solution for a tester to collect data and access it by either accessing the device's data storage (USB storage) or view the data wirelessly over the cloud. With today's increasing technology being part of our lives, we should expect to see most tasks we do becoming more efficient and simplified; also automated. When it comes to industry and lab testing, scientists and engineers can be more productive if they are not organizing and transferring data to different PCs after they collect it. Combining open source technology with cutting edge tools, this data collection system is the most complete solution an engineer can run into for almost any experiment, from beginning to end.

Presentation Type and Session: Poster VII

Prototyping a Cleaning Pad to Avoid the Residue

Brenden Burry, Delmar Bennett, Hamad Buhamad, Matt Szarleta, and Reuel Pruyn, ENT 422: Machine Design II

Faculty Mentor: Professor Edward Purizhansky, Engineering Technology

Currently, available cleaning pad marketed by the Procter and Gamble Co. and manufactured by the TMP Technologies, Inc. is the very practical solution for cleaning hard surfaces such as walls and laminate floors. However, melamine foam used as the cleaning agent leaves behind a white residue on the surfaces. We are tasked with finding a solution to the problem that would be effective in resolving the issue with the residue and at the same time to be sufficiently innovative. We have offered a design that is represented by the motorized scrubbing tool capable of cleaning a surface with a melamine pad and quickly switching to a wipe sponge to clean up any unwanted residue with the same device. The cleaning and wiping pads are replaceable and can be sold as a kit. We will present a working prototype of the unit. The parts of the unit will be manufactured by means of the 3-D printing.

Presentation Type and Session: Poster VI

Redesigning Cast Iron Parts Using Modern Thermoplastics

Amy Jernatowski, Erica Agle, Stephen Dewes, Andrew Enseleit, Brandon Arcuri, and Christopher Sclavunos, ENT 422: Machine Design II

Faculty Mentor: Professor Edward Purizhansky, Engineering Technology

Zylem is the company that is the manufacturer of cooling systems. Current standard design includes parts made out of cast iron, which makes the units massive and quite costly to manufacture. Our objective is to replace one of the parts materials with thermoplastic. Thermoplastics have proved to have properties comparable to cast iron under specific conditions (300°F and 150psi). By using a thermoplastic, the overall cost of the part will be significantly reduced. We used finite element analysis to investigate the durability of multiple plastics under the design conditions in the framework of design parameters provided by the company. We singled out Arum plastic as the leading material, which demonstrated the least amount of strain when tested. We expect to demonstrate economic and engineering feasibility of our approach through by implementing necessary design changes and delivering comparative economic analysis.

Presentation Type and Session: Poster VII

SAE Baja: Buffalo State Motorsports

Devon Galloway, Alex Strauss, Colin Black, and Collin Runkel, ENT 422: Machine Design II

Faculty Mentors: Professor David Kukulka, Engineering Technology and Professor James Mayrose, Engineering Technology

The Society of Automotive Engineers (SAE) sponsors the Baja SAE collegiate competition. This competition challenges students from universities from all over the world to design, manufacture, and race small off-road vehicles that they have been designed to withstand the harshest elements of rough terrain. Competition includes a series of activities that evaluate the vehicles performance in a variety of static and dynamic events. In addition reports are also required that detail the engineering and design process that was used in developing each system of the team's vehicle; a cost report is also required that provides all the background information necessary to verify the economic feasibility of the vehicle. These reports are presented and evaluated. Some of the design goals for the 2015 completion include: Lean Design; Data Acquisition to measure and stream real time physical conditions; Improved Front and Rear Suspension; Re-design of the frame (shorter and smaller wheel base); Improved steering and driver ergonomics; Improved drivetrain; and Overall Vehicle Redesign aimed to decrease the weight of the vehicle to be less than 400 lbs. This competition provides students an opportunity to apply their cumulative knowledge and work on a real world design problem.

Presentation Type and Session: Poster V

Shapeshifter of Py

Steven Maciejewski, CIS 490: Senior Seminar
Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

Shapeshifter of Py will be a game developed using both Python programming language and Pygame. The Python language is gaining popularity, which is why developing a game to gain understanding about game design and programming languages will be an important objective of this research. The style of the game will focus on action-adventure as well as exploration. The game will involve the player searching a dungeon looking for power-ups. The power ups will allow the player to transform to gain new abilities. These abilities will allow the player to move through areas previously locked. The game will still be designed in way to allow the player to defeat monsters in the dungeon. At the end of the dungeon, the player will have to fight the final boss and only after defeating him the player will have won. The screen will diminish if the player is damaged. If the player runs out of their three lives, they will have to restart from the beginning. This game design project is quite ambitious, which is perfect for learning and researching the different nuances and capabilities of the Python language.

Presentation Type and Session: Poster V

The Smart Shower: Digitally Controlled Shower System

Racquel Hazlewood, Fikret Mehmedovic, Chris Lippert, and Jorel Ferguson, ENT 465: Electrical Design
Faculty Mentor: Professor Robert Finton, Engineering Technology

The purpose of this project is to make taking a shower easier and quicker. The aspects of electrical engineering that will be used in this project will be programming and control systems. An enjoyable shower experience will be achieved through automation. User-defined presets create preferred conditions to suit the individual. By regulating temperature, flow rate, and duration of the shower through a user interface display, the shower experience is made hassle free. Like other shower controllers, an actuator with controlled water valves in the plumbing system is used to control the settings of the shower. There is one valve to control the hot water and one valve to control the cold water. The third valve will be used to control the flow rate of the water, closing for less flow and opening for a greater flow. This will allow the user to set the water pressure to their preferred liking. A temperature sensor will be placed in the plumbing line before the junction splits to the showerhead or bathtub faucet. The temperature sensor's purpose is to achieve the right temperature needed for various users, whether preference is for a hotter or colder shower. This can be done with just a press of a button, rather than adjusting traditional hot and cold levers until the desired temperature is reached. A unique element of this project is that the heating element of the hot water will be accomplished through the use of an induction heater. The presentation will include a demonstration of the smart shower and the preset conditions.

Presentation Type and Session: Poster VI

The Students' Live Blog

Ewurabena Ashun, CIS 490: Senior Seminar
Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

The purpose of this research is to create a virtual environment where the users can exchange ideas and discuss any topic of their interest. This will be done by using Python language to design and develop a website and to create a chat room for all users. The targeted goal is to provide a cost-efficient way to solve problems and save time when dealing with users' questions and answers. At Buffalo State, many departments use the Blackboard management system to regulate classes. The section known as the discussion board is used for students to ask questions and communicate with professors regarding any concerns they have. But what if there was a chat, which went 'live' at a specified time? What if there were different topics that students wanted to target and just ask questions about a certain issue? This is an example of how "The Students' Live Blog" can be effective in any college campus. The Students' Live Blog will be primarily programmed with Python language and will also make use of Java, Visual Basic, C++ as well as C# programming languages. This should be able to bring together students from across campus and help get them involved in this multi-person virtual Chatroom experience.

Presentation Type and Session: Poster VI

Type-O's

Andrew Wagner, CIS 490: Senior Seminar
Faculty Mentors: Professor Sarbani Banerjee, Computer Information Systems and Professor Robert Barone, Computer Information Systems

As technology becomes more heavily integrated in all aspects of modern day society, the ability to accurately and effectively interact with computers becomes increasingly important. This research will investigate a method to increase the memorization of key positions by treating the keyboard as a musical instrument, and not as a word processor. In typing games, such as JumpStart Typing, the user processes simple words generated from a prepared list. This method of memorization solidifies word patterns, but not the positions of the keys. These words consist of prefixes, roots, and suffixes that are used to generate other words; this is not how a musician learns his/her instrument. A musician does not memorize musical phrases that are more likely to appear in future songs he/she may encounter. A musician learns to play his/her instrument, and read sheet music simultaneously, by learning the positions of individual notes. Type-O's is constructed in Unity3D using the C# programming language. Unity3D is a virtual game-developing environment with libraries of game object elements that fulfill basic game developing mechanics, such as physics components and a Cartesian coordinate system. This expedites the production of a three-dimensional computer game, which can then be exported to a number of professional platforms. Because of its privacy and explicit variable declaration requirements, which add to the readability of the scripts, C# is the

preferred language by 80% in the Unity3D community. Type-O's uses a randomized layout to prevent a memorization of the game objects' positions. As a ball traverses the field bumpers need to be activated by pressing their appropriate key to keep the ball in play. This fast pace environment and random events demand constant attention to the monitor, and not the keyboard. These game mechanics teach typing as a musical instrument.

Presentation Type and Session: Poster VII

Using the Flipped Method of Teaching in a High School AutoCAD Classroom

Stephen Malusa, INT 689: Research Design and Methodology
Faculty Mentor: Professor John Earshen, Engineering Technology

The flipped method of instruction is an approach aimed at providing a more engaged classroom learning experience by having each student obtain primary lecture instruction on-line, and then meet in class with an instructor to answer questions, review homework assignments, and troubleshoot areas of difficulty or confusion. The investigator has had first-hand experience with this approach and has observed the relative superiority of this style of teaching/learning. The problem is that very few formal studies have been conducted to examine the benefits of using the flipped method in a high school AutoCAD classroom. This research project will focus on collecting data that can then be used to conduct a comparative analysis of a flipped classroom versus a more traditional classroom environment. Each class will be expected to achieve a level of mastery in a defined list of competencies. It is expected that the flipped classroom will demonstrate faster time-to-mastery of assigned competencies. Any areas identified as problematic to the flipped method will be examined with an eye to rectify them. The goal of this project is to construct a website that will help teachers within a school district more easily and effectively adopt and implement the flipped method. This website will include different classroom logins where students can interact with the teacher, and will structure the teaching and learning environment to maximize speed of learning and student motivation.

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

Zombie Game with a Twist

Rafi Safwan, CIS 490: Senior Seminar
Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

The current research involves investigating past computer games that have been extremely popular and combine the elements of those games into a zombie killing game. This research project is timely because many of these games lack a continuation or follow-ups, since often times when games are being developed with a deadline, the game developers do not have the opportunity to delve into different aspects within the game. More than often

games have missing pieces or some aspects that may shine but lack in other aspects. This research project will incorporate many user-friendly, popular features to a Pac-man style game to make it a more enjoyable game to play with several twists. The project will also incorporate a leveling feature and different upgrades for the player to use and as the level moves forward the difficulty will increase. The goal of this research is to create a game that utilizes all of these different aspects to appeal to the users. This project will also have options of a multi-platform game so that it is readily accessible on devices like the mac and mobile. The game will be developed using Python and Pygame programming language in a Windows environment. This research can give other programmers ideas to expand on in future games.

Presentation Type and Session: Poster VIII

Education

Are Grades the Best Form of Evaluation?

Shannon McCooley, EDU 389: International PDS & Service Learning-Dominican Republic

Faculty Mentor: Professor Wendy McLeish, Elementary Education and Reading

We all want our students to be successful in the classroom, but can we only achieve this by using grades to assess their knowledge? I was opened up to a completely different form of evaluation when I traveled to the Dominican Republic and was exposed to a Montessori school. Since I had never been in a Montessori school before, I was curious to see what the differences were and how the students were evaluated. In 3 Mariposas Montessori, some of the teachers happen to have children that attend the school. I was curious to see if this would affect the students' learning. Would having their parents there increase or decrease the students learning capability? When being present in other classrooms I noticed that if a familiar person walks in the students tend to become distracted from their work. After observing in 3 Mariposas Montessori I was able to observe how focused the students were on their work because they were able to choose what lesson they wanted to complete. Also, being able to talk to the parents that work at the school, it was clear to see that the students' work was not negatively affected by their parents being involved in the their schooling. I want to share my research by creating a poster showing educators that we need to positively involve parents in the classroom to encourage students and present that testing is not always the best method of evaluation.

Presentation Type and Session: Poster I

Are Literacy Specialists Prepared to Work with ELs in PDS Partnerships?

Elizabeth Kutesch, Literacy Specialist B-12

Faculty Mentors: Professor Pixita del Prado Hill, Elementary Education and Reading and Professor Leslie Day, Elementary Education and Reading

In recent years, Buffalo, NY has become home to a vibrant, diverse community of immigrants and refugees as a result of its designation as a refugee resettlement area by the State Department. Consequently, SUNY Buffalo State partners with many schools that are heavily populated with English Language Learners (ELs). This growing demographic faces many challenges, as do the educators who work with them. Goldenberg (2013) notes a distinct lack of research investigating common practices and instructional recommendations for working with ELs. In an effort to further understand the best practices and challenges that educators face, my research will focus on the function of Literacy Leaders who work with ELs in our partner schools. I will be conducting this research as a Graduate Assistant in the Elementary Education and Reading Department and member of the Professional Development Schools (PDS) Consortium. SUNY Buffalo State's PDS Consortium is

award-winning and has provides students with authentic, valuable learning experiences. The National Association for Professional Development Schools (NAPDS) is guided by nine essentials, or fundamental qualities. As recommended by NAPDS Essential #1, it is our responsibility as PDS partners to ensure that teachers, administrators, and teacher candidates are learning how to provide equitable, unbiased and just learning opportunities for all students. This project will share the results of a survey of Literacy Leaders currently working in SUNY Buffalo State PDS partner schools. The survey will explore opportunities for professional growth when working with ELs.

Presentation Type and Session: Poster III

Are Teachers Prepared to Work With Students With Disabilities: Comparison of Chile and United States?

Chelsea Davidson, EDU 389: International PDS & Service Learning-Dominican Republic

Faculty Mentor: Professor Angela Patti, Exceptional Education

Inclusive education is the idea that students with disabilities can and should, whenever possible, be educated alongside their peers without disabilities. When teachers are not adequately prepared to work with students with disabilities, the positive aims of inclusive education are often not realized. In my research, I will compare the preparation of teachers to work with students with disabilities – both in terms of policy and what is occurring in practice. First, I will conduct a literature review, examining regulations and literature related to inclusive education in both countries. Next, I will interview teacher candidates and conduct observations in both the U.S. and in Chile. Finally, I will examine my findings to develop a final analysis and recommendations. I expect to find some differences between how teacher candidates in both countries are prepared for inclusive education, but overall, I anticipate both groups of teacher candidates will feel underprepared to work with students with disabilities in inclusive settings.

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

Behavior Management with Dojo

Annalise Stark and **Alexandra Seibert**, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor Awilda Ramos-Zagarrigo, Exceptional Education and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

The purpose of this study is to examine the effects of a whole class intervention applied in an attempt to reduce disruptive behavior. Participants include 27 students from a second grade classroom in Western New York. The authors will be researching the effects of Dojo, an online behavior management program. Data will be collected through direct observations of student behavior and by the Dojo program. With the use of this data, the authors will find a means for the use of Dojo outside of the classroom, such as at home,

with a care provider, or with students in special education. The authors hypothesize that Dojo is not used enough in the classroom and could be more integral in managing the classroom behavior.

Presentation Type and Session: Poster II

Classroom Management: Structure, Freedom, or Both? Creating an Effective Learning Environment for Students

Shannon Lafferty, Exceptional Education

Faculty Mentor: Professor Angela Patti, Exceptional Education

I explored two preschool classroom settings - a Montessori classroom in the Dominican Republic and a rural, public school classroom in Western New York - to gain an improved understanding about the effective use of classroom management strategies. I conducted in-depth observations, examined classroom policies, interviewed faculty and staff members, interacted with students, and participated in daily classroom activities. I also examined a number of areas of classroom management, including seating arrangements, classroom rules, methods of conflict resolution, opportunities for student independence, and instructional formats. Overall, I found the Montessori classroom to be fairly loose in management style, allowing for much student freedom and independence in navigating social and behavioral situations. Conversely, the public school classroom in Western New York was structured in management style, as students were given a great deal of guidance and direction from the adults in the classroom as far as how to interact socially and how to behave according to the classroom expectations. I compared my findings from the two settings to professional literature to formulate ideas about best practices in classroom management. I concluded that while the two settings' classroom management styles were distinctly different, there was not one that was necessarily right or wrong. Each setting had its strengths and areas that could be improved. In my presentation, I will share my impressions about the two educational settings, along with my conclusions about how best to create an effective learning environment for students.

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

The Classrooms of Diversity

Yasmin Davis, Katrina Clark, Lily Dezervos, Colvina Mitchell, Kara Rudnick, and Alexandria Ziccardi,

EDU 312: The Teaching of Mathematics and Science

Faculty Mentor: Professor Hibajene Shandomo, Elementary Education and Reading

Imagine walking in your elementary classroom as a teacher candidate on your first day of school. Upon entering your classroom all you see is an extremely diverse population of students. To make the situation more complex, your mentor teacher tells you that one of the students arrived in the USA a few days ago and the student does not speak one word of English! There will be mixed emotions of excitement and worry. Many questions will run through your head –

how will I successfully communicate with my students? What is the educational history of my students? You may be scared and nervous thinking of ways to simplify and reword difficult texts to help your English-language learners understand the content they are learning. On a more positive side, this is an opportunity for you to become an effective teacher of all students and to experience diversity might be very rewarding. In the spring of 2015, our placement was at an International School with a very diverse population. We were placed in classrooms whose range was grade K-6. We needed strategies to use in our classrooms to support the learning of our students whose first language was not English. We picked up useful strategies from our mentor teachers who dealt with this challenge every day of the school year. We observed them in the classrooms and interviewed them outside class. This poster will present strategies, on the basis of a qualitative research that we conducted, of how teachers teach English language learners.

Presentation Type and Session: Poster III

Communicative Teaching in the Foreign Language Classroom

Sarah Banas, EDU 690: Master's Project

Faculty Mentor: Professor Coralee Smith, Elementary Education and Reading

The primary function of language is communication. Without language, people are very limited in a variety of situations and purposes. Communication is so vital that the American Council for the Teaching of Foreign Languages (ACTFL) includes communication as its first standard. ACTFL breaks communication down into three modes of communication: interpersonal, interpretive, and presentational. In order to attain oral proficiency, learners should be engaging in meaningful communication (ACTFL, n.d.). This master's curriculum research project explores the ideas of Communicative Language Teaching (CLT) and communicative competency, as well as how educators align their instruction to these standards and frameworks through meaningful situations. The use of input, practice, and purpose along with learner-centered activities is explored along with the facilitation of CLT and communicative oral proficiency (Klapper, 2003; Pan, 2013). This project explores these ideas surrounding Checkpoint A standards set forth by the New York State Education Department (OBE-WL, n.d.). The lessons throughout the project will surround the topic of food and meal taking as this directly aligns with the other standards set forth by ACTFL, which are cultures, connections, comparisons, and communities (ACTFL, n.d.). This topic is also very purposeful and meaningful to students, as they may order food in a Spanish-speaking restaurant some day and they can draw on prior-knowledge of Spanish dishes they have seen or heard of before. Additionally, the use of CLT will facilitate oral proficiency through interactive tasks and authentic communication.

Presentation Type and Session: Poster I

Developing an Anatomy and Physiology Placement Test

Rozanne Redlinski, SCI 690: Master's Project
Faculty Mentor: Professor Joseph Zawicki, Earth Sciences and Science Education

Students often struggle in introductory anatomy and physiology courses due to their untimely, limited or insufficient prior preparation. Poor advisement during the course selection process may also place students in courses that are over their heads. Students frequently end up dropping out or failing (and repeating) courses. These experiences are detrimental to the student's self-image. Proper student preparation may eliminate the need for remedial teaching of content that should already be in place. The college currently uses placement exams in mathematics and English language arts. During this project, I developed and validated a placement test for human anatomy and physiology. Questions were developed and pilot tested during the Spring 2015 semester. The test, along with the test development process, and the initial findings will be shared during this presentation. The projected impact upon course delivery will be addressed, including the potential need for a separate preparatory course to hone fundamental student skills and understandings.

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

Does the Size of Your Wallet Matter: Poverty and Education?

Katelyn Warden, EDU 389: International PDS & Service Learning-Dominican Republic
Faculty Mentor: Professor Wendy McLeish, Elementary Education and Reading

With more than one third of the Dominican Republic's population living in poverty and almost 20% living in extreme poverty it is important to consider the effects poverty can have on Dominican children's education (Rural poverty portal, 2013). Through observation and interviews the validity of the hypothesis of poverty having an overarching effect on their educational system in the Dominican Republic was tested. To gather information the following people were interviewed: two Dominican women who grew up in poverty, the principal of the local public school, and the director of a local Montessori preschool. Information was also gathered through informal observations at the local Montessori preschool and the local public school. A better understanding of what it means to be living in poverty was developed by eating lunch daily with a host family from La Cienega; one of the Dominican Republic's poorest areas. In this village the 2,875 people reside in abject poverty. Most people who live in La Cienega make a meager two to five dollars a day. Thus education takes a backseat as having more family members work to support the family becomes important. The need to have students work is one of the major reasons for the high dropout rate. From discussions, informal observations, interviews and interactions it was clear to see that

socio-economic status plays a large role in the students' access to education.

Presentation Type and Session: Poster III

Education for Girls in Zambia

Charmaine Amey, Elementary Education and Reading
Faculty Mentor: Professor Hibajene Shandomo, Elementary Education and Reading

This project examined the education provided for female students of Zambia. The purpose of the research was to determine whether the education for girls in Zambia is meeting their needs for them to have a productive future. The education of girls is now being seriously examined by many developing nations. Previously these nations regarded the education of boys to be more important than that of girls. For example Kristof and WuDunn (2009) have pointed out that underage marriage is an impediment to girls' education. Without education it is impossible for a girl to reach her full potential and be a contributing member to society. Previously the educational value of girls was substantially lower than that of boys. In Zambia for example, girls were not encouraged to finish school because of other obligations. It was believed that boys would grow into men that would be heads of the family while girls' main tasks would be to tend to the house and all its concerns (Mutombo & Mwenda, 2010). However this is not the case anymore: "Recently, a traditional ruler of north western Zambia, threatened to take 'action' against any of his subjects who might decide to cut-short their daughters' education in order to marry them off" (Mwananyanda, 2001). These attitudes are representative of shifting cultural beliefs. This presentation examines the new progressive thinking of educating girls in Zambia. It also reports the findings of a study whose main research questions were: Are girls motivated to value their own education and see their worth in society, and are girls being supported in their education by their families, teachers, and community?

Presentation Type and Session: Poster IV

Educational Status of Women in the Dominican Republic

Kaitlyn Gardner, EDU 389: International PDS & Service Learning-Dominican Republic
Faculty Mentor: Professor Wendy McLeish, Elementary Education and Reading

Historically, women in the Dominican Republic have faced sexual discrimination in the home, in school, and in the workplace. Women have been victims of sexual and physical violence. The purpose of this study was to determine the current status of Dominican women, particularly in school. To conduct this study, a review of government reports and news articles was administered. Additionally, Dominican women were interviewed in their native land. A school principal and the leader of a non-profit Dominican girls' organization were also interviewed. Through this research, it was determined that women in the Dominican Republic still face

great sexual discrimination today. Thirty percent of criminal cases in 2010 involved violence against women. Moreover, women continue to face discrimination in the workplace, earning a mere 79 pesos to every 100 pesos earned by men. As per education, the status of women is improving. Girls in the Dominican Republic stay in school longer than boys, drop out less, and repeat grades less often. Roughly 70% of Dominican women can expect to graduate from high school. 65% of university attendees are now women. Nonetheless, there are still many disparities between men and women in the Dominican Republic that need to be addressed.

Presentation Type and Session: Poster IV

Flipping an English Second Language Classroom with Tablets

Michael Masich, EDU 690: Master's Project

Faculty Mentor: Professor Coralee Smith, Elementary Education and Reading

This Curriculum Research Project explores the application of a flipped learning pedagogical approach to an English Second Language classroom. Within lecture classes, students only retain about twenty percent of the materials taught in class. By exploring a flipped learning pedagogical approach to an English Second Language classroom, an investigate how to increase the percent of knowledge retained from instruction will be conducted. When applying flipped learning, direct instruction is moved from a group-learning environment to an individual learning environment (Bergmann & Sams, 2014; Mok, 2014; Slomanson, 2014; Educational Horizons, 2011). Applying a flipped learning pedagogical approach can be beneficial for both the students and educator. In order to achieve higher language proficiency and pass state exams, ESL learners need language support (Curtin, 2005). By applying this approach, it is anticipated that the ESL student's language support will increase and will have a positive impact on their knowledge retained. Students will be required to watch an instructional video for each lesson that have been created and linked to a Wix.com teacher website. The instructional video will prepare students for the application of the knowledge within the classroom. When teaching language learners "online courses help boost comprehension and other key skills by more than 80%" (Technology Partner, 2013). The ESL students will receive instruction via Internet. In addition, "A teaching model that incorporates more interactive characteristics better suits the learning styles of ESL students" (Curtin, 2006, p.45). When the ESL student returns to school, they will be taught in an interactive collaborative learning environment. This presentation will include an informative poster for participants to view. Also, the web-based interactivity technology will be provided so that participants can access to the complete Wix.com teacher website with instructional videos included. Lastly, an oral presentation of this research and findings will take place.

Presentation Type and Session: Poster I

From Field Biologist to Teacher Through the Robert Noyce Teacher Scholarship and 100k in 10

Robert Wardwell, SCI 690: Master's Project

Faculty Mentor: Professor Catherine Lange, Earth Sciences and Science Education

The Robert Noyce Teacher Scholarship Program was reauthorized in 2010 under the America COMPETES Act (PL. 110-69) in an attempt to respond to the national need for teachers in science, technology, engineering, and mathematics (STEM). The program seeks to encourage STEM professionals and students to pursue teaching careers in K-12 classrooms. The 100k in 10 Movement aims to introduce 100,000 new highly skilled STEM teachers to the nation's schools by the year 2021, while providing supports to retain talent that is already in place. The movement is comprised of more than 200 partner organizations with the single, ambitious goal of preparing students with high-quality STEM knowledge and skills for future national and global challenges. This case study attempts to understand the challenges and opportunities presented by transitioning from a career as a field biologist to a high school science teacher.

Presentation Type and Session: Poster V

¿Hablas Español? Investigating Effective Methods of Teaching the Spanish Language to English Speakers

Mindy Lamb, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor Mark Warford, Modern and Classical Languages and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

The following research explores effective educational methods for teaching the Spanish language to over 18 year old native English speaking college students. Two separate interviews were conducted with professors of the Spanish language inquiring about their most effective teaching techniques. One interview was with a professor from Buffalo, New York: a predominantly English-speaking environment outside the classroom. These results were juxtaposed to a secondary interview with a Professor from San Juan, Puerto Rico: a predominantly Spanish-speaking environment outside the classroom. Noting classroom activities, handouts, and assignments that contributed to language learning, this study combines observations of the student's progress synthesized with firsthand feedback from their professors. Conclusively, students demonstrate successful secondary language acquisition most effectively through teaching methods using both differentiated instruction and code switching. Differentiated instruction personalizes lessons for the varied abilities of individual students. Code switching integrates both the native language and the secondary language throughout the lessons. This poster provides further explanation of effective educational methods for teaching a secondary language.

Presentation Type and Session: Poster I

How Does Parent-Teacher Interaction Affect a Child's School Success?

Morgan Allender, EDU 389: International PDS & Service Learning-Dominican Republic

Faculty Mentors: Professor Wendy McLeish, Elementary Education and Reading and Professor Tamara Horstman-Riphahn, Elementary Education and Reading

I traveled to the Dominican Republic to research the importance of a strong family school partnership in early childhood and how it contributes to a child's educational success. I investigated the services provided and how these services impact the student in preparation for further success in school and life tasks. I observed at a local Montessori school called Tres Mariposas Montessori. The school serves young children in La Cienega. La Cienega is an impoverished village where there are limited resources. I investigated the services provided by the school, observed staff/family interactions and interviewed current parents and the school director to determine the current level of child, family and staff relationships. I anticipated that the teachers and parents would not work closely together for a number of reasons. The parents work numerous hours a week and therefore, may not have time during the day to interact with the school. Many families are busy and lack time. They may not view family-school relationships as important. The parents' limited education levels may hinder the development of family-school relationships. The limited access to technology might be another barrier to family-school relationships. Instead, I found the school believes in establishing and maintaining a strong relationship with families. Opportunities to build a strong foundation include the following: providing families with scholarships for their children to enroll in the school and later attend a private school after graduating from Tres Mariposas Montessori. In return, families are required to work at the school. The school provides home visits for families to inform them of the education and to connect them with community services. Attendance is mandatory at monthly parent meetings. All of these elements contribute to building a strong family-school partnership. This partnership is the foundation for student success.

Presentation Type and Session: Poster III

How Prepared Are Teacher Candidates for Technology in the Classroom?

Daniel Klein, Elementary Education and Reading

Faculty Mentors: Professor Pixita del Prado Hill, Elementary Education and Reading and Professor Leslie Day, Elementary Education and Reading

Buffalo State's education students are motivated and enthusiastic about completing the transformation from teacher candidate to professional educator. One requirement for this change is that candidates have a strong grasp of current and emerging technology that they may one day use in the classroom. Buffalo State accomplishes this with classes such as the Integration of Technology

in Education, in which teacher candidates are able to learn how to effectively implement technology into their future classrooms. They also learn about useful technologies in their PDS methods courses and through professional development opportunities. As teacher candidates progress through the program, they are increasingly exposed to methods of classroom technology implementation until the culminating experience of student teaching. Each class has a direct impact on their development as new teachers. My research focuses on teacher candidates and their experience with technology throughout their years in college, as well as their knowledge of technology as they move ahead. This presentation reports the results of the survey on information towards teacher candidate attitudes, experiences, and preparation levels regarding the use of technology. A group of teacher candidates in an introduction to education course were surveyed to identify current technology knowledge, and how candidates view the role of technology in their future classrooms. Recommendations to more effectively use the PDS model to prepare teacher candidates for technology use and integration will be included.

Presentation Type and Session: Poster III

It Truly Takes a Village: Community and Family Collaboration Foster Literacy Development in Children

Crystal Holmes-Smith, Childhood Education and Social Studies

Faculty Mentor: Professor Kim Truesdell, Elementary Education and Reading

Illiteracy, the inability to read or write, holds many negative consequences for the individuals affected by it. Overall, it places a limitation on the quality of life. Illiterate individuals suffer economically, socially, and personally; also illiteracy not only hurts the individual, but it also hurts the economy and well-being of the nation. Consequently, illiteracy has become a national issue and many efforts have been put towards resolving the issue. If one were to think in the mindset of "prevention rather than intervention," then the most logical way to combat the issue of illiteracy would be to focus on literacy development in children. For this reason, I thought it would be worthwhile to study factors that contribute to children's success in reading. In search of my answer, I completed a literature review on: the benefits of reading to children, how to motivate children to read, how to create effective read-alouds, and the importance of family involvement in children's literacy development. I also used Global Book Hour, a family/community literacy program, as a focal point for examining certain literacy strategies and their impact on children's literacy development. While there, I collected data from children and their caregivers about their literacy practices and the impact Global Book Hour has had on them.

Presentation Type and Session: Poster IV

Kindergarten Writers Learning in a Writing Workshop Approach

Devon Printup, EDU 690: Master's Project

Faculty Mentor: Professor Coralee Smith, Elementary Education and Reading

This Masters Curriculum Project examines how the Writing Workshop can enhance young student's emergent writing skills. The focus student for this project was given a benchmark assessment for writing comprehension at the Kindergarten level. Using this benchmark assessment and following specific components of the Writing Workshop identified in previous research, such as mini-lessons, independent writing, conferring and sharing, the belief is that the participant will improve in writing ability. From using the benchmark assessment, preliminary findings indicate that the student does have a significant understanding of writing at the Kindergarten level. Observations of student writing will be made as well as summative assessments to document any growth in their writing. The contributions of the mini-lessons and the adult modeling will continue to play a significant role in the student utilizing the learned skills in their independent writing time. Conferring with the participant about their writing will also aid in the student's ability to enhance their writing. Through the use of the Writing Workshop, the participants writing will be documented from start to finish, so that any improvements in their writing will be evident in the curriculum project. My presentation will include a poster, showing how the Writing Workshop impacted my participants writing achievement.

Presentation Type and Session: Poster I

Let's Do Some Thinking: German vs. United States Classrooms

Taharra Battle, Early Childhood Education

Faculty Mentor: Professor Sherri Weber, Elementary Education and Reading

Teachers in different countries use different methods and pedagogies in their classrooms, including using higher level thinking questions to promote and support learning. I am conducting a study that compares and contrasts how teachers in Germany and the United States integrate higher level thinking questions into their classroom teaching to engage students in learning. My research will take me to Nürtingen, Germany in the summer of 2015 and will include observations of elementary classrooms. As well, I plan to interview teachers about their pedagogical approach to using higher level thinking questions. I will share my preliminary findings in preparation of my ongoing research, including the framework for recording pedagogical teaching practices used by German teachers and my approach to organizing my observations allowing me to reach conclusions about similarities and differences in how German and US teachers incorporate higher level thinking questions to promote student learning.

Presentation Type and Session: Poster I

Let's Make It Real: Connecting Mathematics to Adolescents' Everyday Lives

Verna Maximin, Mathematics Education

Faculty Mentor: Professor Jevon Hunter, Elementary Education and Reading

Adolescents typically express a disconnect between the content that they learn in schools and their worlds outside the classroom. This research project explored the benefits and limitations associated with how mathematics instruction and learning can be connected to the lives of adolescents through a high school summer enrichment program. Through the participation of 18 incoming freshman and one classroom teacher in a five-week summer enrichment program, qualitative data was collected to respond to three research goals: 1) To perform a literature review on how mathematics can be connected to the lived realities of adolescents, 2) To develop activities that will engage adolescents and prompt them to locate mathematics within their lived realities, and 3) To document and report on the experiences and opinions of adolescents as they engage in the different activities. The research findings indicated that students do in fact crave a curriculum where they actively participate in higher order thinking, and they are better engaged when they are enlightened on the applications of mathematics concepts in the world outside the classroom. This research project also finds that this method of teaching requires dedication and support to ensure that the teacher and students do not revert to comfortable forms of teaching, which may only elicit low order thinking. This report expands on these findings and presents recommendations for future research.

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

Mathematics Attitude and Achievement in Chinese and American Students

Xin Dong, MED 690: Master's Project

Faculty Mentor: Professor David Wilson, Mathematics

The Trends in International Mathematics and Science Study (TIMSS 2011) found students in United States have a much more positive attitude towards mathematics, but don't have matching mathematics achievement compared with students in Hong Kong and Taipei. 19% of eighth grade American students participating in TIMSS 2011 study state they like learning math and they have an average achievement score of 536 on the international assessment. About 40% of students having an average achievement score of 515 claim that they somewhat like learning math. The remaining 40% of students state that they don't like learning math and they have the average score of 494. In the group of American students the relationship between attitude and achievement is clear: students who like learning math tend to have better achievement in math. However, when looking at the data of Hong Kong and Taipei, students who don't like math make up a bigger percentage and these

students who don't like math have a higher average achievement score (568) than the American students. Therefore, the relationship between attitude and achievement should be assessed again in an international group. In addition, other issues related to mathematics achievement including gender, teaching style and content level of homework were explored in this research. SPSS is the software used in statistics tests of the correlation between factors and math achievement. The association will be tested in each group separately and then tested across groups. Supplementing the TIMSS 2011 data were survey responses from 40 students in Beijing and 23 students in Buffalo.

Presentation Type and Session: Poster V

Motivated to Drop Out: Native American Views of Education

Elizabeth Malinowski, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor Christopher Shively, Elementary Education and Reading and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

By percentage, American Indian/Alaskan Native students drop out of high school in the United States more than any other ethnic group. This trend is also observed in the state of New York. The particular Native American group living in the Western New York region is the Haudenosaunee (Iroquois). In 2013 - 14, the Haudenosaunee had a high school dropout rate of close to one-half in seven western New York school districts. The alarming rates for this ethnic group spark curiosity about what motivates this population to drop out of high school. According to Vygotsky, it is possible to understand the thoughts and decisions of people by looking at their mediated actions. This insinuates that genetic analysis can be used to understand the actions of others. Narrowing the lens to a more local perspective, the focus shifts to the Haudenosaunee. Their past was plagued by mistreatment of the entire population by European forces. The Haudenosaunee were moved from their land onto reservations and were victims of forced assimilation. Currently, there are many out of school factors influencing current Haudenosaunee students, related to family, student, or a combination of the two forces, which can be considered forces that potentially motivate students to dropout. The historical transition of the Haudenosaunee people onto reservations and the trauma that went along with this, coupled with various out-of-school forces, can explain why so many Native Americans are motivated to dropout of high school.

Presentation Type and Session: Poster IV

No Time for Time Outs

Kendall Szafnicki, EDU 389: International PDS & Service Learning-Dominican Republic

Faculty Mentor: Professor Wendy McLeish, Elementary Education and Reading

During my time at the Tres Mariposas Montessori School in

Cabarete, Dominican Republic, I researched the behavior redirection techniques used by the school's teachers. In the United States general education students are often given punishments for actions considered wrong. I was curious to see if similar techniques were used in the Montessori environment. The Tres Mariposas Montessori school facilitates children ages two to six from the Cabarete area. Around twenty children can be found in the Primary school on a regular day. Generally there are about one adult per five children. To find out what methods the teachers and staff at Tres Mariposas Montessori use to help children modify their behavior I observed in the primary classroom for two weeks. During the school day I watched children in the primary class closely to see if the teachers and staff redirected any actions. Once I saw an occurrence I quickly wrote down as much information as I could. I also interviewed the lead instructor of the primary part of the school, Odalis Hernandez. She clarified how behavioral redirection works in the Montessori classroom. In a typical Montessori environment students are not given punishments. Instead the student is guided to discover why the action was wrong in hopes that they will change it themselves. The aim is to develop self-regulation skills. I anticipated that the results of behavior redirection would be evident in many of the children at the school. I learned that the methods used to help redirect some of the more unwanted behaviors of children in the school could be quite effective over time. My presentation will explain the behavioral redirection methods used by the teachers and staff at the Tres Mariposas Montessori School.

Presentation Type and Session: Poster IV

Non-Fiction Cross-Curricular Integration

AnnMarie Henesey, EDU 690: Master's Project

Faculty Mentor: Professor Coralee Smith, Elementary Education and Reading

As Common Core Learning Standards continue to be implemented in schools, so does the need for non-fiction literature. For quite some time many educators have decided against using non-fiction literature in their instruction and curriculum. In fact, Vent and Ray (2007) found that teachers believe that their students are not interested in non-fiction and would lose interest quickly. Enriquez and Shulman-Kumin (2014) found that teachers should be exposed to non-fiction literature for children and become comfortable with implementing non-fiction in their instruction. This will allow teachers to become more confident and effective in teaching non-fiction literature. Zapata and Maloch (2014) were able to identify that explicit instruction of non-fiction text not only engages the students' and catches their interest but also allows for students' to take part in authentic learning opportunities that allowed them to connect their learning to the outside world. Students' that have non-fiction text not only available but also accessible to them, allows them to further their learning and thinking in ways many have been unable to do thus far in their education. This in turn provides students' with effective opportunities to write and

read non-fiction text that they can relate. In this Master's Project, non-fiction literature will be the foundation for teaching students' about animal diversity and habitats. I am going to integrate non-fiction literature with not only science but also with writing, making a cross-curricular unit about the use of non-fiction literature in teaching students writing and animal diversity and their habitat's. This integrated cross-curricular unit will not only be aligned with Common Core Learning Standards but will prepare students' to be skillful writers and also have students' become comfortable non-fiction readers.

Presentation Type and Session: Poster III

Noyce Scholar Seeks to Understand the Power of Blogging

Sarah Franklin, SCI 690: Master's Project

Faculty Mentor: Professor Catherine Lange, Earth Sciences and Science Education

How can we harness the motivational power of social media as a teaching and learning tool? Social media has drastically changed the way we communicate and gather information. People today are far more likely to look for answers online than in a book. Social media sites have become the main resource students use to communicate outside of school, creating the potential for social media to be a powerful tool in the science classroom. Students enjoy it because material is presented in a format that they are familiar with and understand. This poster will describe the process whereby I created a website for my students that included a blog and a twitter feed used to supplement class lessons. The method of implementation of science contact through a blogging site will be demonstrated. My students get really excited when I announce that new material has been added. It has also proven to be a great way to delve into topics that we would not have time to cover in class. This poster explains how I began integrating my website into my classroom and student reactions to the instructional tool.

Presentation Type and Session: Poster V

Play in Cabarete, Dominican Republic

Jessica Arana, EDU 389: International PDS & Service Learning-Dominican Republic

Faculty Mentor: Professor Wendy McLeish, Elementary Education and Reading

The purpose of my study was to compare the differences in play in Cabarete, Dominican Republic (DR) to that in the United States (US). I was interested to see what children played with, how they played with these materials, where they received the materials, who they played with, and what type of play they were participating in. While in the DR, I interviewed a mother of two children and acquired the rest of my research from observations and online research. I found that the information I acquired from both the observations and the interview slightly overlapped. From both my observations and the interview I learned that baseball is quite

popular in the DR. I also learned that it is quite common to see a child pushing around a tire with some sort of contraption involving an empty pop bottle. However some of the materials I learned about from the interview I hadn't observed at all. The woman I interviewed described a few different games she has seen children play. One of the games involves tossing rubber bands at the wall in hopes that when they fall to the ground they will land on top of one another. When this happens, that child gets to keep both of the rubber bands. Another game involves tossing rocks with an intentional goal to hit another rock that is also on the ground. I compared my findings to my prior knowledge and experience of play in the United States. Most children in the US rely on purchased toys and games to play with. Technology is also more recently dominant in play. This is not true for the DR due to the extreme poverty.

Presentation Type and Session: Poster I

Pump Up the Volume: Practical Mathematical Applications

Caleb Moore, Mathematics Education 7-12

Faculty Mentor: Professor Jane Cushman, Mathematics

The Common Core State Standards (CCSS) states that students need practice solving real-world problems in the field of mathematics. As teachers we strive to create engaging lessons so students can practice their problem solving skills and make the connection between the classroom knowledge and real life application. The lesson I will present is based off of CCSS 7.G.B.6. The real world application of the project will show how mathematics can be applied to packaging engineering. Students will explore how the number of sides folded in a piece of paper and dimensions of the paper affect the volume of the three-dimensional object created. This lesson will actively engage students in hands-on learning. They will work together to construct a variety of objects and discuss their findings on the volume of the objects they created. Afterwards, they will assume the role of a packaging engineer and argue which object is the most effective.

Presentation Type and Session: Poster VI

The Role of the School Schedule in Student Learning

Emily Honsberger, Elementary Education

Faculty Mentor: Professor Pixita Del Prado, Elementary Education and Reading

To ensure that all children receive adequate time to learn, it is important to study how time is used and organized. Comparing classrooms in Buffalo and the Dominican Republic provides the opportunity to notice how time is used in the US. This poster presents a study that compared the order and length of a school day in two 5th grade classrooms. In both locations (1) I compared the daily schedule for the sequence of classes and the length of the school day, and (2) I observed one classroom in each school building to see how much time students were exposed to certain materials and subjects.

In the Buffalo school students attend school for 6 hours a day with 5 hours of instructional time. The other hour consists of lunch and transitions to specials. The children work with the same teacher for the core classes and transition to other classrooms for specials. In the Dominican school, students receive a total of 3 hours of instruction per day and stay in one classroom for the entire school day. The teachers move from class to class which leads to longer transition periods between classes reducing instructional time even further. Additionally, the Buffalo school has materials available for each student; however, the Dominican students must copy the content of the lesson into notebooks before the teacher begins the lesson, thereby reducing available instructional time. This poster examines the implications of these differences in how time is organized and used at the two school sites.

Presentation Type and Session: Poster II

The Rural Educator: Perceptions and Motivating Strategies

Kaitlyn Gardner, EDU 690: Master's Project

Faculty Mentor: Professor Chris Shively, Elementary Education and Reading

Students' beliefs in their abilities to regulate their own learning and master difficult content can change students' aspirations (Alfassi, 2003). Academic self-efficacy, the personal judgments of one's capabilities to successfully execute academic tasks, has been correlated with semester and year-end grades, in-class seat work, homework, exam, essay, and report grades (Alfassi, 2003; Pajares, 1996). Self-efficacy beliefs are critical for self-regulated learning and academic achievement (Zimmerman, et al., 1992). "Students who believe they are capable of performing academic tasks use more cognitive and metacognitive strategies and persist longer than those who do not" (Pajares, 1996, p. 552-553). Rural schools encompass 1/3 of all school districts, 1/3 of all public schools, 1/3 of all practicing classroom teachers, and 1/4 of all students enrolled in public schools in the United States (NCES, 2012). However, only 6% of educational takes place in or studies rural schools (Hardre, 2008). Hence, this research focuses on the motivational practices of rural educators, as opposed to urban or suburban educators. This research addresses three main questions: How does working in a rural school affect teachers' perceptions of and expectations for their students? How do these expectations and perceptions affect teaching motivating strategies in the classroom? Are these perceptions and expectations and, therefore, motivating strategies, affected by distance from a major city? Four rural educators participated in this study by completing two questionnaires and one interview each. Findings indicate that that rural educators personal connections, external rewards, and explaining relevance to motivate their students. Rural educators have low expectations for their students, stating that if students do attend college, they will attend local and familiar schools. Furthermore, rural educators communicate feelings of helplessness in motivating their students. More research is

necessary in this field if we are to help our rural educators.

Presentation Type and Session: Oral – Business, CIS, Education, and Engineering Technology

STEM to STEAM: Noyce Scholar's Perspective on the Nexus of Art and Science

Nancy Spector and **Elisa Lorenz**, SCI 445/545: Literacy for Teaching Science

Faculty Mentors: Professor Catherine Lange, Earth Sciences and Science Education and Professor Robin Harris, Earth Sciences and Science Education

Science learning and teaching with a focus on visual literacy can be influenced through unique application of various aspects of the arts. Since the implementation of standards in NYS that require reading, writing and speaking skills in both creative and informational styles, students often have difficulty differentiating between the objective language of scientific observation and the subjective language of aesthetic response. Using two lessons that have been used as a way to compare and contrast objective and subjective written responses, this poster will explore the possibilities that can occur when such considerations are taken into account. In the first lesson, two very different kinds of writing - informational/expository and literary/aesthetic experiment/art experience is diffusion of food dye over time in two beakers of water - one cold and one hot. Half of the students focus on the event as an experiment for scientific inquiry with appropriate literacy and science content support provided; the other half focuses on the event as an aesthetic experience. Student responses will be shared and compared. Another experiment that will be shown is the use of tie-dye to demonstrate the same literacy strategy.

Presentation Type and Session: Poster III

Student Teaching in Torremaggiore, Italy

Anna Morton, EDU 389: International PDS & Service Learning-Italy

Faculty Mentor: Professor Maria Ceprano, Elementary Education and Reading

At San Giovanni Bosco in Torremaggiore, Italy I had the opportunity to go on a study tour and begin my student teaching experience. During my time there, I taught two 5th grade classes and together with my cooperating teacher, I taught a unit on the Solar System. My students were Italian children who had been studying English, so I was able to teach completely in English and had the students correspond in English as well. During my lessons I noticed how excited and interested they were about not only expanding their English vocabulary, but also about the culture of the United States. The students and the teachers at the school were so captivated by the presence of the teacher candidates, professors and me from Buffalo State that we were invited to the neighborhood bookstore to read popular literature to children and adults. Throughout my time in Torremaggiore I learned much about collaboration, both with

teachers from the San Giovanni Bosco School and the Art Education students from SUNY Buffalo State, the nature of Italian classrooms and about the community. I also learned new teaching strategies that I can store in my teaching toolbox to share with the scholars at Buffalo State.

Presentation Type and Session: Poster I

Subtraction: Moving Beyond Standard Algorithms

Christine Kling, EDU 651: Theory, Research, and Practice in Mathematics Instruction

Faculty Mentor: Professor Hibajene Shandomo, Elementary Education and Reading

Regrouping is a concept that many students struggle with when they do not have a strong understanding of base-ten grouping concepts. Standard algorithms are often introduced too early—before students have a clear understanding of how they work. This can cause confusion in students' learning. Children, for example, need to learn to make groups of ten items and then count those groups as if they were single items. An understanding of how the standard algorithms work and when to use them, is central to the development of procedural proficiency (Van de Walle, 2013). Students who already know, by rote learning, the standard algorithms may resist the invention of more flexible strategies. An examination of the process used by one first-grade student, who was struggling with subtraction and regrouping procedures was done. Strategies to help the student form concepts that would help them understand how the standard algorithm works were discussed. Scaffolding was employed to support the student to move beyond the standard algorithm. Lessons were delivered to support student-invented strategies. The student's understanding of regrouping or place-value system was enhanced by using manipulatives, pictures, and number lines. A pre-test and post-test were given and analyzed. This poster illustrates how a grade one child formed the concept of regrouping and later used her own invented strategies to solve subtraction problems.

Presentation Type and Session: Poster I

A Summer Enrichment Program's Take on Digital Literacies for Mathematics Learning and Instruction

Melissa Heidenreich, Mathematics Education 7-12

Faculty Mentor: Professor Jevon Hunter, Elementary Education and Reading

Adolescents live in an academic world where digital technologies are becoming more commonplace, requiring a deeper understanding of digital literacy. This research project explored how various forms of digital literacy were used during a five-week mathematics summer enrichment program at a local urban high school to enhance student learning outcomes and teacher instructional practices. A qualitative methodological approach was

used to answer three research questions: (1) What influence does the use of digital literacy in a high school mathematics summer enrichment program have on student learning outcomes?, (2) What impact does the use of digital literacy in a high school mathematics summer enrichment program have on teacher instructional practices?, and (3) How can digital literacy be used in a regular mathematics classroom during the academic year to improve student learning outcomes and teacher instructional practices? Eighteen students and one mathematics teacher participated in this study. Data were collected through surveys, observations, and interviews. Findings indicated that student and teacher comfort levels play a significant role in the kinds of digital literacy practices used. Moreover, digital literacy practices vary significantly depending upon the technology employed in the classroom. This presentation elaborates on these findings and offers recommendations for classroom practice.

Presentation Type and Session: Poster III

Teacher Certification: New York State vs. the Dominican Republic

Sarah Priore, EDU 389: International PDS & Service Learning-Dominican Republic

Faculty Mentor: Professor Wendy McLeish Elementary Education and Reading

In the Dominican Republic there is a shortage of teachers, which may be due to poverty levels and the cost of education. Most children are not getting the education they are supposed to receive by law. This then makes it difficult for young adults to go to college. My study seeks to determine if teacher education and the certification process, specifically Montessori Method, needs to be improved so it is more reachable for those in the Dominican Republic. To collect these data I interviewed teachers certified in the Dominican Republic, as well a teacher certified in New York State, and a teacher certified in Indiana. All of these teachers are certified in Montessori Method. My results were what I predicted. Those teachers getting their certification in the Dominican Republic do not have the materials and money to do so as those in the United States would. The cost to go to the University to become certified is the biggest obstacle because most people do not have that kind of money. Therefore, for more teachers to become certified in the Dominican Republic, the system for paying for the University, or ways to get money would need to be adjusted. I used the data I collected while I was in the Dominican Republic to explain the differences in certification processes. There are three different teachers' experiences. The difference in requirement in New York compared to the Dominican Republic is drastic and the teachers' opinions about their process of their certification are very diverse. During the interviews, the teachers tell whether they think the process they went through truly prepared them for teaching.

Presentation Type and Session: Poster I

Teaching Growth, Development, and Reproduction Through English Language Arts and Science

Jocelyn Stein, EDU 690: Master's Project

Faculty Mentor: Professor Coralee Smith, Elementary Education and Reading

Science instruction is typically presented as facts that students are required to memorize. However, teaching science this way does not benefit students. When science is taught in isolation, it is difficult for students to think about the content in a deep, meaningful way. Using both reading and writing assignments to enhance science instruction is a preferred method, as it allows teachers to go in-depth with science material. The purpose of this Master's Research Curriculum Project is to create educational practices that integrate the content area of science with English Language arts (ELA). This project is designed to increase eighth-grade students' understanding of the growth, development and reproduction of living things by connecting the topic to ELA standards. Both the Next Generation Science Standards and the Common Core Learning Standards will be used. It is anticipated that students' knowledge of science will increase when literature and writing activities are used to enhance instruction.

Presentation Type and Session: Poster IV

Teaching Montessori: Differences and Similarities Seen in the Dominican Republic and United States

Jasmine Davis, EDU 389: International PDS & Service Learning-Dominican Republic

Faculty Mentor: Professor Wendy McLeish, Elementary Education and Reading

To learn about educating students from diverse cultures who learn in different settings, I performed research comparing the Montessori method of teaching in Buffalo, NY at Buffalo Public School Bennett Park Montessori and in Cabarete, Dominican Republic at Tres Mariposas Montessori. These schools are very diverse. They provide a unique method of learning for their students in structured environments. Independence is encouraged for students at each school. Students choose which lessons they want to learn daily. Montessori schools typically have a teacher and a teacher assistant in every classroom. Children also have a wide range of learning materials to choose from that changes every few weeks. The teacher chooses several different lessons and shelf work related to the time of year that are suitable for every child depending on their age or learning level. Teachers are often called guides because they act as facilitator of materials in these child centered classrooms. The research was conducted through observation and teaching in a Montessori school in Buffalo and Cabarete. My focuses for the study include: language, literacy and math skills of five year old students; access to resources; and number of teachers in the room.

Presentation Type and Session: Poster IV

Teaching Spanish Using a Project Methodology Approach

Jessica Hills, EDU 690: Master's Project

Faculty Mentor: Professor Coralee Smith, Elementary Education and Reading

Do the words Cinco de Mayo, sombreros, sugar skulls, tacos, tamales, and enchiladas sound interesting to you? Don't you just love the Spanish culture? Actually, those words describe the Mexican culture. This Master's Curriculum Research Project is designed so that a student will learn about the culture of Mexico while learning a second language. This curriculum project focuses on Spanish festivals and traditions while incorporating the language, music, dance and foods that are native to these traditions. This Master's Curriculum Research Project uses the American Council for the Teaching of Foreign Languages (ACTFL) Standards, the New York State Languages Other Than English Standards (NYS LOTE), as well as the 5 C's of the ACTFL World Readiness Standards. Based on the above guidelines and proficiency pacing, students will uncover the current culture and a foreign language simultaneously. This Master's Curriculum Research Project includes a unit of study on the country of Spain includes hands-on activities, student centered learning, incorporating technology as well as authentic speakers and items from the country. This Master's Curriculum Research Project includes formative assessments including portfolios; tickets-out-the-door; labeling and describing geographical and cultural components. In addition, a multiple-choice summative assessment is included.

Presentation Type and Session: Poster I

Tour Around the World: Using Books to Teach Third-Grade Students About Countries

Sara Garfinkle, EDU 690: Master's Project

Faculty Mentor: Professor Coralee Smith, Elementary Education and Reading

In the United States today, teachers are expected to be able to teach students from diverse areas. Today in the United States, our students come from all over the world. Some of the students in our classrooms consist of English as a Second Language (ESL) students, students with disabilities, and gifted students. Multicultural education is one way that can bridge the gap and ensure that teaching diverse students is taking place. The Curriculum Research Project is designed is for a third-grade class using children's books to teach about countries around the world. Waters (1999) stated that there is a natural link between literature and social studies by providing five reasons to use literature to enhance social studies. First, literature makes social studies content more relevant to the lives and needs of students. Second, books bring to life historical events, geographical locations and people from various times, places and cultures. Third, literature is an excellent resource for developing thinking skills essential to social studies. Fourth, literature helps to facilitate the understanding of abstract concepts and fifth, literature

presents role models from various times, locales and cultures (p. 81). This Curriculum Research Project is taught in eight weeks. The countries in this project include China, Kenya, England, Germany, Mexico, Japan and the United States. Students will complete projects based the information presented in the children's books in order to explore events, locations and cultures of each of the countries. This Curriculum Research Project will be presented in a poster, as well as the interactive Wikipage created for this project. The presentation and the interactive Wikipage include research documentation concerning the significance of using children's books in the classroom with the lessons and activities for students to complete associated with each country.

Presentation Type and Session: Poster II

Using Inverse Relationships in Mathematics Instruction

Lucille Perry, EDU 651: Theory, Research, and Practice in Mathematics Instruction

Faculty Mentor: Professor Hibajene Shandomo, Elementary Education and Reading

With the implementation of the Common Core Learning Standards, mathematical understanding is becoming increasingly important. For students to successfully progress through increasingly complicated math concepts, they must have a deep understanding of math and the relationships that exist among numbers. Research suggests that allowing students to explore multiple strategies for completing mathematical tasks such as adding, subtracting, multiplying, and dividing. In order to master those strategies, students must understand what it means to actually add, subtract, multiply, or divide. Many studies found out that teaching the inverse relationships between addition and subtraction helps students understand how the operations relate to one another (Katherine M. Robinson and Adam K. Dube, 2009). A project was designed to determine the understanding of the relationships among numbers in terms of addition and subtraction of one 5th-grader with a learning disability. The participant seems to be currently working on a first grade level. An interview with the participant was conducted and later three lessons were implemented with the student that focused on teaching the inverse relationships of addition and subtraction. A unit was designed to strengthen the subject's understanding and improve the automaticity of fact recollection.

Presentation Type and Session: Poster V

Using RTOP and Other Reflective Tools to Build and Strengthen High School Physics Teaching

Griffin Harmon, Physics Education 7-12 with Alternate Certification

Faculty Mentors: Professor Dan MacIsaac, Physics and Professor Kathleen Falconer, Mathematics

As a nontraditional teacher candidate coming to a STEM teaching position after pursuing advanced study in physics, the

Robert Noyce Teacher Scholarship Program provided me with the opportunity to receive my masters in physics education at Buffalo State. My involvement in the Masters of Science Education in physics with NYSED Transitional Certification program at Buffalo State has been an amazing and challenging experience promoting personal reflective growth in my personal outlook, my pedagogy and my own physics understanding. Through Buffalo State, I have been introduced to a wide range of learning, teaching and self-reflective tools that have greatly strengthened my ability to teach physics, and the quality of the physics learning experiences of my students. In this poster I intend to present several examples of the reading and learning tools I acquired from Buffalo State and now use with my own high school students to promote their physics learning, reflective practice and their own ability to self-monitor their own learning. I will also present my use of reflective pedagogical practices keyed to STEM best practice observations of my physics classroom conducted using the Reformed Teaching Observation Protocol (RTOP), and my ensuing modifications to my classroom practices. I have found these activities to be the most beneficial to my teaching experience.

Presentation Type and Session: Poster V

Health and Wellness

Addicted to Love...Diamonds, Clubs, and Spades

Savanna Terreberry, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

The New York State Office of Alcoholism & Substance Abuse Services aims to reduce the prevalence of substance abuse and problem gambling in the New York State population. Young adults between the ages of 18-24 are at the highest risk for developing a gambling problem. Contrary to adults, they are 2 to 3 times more likely to become addicted. Gambling becomes an issue when doing so negatively affects one's life including their relationships, finances, and everyday performance. Those who participate in risky behaviors such as using alcohol or other substances are at a greater risk of becoming a compulsive gambler. Research has shown a correlation exists between parents that gamble and their grown children doing so as well. Many people gamble as a result of financial issues. While playing, people fantasize about winning and how doing so can change their life for the better. Gambling amongst young adults is a growing concern. Problem gambling can be combatted with prevention strategies including educating on concepts such as risk taking, consequences of addiction, and responsible decision making, while also getting help to those who already are a victim of a gambling addiction.

Presentation Type and Session: Poster II

Affordable Care Act: Is it Good for Americans?

Taylor Swiatek, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

As the cost of healthcare continues to rise in the United States the debate continues as to the influence the Federal government has on this process. Within the United States, there are a growing number of citizens without healthcare. According to Healthy People 2020, a person's ability to access health services has a profound effect on every aspect on their health, yet at the start of the decade almost 1 in 4 Americans still do not have a primary care provider. President Obama has taken this national plight and attempted to address the needs of all Americans. On March 23, 2010, President Obama signed the Affordable Care Act into law with three primary objectives. The first is to reform the private sector insurance market and regulate the severe increases in premium cost for its clients. Second, to expand Medicaid to the working poor; lastly, to change the services and referral system currently used in the health insurance field. The presumption is that individuals and corporations will act within the parameters of this Act and will participate for the greater good. However, with numerous issues and significant rejection from Republicans in Congress towards the Bill, the true impact of the

Affordable Care Act still has yet to be realized. This presentation will discuss the direct impact the Affordable Care Act has made on the American population by reducing the amount of people without quality health care.

Presentation Type and Session: Poster I

Apple Cider Vinegar, a Weapon for Diabetes Management and Overall Health

Casey Rice, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

Apple cider vinegar, where does it come from and what can it do? Apple cider vinegar is the fermented juice of crushed apples! It consists of acetic acid, B vitamins as well as vitamin C. Apple Cider Vinegar has been known to have many miscellaneous and health promotive properties. Hair rinsing (to promote hair growth as well as a shiny appearance), a toner (to clear away dry spots and breakouts on the face/skin), mouthwash, bath solution, wart removal, even deodorant! However, there is one focal point I would like sharpen my focus on, the ability of Apple Cider Vinegar (ACV) to promote a healthy lipid profile. This property regarding lipid profiles could arguably be one of the most important functions that this alternative medicinal method has to offer. In a study conducted by F. Shishehbor and colleagues, the lipid profiles in normal (non-diabetic) and diabetic rats were tested when fed food containing ACV (6% w/w) for 4 weeks. The results were astounding. After 4 weeks, it was concluded that the ACV improved the serum lipid profile in normal as well as the diabetic rates by decreasing serum TG, LDL-c as well as an increase in serum HDL-c. This is a profound find for future diabetic and non-diabetic weight management and overall health. Drawing off a second study conducted by Naziroglu M. and colleagues, ACV was found to induce a protective effect against erythrocyte, kidney, liver oxidative injury, as well as was found to lower the serum lipid levels in mice fed high cholesterol. These findings could suggest that ACV possesses oxidative stress scavenging effects, inhibits lipid peroxidation, and increases the levels of antioxidant enzymes and retained vitamins for a stronger immune system. To conclude, the health properties of ACV is wide and vast, yet one of the most important discoveries regards lipids, weight management as well as boosting immune system strength. The average person, and more importantly diabetics, could thrive from using such an alternative method.

Presentation Type and Session: Poster I

Are Probiotics Effective Remedy for Irritable Bowel Syndrome?

Brandon Gross and Matthew Pellerite, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

Previous research has shown that probiotics are effective in the treatment of Irritable bowel syndrome (IBS). Probiotics are living microorganisms such as lactobacillus and bifidobacterium found

in the digestive tract. They help support the intestinal health and digestion of foods. Probiotics are viewed as foods and not drugs for they are abundant in fermented foods including yogurt, buttermilk, sauerkraut, kimchee, etc. Probiotics provide many beneficial effects on the gastrointestinal tract in persons with Irritable Bowel Syndrome, diarrhea, as well as ulcerative colitis. Irritable bowel syndrome is a common gastrointestinal problem characterized by abdominal pain, discomfort and changes in stool frequency and/or consistency. The causes of irritable bowel syndrome are not well understood. Probiotics help individuals with IBS increase the amount of good bacteria in the digestive tract while decreasing bad bacterial population in the small bowel. Probiotics can also reinforce the intestinal mucosal barrier and normalize the motility of the digestive tract. Probiotics are commercially available as single and multi-species formulations, however foods rich in soluble fibers including oat, banana, whole grains, onions, and artichokes can help the gut populate with the good bacteria for healthy intestinal maintenance.

Presentation Type and Session: Poster II

The Benefits of Nutrition Supplementation and Naturopathic Medicine on Anxiety and Depression

Larissa Weinheimer and **Ameisha Thomas**, NFS 330:
Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

The purpose of our research is to find the effects of nutritional supplementation and naturopathic practices on anxiety and depression from literature review. For this we searched databases and reviewed research articles in the peer-reviewed journals. According to the American Psychological Association, anxiety “is an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure”. Naturopathic medicine focuses on both the physical and emotional aspects of anxiety. Anxiety is serious and can affect overall quality of life. Nutrients can be supplemented to improve neurotransmitter imbalances. Some B vitamins including pyridoxine (B6), folic acid (B9), and cobalamin (B12) play an important role in facilitating neurotransmitter synthesis in the brain. There is epidemiological evidence that B12 and folic acid increase the prevalence of depression. Naturopathic care that includes yoga, mindfulness meditation, massage therapy, exercise as well as certain herbal products and omega-3 fatty acids has shown to reduce anxiety and depression.

Presentation Type and Session: Poster III

Boys in the Hood: Code Black

Gerald Alexander Jr., HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

As reported by Healthy People 2020, an average of 5.3 homicides occurred for 100,000 people during 2011. The major health problem associated with this objective is the number of pre-mature deaths.

The average among Blacks and African Americans alone tripled with 17.6 homicides per a population of 100,000. What indicators increase the prevalence of homicide among inner city African American males between the ages of 18 – 24 years? According to the New York State Department of Health, in 2012, 53 African American males between the ages of 20-24 died due to homicide, which was more than double for any other race and gender in the same age bracket. Three factors that contribute to this high rate of homicide among this target population are societal level beliefs, geographical location, and social norms. Some labeled as low social class believe they are not afforded the same opportunities as those belonging to higher classes, resulting in more frustration and violence. Metropolitan areas are highly influenced by gangs accounting for most of the violence within African American communities. When violence regularly occurs within a population it is only viewed as a part of life and not a problem that can be fixed. This presentation will further discuss these contributing factors and recommend interventions to reduce the number of homicides among these young men.

Presentation Type and Session: Poster III

Breaking News: Osteoporosis on the Rise

Thuy Vo, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Hip fractures are recognized as a major public health problem in the United States resulting in over 258,000 hospitalizations in people over the age of 65, in 2010 alone. Approximately 20% of patients who suffered from a hip fracture will most likely die within a year of the incident, and of those who do survive, only a few will return to their pre-fracture status. Research indicates that several modifiable risk factors such as an unbalanced diet, lack of physical activity, and certain medications are to blame for the high incidence rate of this preventable disease. However, age and gender also play a major role. According to the Centers for Disease Control and Prevention, Caucasian women are at a higher risk of suffering from an osteoporosis-related fracture as compared to their risk of developing breast, ovarian, and uterine cancer combined. Addressing this public health issue, Healthy People 2020 aims to decrease the number of hospitalizations due to hip fractures in females 65 and older by 10%. A review of the current literature will be discussed in poster format as well as suggested methods of improvement to modify osteoporosis-related fractures among the elder female population.

Presentation Type and Session: Poster III

Breastfeeding is a Gift That Lasts a Lifetime

Elizabeth Coffie, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

The American Academy of Pediatrics recommends that infants be exclusively breastfed during the first 6 months after birth, after which breastfeeding should continue along with the introduction of complementary baby formula foods. According to New York State

infant feeding data, in 2012, 84% of infants were breastfed after birth however, these numbers decreased to 40% during the first 3 months. This literature review will examine the determinants that cause a reduction in breastfeeding among New York State mothers, including a potential lack in knowledge. Mostly unaware of the short and long term benefits of breastfeeding young mothers fail to nurse their infants. The lack of sufficient maternity leave inhibits women to take needed extra time to exclusively breastfeed their infants for at least 6 months after birth as they have to return to the workforce 6-8 weeks post-delivery. Young mothers sometimes lack needed support from family and loved ones to foster breastfeeding. These determinants are predominant among young mothers between the ages of 18-25 years. The goal of the Healthy People 2020 is to maintain a high number of infants who are ever breastfed and increase the number of infants who are exclusively breastfed for the first 6 months. This literature review will further discuss the aforementioned determinants and provide recommendations to achieve the Healthy People 2020 objective.

Presentation Type and Session: Poster II

A Breath of Fresh Air

Allyson Wrazen, HEW 411: Critical Issues in Health and Wellness
Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Lung cancer is a prevalent problem in the U.S. today and has been for some time. Healthy People 2020 addresses this health concern with an objective to reduce the amount of Americans that die yearly from lung cancer. This literature review will attempt to answer why people who are educated on the harmful effects of tobacco continue to use the product and why the nation continues to allow this harmful drug as an acceptable social norm. Lung cancer kills more people each year than ovarian, prostate, breast, and colon cancer combined, which equates to 1 in 3 Americans diagnosed with this type of cancer. Cigarettes are the main contributor accounting for 90% of lung cancers in the U.S. People who smoke are 15-30 times more likely to be diagnosed with lung cancer as compared to those who do not. This literature review focuses on adult men aged 45 and older in New York diagnosed with lung cancer. To draw a conclusion suggesting whether environment, social pressures, or personal behaviors are individual or combined contributors should not shadow the deadly results of this disease. Recognizing the importance of health and reducing mortality due to lung cancer should be the primary goal of health prevention.

Presentation Type and Session: Poster III

Chelation Therapy for Alzheimer's Disease

Samantha Williams and **Aubrey Wilkins**, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

Alzheimer's disease, which accounts for up to 60 to 80 percent of dementia, is a progressive neurodegenerative disease that negatively impacts a person's memory and intellectual abilities. It is estimated

that 5.2 million people have Alzheimer's disease in the United States, resulting in an increased need for effective therapies. Chelation therapy, a form of complementary and alternative medicine, is a treatment for preventing the progression of Alzheimer's. Chelation therapy involves the use of chelating agents such as clioquinol, which block metal ions from interacting with other molecules in the body. Although often used to treat heavy metal toxicity, chelating agents have been shown to reduce beta-amyloid levels, high levels of which are indicated in Alzheimer's disease. A pilot phase 2 clinical trial published in the Archives of Neurology tested the effects of clioquinol on patients with moderately severe Alzheimer's disease. The study was a double-blind, placebo-controlled, parallel-group randomized trial, testing thirty-six people over thirty-six weeks. The results of our study found that those treated with clioquinol experienced minimal intellectual deterioration, while those on the placebo experienced a significant worsening of scores, based on the Alzheimer's disease Assessment Scale. Furthermore, those treated with clioquinol had decreased levels of plasma beta-amyloid, whereas the levels increased in those in the placebo group. The success of this trial indicates a greater need for research on chelating agents in the treatment of Alzheimer's disease. This will ultimately lead to more effective treatment options for those affected by Alzheimer's.

Presentation Type and Session: Poster II

Detrimental Slumber

Raymona Bell, HEW 411: Critical Issues in Health and Wellness
Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

The objective of Healthy People 2020 is to increase the percentage of persons with symptoms of obstructive sleep apnea that seek medical evaluation. Obstructive sleep apnea is a serious sleeping disorder where breathing repeatedly stops during sleep due to complete or partial blockage of the upper airway. In 2005-08, approximately 25% of people with symptoms of sleep apnea sought medical evaluation. By improving the percentage of individuals who seek medical evaluation, potentially 28% of those suffering from obstructive sleep apnea could receive treatment. In doing this, there has to be an understanding as to why many fail to seek medical help and what contributes to the development of sleep apnea. An estimated 100 million individuals suffer from obstructive sleep apnea and about 80% are still undiagnosed. The target population is men age 30 and older within the United States. Examining the relationship between age, low physical activity, and life style choices can suggest the chances of developing obstructive sleep apnea. One in four men in the US suffers from obstructive sleep apnea. Approximately 1 in 25 men between 45-65 years will suffer from this disorder. My literature review delineates ways in which Healthy People 2020 can increase the proportion of men in the topic age group who experience symptoms of obstructive sleep apnea to seek medical evaluation thereby improving physical health and life style choices.

Presentation Type and Session: Poster I

DHA: An Important Essential Fatty Acid to Delay Onset of Cognitive Impairment

Heather Kelleher and **Lindsey Vonreyn**, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

Alzheimer's disease, a neurodegenerative disorder, is characterized by progressive memory loss and ultimately the impairment of cognitive function. We wanted to find what causes memory loss and cognitive impairment that ultimately lead to Alzheimer's disease and conducted literature search, reviewed articles on the subject and present our findings on the present poster. DHA is an omega-3 essential fatty acid, appears to exert a role in membrane fluidity and long-term potentiation of neurotransmission that is a process for memory function. This means DHA supplementation could play a possible role in alleviating the symptoms or even delaying the onset of Alzheimer's and/or other forms of cognitive impairment. The expansion of knowledge in the area of lipid biochemistry does suggest that Alzheimer's is indeed, associated with brain lipid defects. It has been shown that there are decreased levels of DHA and other fatty acids in the phospholipids of brain cells of those suffering from Alzheimer's and other forms of cognitive impairment. It is important to note that aging itself has no influence on fatty acid composition of the brain cells, in other words, our brain does not deteriorate due to age, but rather because of an inadequate consumption and/or metabolism of essential fatty acids (in particular, DHA). A longitudinal study conducted with four groups of Alzheimer's disease at different severity with omega-3 fatty acid supplements showed that there were decreased plasma levels of omega-3 in the Alzheimer's disease groups as compared to control group. Based on these results, it is understood that there is no actual cure or reversal of Alzheimer's but there are certain remedies that can retard cognitive decline, and alleviation of symptoms by DHA supplementation.

Presentation Type and Session: Poster II

Do it for the Kids

Samaleh Kahin, HEW 411: Critical Issues in Health and Wellness
Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Parenting plays a significant role a child's life and influences health behaviors. According to Healthy People 2020, 82.1% of adolescents aged 12 to 17 years who participated in extracurricular or out-of-school activities during the past 12 months had parents who reported usually or always attending events and activities in which their children participated. Healthy People 2020 aim to increase parental participation by ten percent. The main reasons parents cannot attend events and activities in which their children participate can be influenced by determinants such as socioeconomic status, time management, and physical environment. Socioeconomic status plays a significant role influencing poor environment, education, and poverty, thereby affecting a parent's means to support their child. Time management is a considerable

contributor to this health issue as parents have work obligations that prohibit time spent with their children for extracurricular activities. Physical environment plays a significant role for families that live in poor environments. Children in disadvantaged neighborhoods are potentially exposed to negativity such as gang activities and violence. The purpose of this study includes the review of current literature to determine the factors that would enable parents to improve parental participation in child-centered activities and events.

Presentation Type and Session: Poster I

The Effects of Telomeres on Aging and Disease

Elizabeth Hartz, NFS 330: Integrative and Functional Nutrition
Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

The purpose of my research is to review the literature on telomere and find its effects on aging/disease. Telomeres are the protective ends on our DNA at the end of chromosomes from destruction. Every time our DNA is replicated, the telomere end is shortened. Without a particular enzyme, called telomerase, to add the telomeres back onto the ends of the DNA, the DNA eventually is unable to replicate and the cell dies. Recent research showed the relationship between telomere and aging and diseases such as cancer. When the protective telomere is no longer available, DNA's ends get fused together or rearranged, where cancer stems from. DNA replication begins in the middle of the strand, and there are 2 strands, the leading and the lagging. The leading strand gets completely replicated without an issue. Meanwhile, the lagging strand becomes shortened because it goes against the 5' to 3' flow. RNA has to compensate by beginning the copying process with cutting a few pairs out. Once this happens after several cell divisions, the cell becomes obsolete and dies, or potentially becomes cancerous. It is hypothesized that by extending telomere length, we can prolong life.

Presentation Type and Session: Poster II

The Efficacy and Safety of Homeopathic Traumeel® vs NSAIDs in Pain Management and Healing

Kerry Keyes and **Christina DiFrancesco**, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

Recently the over-the-counter homeopathic treatment with Traumeel was pulled from shelves in the United States and Canada in response to a class action lawsuit regarding the labeling of the product and claims that there was not enough evidence based studies to prove its effectiveness. Traumeel has been sold in oral, topical, ointment and injectable forms. The purpose of our research is to examine the existing studies investigating the effectiveness and safety of Traumeel as compared to non-steroidal anti-inflammatory drugs (NSAIDs). Research consisted of reviewing multiple well-designed studies that focused on treatment of acute injuries using Traumeel

as compared to a placebo or conventional method of treatment. Our findings suggest that Traumeel is as effective and has less adverse effects than NSAIDs used in conventional management of acute injury related pain and inflammation.

Presentation Type and Session: Poster I

Fecal Microbiota Transplant: An Alternative Approach to Treating Clostridium difficile Infections

Melissa Rosenburg and **Mary Gleason**, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

Clostridium difficile (*C. difficile*), a Gram-positive, rod-shaped bacterium found in soil, air, water, and feces – is an opportunistic pathogen responsible for antibiotic-related diarrhea. Antibiotic treatments, while fighting pathogenic microorganisms, often diminish healthy microorganisms normally present in the gastrointestinal tract allowing *C. difficile* to establish dominance. After growth, *C. difficile* produce toxins that cause inflammation of the gastrointestinal tract and resultant diarrhea. Because *C. difficile* is able to form spores resistant to antibiotic treatment, such treatment for an initial *C. difficile* infection typically does not induce a durable response in approximately 15-26% of patients. Recently, *C. difficile* infections have increased in severity, rates of occurrence, and resistance. Fecal Microbiota Transplantation (FMT) offers an alternative approach for patients with recurrent *C. difficile*. In this procedure, a stool sample is collected from a healthy, prescreened donor. The prepared infusion is then administered to a patient through such methods as colonoscopy, enema, or nasogastric tube. A review of the literature was performed in February 2015 using a MEDLINE search for “fecal transplantation”. According to the studies found, an overwhelming majority of patients with *C. difficile* experienced resolution of symptoms. The promising results of this review will be outlined and discussed in our poster presentation.

Presentation Type and Session: Poster I

Fungus Among Us: A Look at Medicinal Mushrooms for the Prevention and Treatment of Cancer

Cara Fiasco, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

Medicinal mushrooms have been used widely throughout history, particularly in Traditional Chinese Medicine (TCM). I reviewed literature on mushrooms to find out the substances in certain mushrooms that are thought to provide medicinal effects on cancer. For thousands of years, mushrooms have been a staple of Asian healers to promote health and long life. While mushrooms are not uncommon in the U.S. diet, they have only recently begun to gain scientific attention in the West as therapeutic supplements with unique properties that many researchers claim may prevent or even

treat some forms of cancer, as well as other diseases. Three types of mushrooms are standouts as having medicinal qualities. These include the Maitake, Reishi, and Shitake. Mushrooms are rich in polysaccharides (complex carbohydrates), particularly beta glucans, which many researchers feel are responsible for their therapeutic effects. While each type of mushroom has their own unique qualities, it is the beta glucans, antioxidants, and phytochemicals that are being widely investigated for their chemoprotective effects. Animal studies have shown very promising effects of medicinal mushrooms, and although more clinical trials are needed on humans, there have been several studies that have shown positive effects for the use of medicinal mushroom supplements and extracts for cancer therapy. While the power of mushrooms is no secret to the people that have used them for centuries, they may very well be the medicine of the future for the Western world.

Presentation Type and Session: Poster III

Get a Clue, Fight the Flu

Kaitlyn Gustafson, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Healthy Campus 2020 seeks to increase the number of students who receive the influenza vaccine. Only 39.9% of college students ages 18-24 received the vaccine; HC aims to increase the percentage of immunized college students to 43.9%. The flu vaccine helps prevent the spread of influenza, which is prominent on college campuses. College students are hesitant to receive the shot due to various reasons. College campuses generally charge students for the flu shot, which is a strong determinant as to why students do not receive the vaccine. Also, students lack appropriate knowledge as to why it is important to receive the flu shot, believing that they will not contract the flu. However, college campuses are known for spreading influenza due to on-campus housing and the proximity of students in classrooms. It is important to educate students because approximately one-third of all flu cases during 2013 occurred in the 18-24 year old age group; in Erie County only 47% of the 18-24 year old population received the vaccine. By educating the population about the flu vaccine, the number of individuals who contract influenza will greatly decrease. The discussion of prevention and education of influenza among college students will continue through the presentation.

Presentation Type and Session: Poster I

Get the Lead Out: Education on the Importance of Reducing Lead Exposure

Tom Lauricella, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Often overlooked and underestimated, lead exposure is still affecting our youth today. We often hear about lead paint that covered household walls during the 1970s. Most people do not

realize these households still exist. Many inner city and urban neighborhoods especially those in Buffalo, NY, still have homes that contain lead based paints. According to the Erie County Department of Health, there are 9 zip codes in the city of Buffalo that are “communities of concern”. Lead exposure negatively affects the cognitive, nervous, and physical development in young males ages 1-6. According to Healthy People 2020, 3.37 males aged 1-6 were affected by lead exposure, either by lead based paints or lead saturation in the soil. The overall goal is to reduce exposure by ten percent. Education is very important in these situations because parents should understand the dangers in their home. The goal of this project is to inform the public, and parents in particular on ways to remove lead based paints from their homes so their children are not exposed and can live a healthy life.

Presentation Type and Session: Poster IV

Get Screened for Prostate Cancer: It Can be a Life Enhancer

Michael Burgard, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

With a world full of increasing amounts of many forms of cancer, prostate cancer is a leader in death for men over the age of 40. Cancer screening tests have been implemented to help diagnose early stages of prostate cancer. Healthy People 2020 has made it their objective to create efforts to increase the proportion of men who will discuss the advantages and disadvantages of the prostate-specific antigen (PSA) screening test. In 2010, an estimated 14,840 men were thought to have prostate cancer in New York State alone. Of these New York men, married Caucasian males are less likely to have prostate cancer than single men and those of different ethnicity. Determinants in this population and the lack of prostate cancer screening include education, family history, and pride. According to the American Cancer Society, it has been reported that 1 in 4 men who are diagnosed with prostate cancer die. If healthcare providers increase the amount of education to their male patients, encourage behavioral changes based on family history, and those patients put aside their pride, it is likely that an early diagnosis of prostate cancer will enhance the lives they live. Other prostate cancer screening practices will be addressed during the poster presentation.

Presentation Type and Session: Poster I

Health at Stake: Drug Resistant Campylobacter and Antibiotic Use in Livestock

Marilyn Merola, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Americans are warned about the dangers of pathogen resistance that can develop from overprescribing and misusing antibiotics. However, more than 80% of all antibiotics produced by the United States are used in animal agriculture. Farmers

value the antimicrobial's ability to promote growth and manage disease outbreaks amid livestock. With an annual increase in the prevalence of antibiotic-resistant illness nationwide, it is questionable whether or not antibiotic use in Concentrated Animal Feeding Operations (CAFOs) is a practice that is doing more harm than good. Campylobacter is a foodborne pathogen that has grown resistant to fluoroquinolone antibiotics, specifically ciprofloxacin and azithromycin. While Campylobacter can affect any individual, children under the age of five are most susceptible. Healthy People 2020 is concerned with reducing cases of campylobacteriosis from 12.7 to 8.5 per 100,000 population. Great emphasis is placed on proper handling of food and practicing good hygiene to prevent the onset of Campylobacter illness; more so, the Centers for Disease Control and Prevention recommends following four steps to protect food from pathogens – clean, separate, cook, and chill. This is a literature review on the correlation between antibiotic use in CAFOs and drug-resistant illness particularly caused by Campylobacter among children.

Presentation Type and Session: Poster IV

The Healthful Effects of Drinking Red Wine

Kathleen Norstrand and **Kelsey Bukowski**, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

Drinking moderate amounts of red wine on a daily basis has been known to give some healthful effects on anti-aging, heart disease, and periodontal health. We wanted to answer the question of what made red wine healthy drink and reviewed research articles on the beverage. We found red wine contains antioxidants, such as flavonoids or a substance called resveratrol, an anti-aging substance renders heart-healthy benefits. Studies showed that resveratrol controls the function and longevity of cells by working on the SIRT1 gene. The American Heart Association states that grapes, grape seeds, and red wine contain polyphenols, flavonoids, and antioxidants that all aid in preventing inflammation and heart disease. Other studies showed that the amount of these phytochemicals in red wine give the same benefit as one hour exercise in the gym. Red wine also helps inhibit the bacterial growth in the biofilm of one's mouth which helps prevent dental carries and gum disease. The overall benefits from drinking a single glass of red wine daily can help us enjoy longer, healthier and happier life. Cheers!

Presentation Type and Session: Poster IV

Held Mentally, Trapped Physically

Daniel Gilbert, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Healthy People 2020 aims to increase the proportion of juvenile residential facilities that screen admissions for mental health problems. It was found that 58% of facilities held screening admissions in 2006. Males between the ages of 18-20 make up

the majority of those living in these facilities. In 2011, there were approximately 3,418 African-American males, ages 18-20 living in juvenile residential facilities in the United States; 1,731 of which were living in New York State. The lack of mental health screenings upon admitting a patient into a residential facility leads to a continuation of unidentified problems. Limited initial diagnoses could lead to lack of needed care and an increase in potential mental health problems. Crime and violence directly relate to mental health problems. Most inmates incarcerated in the United States have been diagnosed with some type of mental health issue. Prison itself can cause many people to develop such problems. Residential facilities and health programs should collaborate to provide mental health screening for juveniles. If mental health screening was mandatory we could possibly see a decrease in young adults being sent to these facilities. This problem will be explained more in depth through the presentation.

Presentation Type and Session: Poster II

I Eat When I'm Unhappy and I'm Unhappy When I Eat

Alexandra Opera, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Eating disorders are found to be very common amongst young females. These life threatening disorders such as anorexia nervosa, bulimia nervosa, and binge eating disorders are what a majority of young females between the ages of 10-18 years are engaged in. Research suggests approximately 80% of 10 year olds are afraid of being fat and about 50% have better self-esteem if they are dieting. These thoughts and behaviors can be brought on due to sociological, psychological, and genetic determinants. After engaging in unhealthy eating habits, an individual is affected both physically and emotionally. They are also more prone to health problems such as illnesses, diseases, and even death. HP 2020 seeks to reduce the proportion of adolescents who engage in disordered eating behaviors in an attempt to control their weight. Research indicates that prevention is important when aiming to improve the rates of this health problem. In the case of eating disorders, prevention is crucial due to it being more difficult to treat those who are already deeply engaged in a disordered eating lifestyle. Having a better understanding of the determinants that contribute to eating disorders will help to discover the proper prevention methods. This presentation will further describe eating disorders among young females 10-18 years.

Presentation Type and Session: Poster I

I'll Rise...But I Won't Shine

Arisbel Gil, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

The goal of Healthy People 2020 is to improve the nation's health by providing data on health problems, health improvements, and

increasing public awareness. One objective to reach this goal is to reduce the proportion of students who report that their academic performance was adversely affected by sleep difficulties in the past 12 months. The health problem associated with this objective is that students put themselves in a position where they become sleep deprived. For example, 67% of students use their cell phones at night, which could reduce time needed for sleep. When one experiences sleep deprivation, one not only suffers fatigue and daytime sleepiness, but also the ability to learn, memorize, and retain information. Students do not take into consideration the effects that sleep loss can have on their academics such as not being able to follow through with their daily schoolwork and assignments, as well as the lack of information that they are able to memorize. Sleep loss impairs neurocognitive and psychomotor performance, which are important for the fundamentals of academic performance. Students are in a phase where learning, memorizing, and processing are crucial in academic achievement and lack of sleep has a major effect on this. What can be done to help improve students' sleep habits? The poster presentation will further discuss potential changes students can implement to help reduce the proportion of those who report that academic performance was adversely affected by sleep difficulties.

Presentation Type and Session: Poster II

Is Excessive Drinking Really That "Cool"?

Janine Thompson, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

It is estimated that 22 million Americans struggle with an addiction problem; the majority of those who suffer are not aware of their addiction. Deaths that contribute to excessive drinking are on the rise. Alcohol addiction stems from many issues including genetics, the environment, and economic factors. This is a continuing problem especially among college students. According to Healthy People 2020, approximately 79,700 deaths are associated with the harmful effects of excessive alcohol use. Researchers are trying to emphasize the negative health effects and social consequences that are involved with excessive drinking. Some of these consequences can later lead to mental disorders, alcohol dependence, and eventually, death. This study particularly focuses on college females between the ages of 17-20. According to Monitoring the Future (MTF), almost 50 percent of college females were previously involved in binge drinking during their high school years. The purpose of this study is to closely examine this developing epidemic among the female college population. Excessive drinking is causing young adults to make poor decisions affecting all areas of their lives. Sadly, this may end in their death.

Presentation Type and Session: Poster III

It's a PT

Brandon Carmouche, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Geriatric care is care of the elderly population, both physical and mental. There is a very low percentage of physical therapists with geriatric certification, which is problematic because many members of the elderly population benefit from physical therapy. Assisting the population in performing simple functions such as reaching or bending are prime benefits of physical therapy. What limitations exist preventing physical therapists from obtaining their geriatric certification? According to Healthy People 2020, in 2009 only 0.6% of physical therapists were certified in geriatric care. According to the American Board of Physical Therapists, in 2014, Delaware State had a total of 90 physical therapists; only 9 were certified in geriatric care. Research suggests contributing to the problem are the fear of liability, lack of certification prerequisites, and limited full health care coverage in the elderly population. Such casual factors are important because they can prevent the elderly population from attaining physical independence. The purpose of the Healthy People 2020 objective is to increase the amount of physical therapists with geriatric certification by 10%. The presentation will further explain the factors associated with the lack of geriatric certification among physical therapists.

Presentation Type and Session: Poster II

Knowledge is the Best Protection from HIV

Joseph Fortunato, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

There are many steps that need to be taken in order to prevent the spread of HIV in adolescents, who make up 50% of all newly diagnosed cases in the United States. HIV is the sixth leading cause of death among adolescents. Healthy People 2020 seeks to reduce the rate of HIV transmission among adolescents. With 4.6 new infections transmitted per 100 persons living with HIV, the target for HP 2020 is 3.5 new infections per 100 persons living with HIV. In the United States, 40% of new HIV infections occur in adolescents aged from 12-25 years. There are 20,000 new infections annually; 75% of those infected adolescents contracted the infection sexually. One determinant contributing to this is adolescents are not properly educated about the disease and types of prevention that are available to them. Additionally, adolescents share needles increasing the risk for HIV transmission. Regular testing or initial testing for HIV is not understood as a need in this young population leading to an increase in diagnoses. The poster presentation will discuss in detail different determinants of HIV transmission along with various ways adolescents can work to effectively decrease the number of new infections per year.

Presentation Type and Session: Poster II

Liver is Off the Menu: Cirrhosis

Michelle Rossi, HEW 411: Critical Issues in Health and Wellness
Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Cirrhosis is a progressive disease of the liver that can be caused by either Hepatitis B or C, or alcohol abuse. The goal of Healthy People 2020 is to increase awareness of health and decrease life disparities. Currently, 9.1 deaths per 100,000 are attributed to cirrhosis of the liver; the expected improvement is a decrease to 8.2 deaths per 100,000. In 2001, mortality in men between the ages of 55-64 was 28.2 per 100,000. As of 2014, the New York State Department of Health reported that Erie County registered 289 deaths associated with cirrhosis, which is the highest amongst all counties. Cirrhosis is difficult to detect because it is an asymptomatic disease and complications are not present until later in life.

There are several determinants contributing to cirrhosis such as alcohol consumption, nonalcoholic fatty liver disease (NAFLD), and genetic diseases. Consuming significant amounts of alcohol can damage liver tissue, leading to alcoholism and increasing the progression of the onset of cirrhosis. NAFLD is present in one-third of the population as well as in majority of patients with obesity and diabetes. Genetic diseases, such as chronic Hepatitis B, attack the liver and is easily inherited or transmitted. Cirrhosis does have preventative measures because of these determinants. It is recommended that discussing family history about alcoholism or viral hepatitis can help prepare someone to make healthier life choices while taking action to decrease the risk of developing cirrhosis. The poster presentation will further explain why cirrhosis is a growing cause of death in the male population.

Presentation Type and Session: Poster III

Living in the Hood

Shyazia Mason, HEW 411: Critical Issues in Health and Wellness
Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Homicide occurrence in urban African American communities has been a social health problem dating back to the 80s. Over the past few decades implementation of programs, laws, and education has helped decrease this issue, but homicide rates are still the highest amongst any other race in this specific group. People who live in less advantaged urban neighborhoods are often faced with homicides, which can be detrimental to the wellbeing of everyone within the community. Finding a way to decrease the overall numbers of homicide can be beneficial by providing the children and parents a sense of safety so that relevant issues such as education and positive relations can be established. Causation as to why homicide occurs at tremendous rates is still under research, but there is solid evidence as to what factors influence homicide and ways to prevent it. Healthy People 2020s intent is to decrease homicide ratings by 10%. This could be achieved with family involvement, encouragement of pro-social behaviors and lifestyles, and advancements in urban

neighborhoods. Studies conducted determined strong correlations exist with regards to specific determinants of neighborhoods, family and peers; all are vital to a positive or negative life. These risks can be altered, improved, or eliminated so that adolescents can lead beneficial and healthy lives.

Presentation Type and Session: Poster IV

Lung Cancer Mortality: Help Make a Change

Jenna Clarke, HEW 411: Critical Issues in Health and Wellness
Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

According to Healthy People 2020, lung cancer is the leading cause of death today. This is a large problem with adult men who have smoked most of their lives, which is one of the core reasons that men are diagnosed with lung cancer. The topic of this project is reducing the lung cancer death rate in Caucasian men 50-70 years of age. A contributing factor suggests men do not consistently get physicals and checkups with health care providers. This leads to late diagnosis of cancer, which makes treatment difficult and impacts outcomes. Death during surgery also increases mortality among this population. This depends heavily on the patient's stage of cancer. New York State recorded that approximately 6,900 males were diagnosed with cancer in 2014 and about 4,700 of them passed away. Aiming to improve the mortality rates by 10 percent is the goal of Healthy People 2020, which can be achieved by examining these determinants and implementing change. With the help of community members, doctors, family, and friends men will become more aware of these determinants leading to living longer healthier lives. Continued discussion through the presentation will further support the need for public health and medicine to combine efforts to reduce lung cancer mortality among this population.

Presentation Type and Session: Poster III

Make Every Breath Count!

Nicole Paszek, HEW 411: Critical Issues in Health and Wellness
Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Healthy People 2020 states that 23.2% of adults with Chronic Obstructive Pulmonary Disease (COPD) aged 45 years or older have experienced activity limitations due to chronic lung problems. COPD is damage done to the lungs over a long period of time; people who have COPD lose most if not all lung function. Men tend to be more likely to acquire COPD because of lifestyle choices and are more susceptible to the disease. Factors that can lead to COPD include a history of cigarette smoking, environment, and genetics. Cigarette smoking is the leading cause of chronic lung problems because chemicals and toxins from cigarettes are inhaled directly into the lungs. Environmental factors are the second leading cause of COPD increasing men's susceptibility to chronic respiratory diseases. Men choose careers where they constantly breathe harmful chemicals and toxins. Lastly, genetics is another leading cause of COPD, which most do not consider as diagnoses are made later in life. These three

leading factors contribute to the risk of chronic respiratory diseases and in turn lead to a decrease in activity level due to the lack of lung capacity. This presentation expects to bring awareness of the risk factors of COPD and treatment options patients have if faced with a chronic respiratory disease.

Presentation Type and Session: Poster II

My Stomach Hurts: Overdosed on Sugar

Elle Anderson, HEW 411: Critical Issues in Health and Wellness
Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

The American diet largely consists of highly processed, added sugar, low nutrient, and high calorie dense foods. The more sugar consumed, the more fluctuations occur in the blood sugar, sending the body and mind far from homeostasis. This issue is clearly identified in Healthy People 2020, where 15.7% was the mean percentage of total daily calorie intake from added sugars for the population aged 2 years and older during 2001-04. Current research recognized the increase in sugar consumption from ages 2-24 years. A healthy diet that consists of minimal sugar consumption is critical for achieving a healthy gut. Information attributing to this research was intensively collected and analyzed through scholarly peer reviewed journal articles. Digestive problems can develop from a number of factors in a person's life, one being poor dietary choices. Consumption of highly processed and sugary food compromises the good bacteria in the gut by destroying healthy microflora. Digestive problems can wreak havoc throughout the body and lead to a number of costly doctor's appointments. Feeding the digestive system highly processed and refined sugars elicits a negative and unfavorable response from the body. Having a healthy gut through reducing the consumption of sugars, and increasing consumption of whole foods is the key to healing the body. Further discussion is made on the negative effects of sugar on the digestive system in the poster presentation.

Presentation Type and Session: Poster IV

Oh Sugar! What About High Fructose Corn Syrup?

Evan Barnett, HEW 411: Critical Issues in Health and Wellness
Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

High Fructose Corn Syrup (HFCS) is currently one of the fastest growing caloric sweeteners in our foods due to its low cost and high sweetness, as compared to sucrose. Because of its popularity, HFCS has found its way into many low cost, high calorie foods and drinks such as sodas, iced teas, and other snack foods. The problem is that HFCS is not metabolized in the same way as other monosaccharides, potentially leading to adverse weight gain. Healthy People 2020 aims to make more nutritious foods more affordable, thereby eliminating these snack foods and sugary beverages as some of the only options for people on a very limited budget. This literature review will explore income levels, education levels, and access to health care in relation to choosing foods sweetened with HFCS and the correlation

to the rising levels of obesity. The primary focus is the Buffalo, NY area as the median income level is more than \$22,000 below the national average, which is \$52,762 per household per year, according to the Erie County Department of Health. The poster presentation will build a case against HFCS and recommend substitutions for the sweetener.

Presentation Type and Session: Poster IV

Omega-3: Mega Help for the Brain

Tina Jernatowski, NFS 330: Integrative and Functional Nutrition
Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

Alzheimer's disease is the sixth leading cause of death in the United States. In 2010, 2,616 New York elderly residents (83,494 United States residents) died from this incurable disease, while 13% of all New York seniors live with Alzheimer's. Alzheimer's disease is a specific type of dementia, but all dementias affect the brain negatively and result in memory loss and cognitive impairment. Omega-3 Fatty Acids have beneficial and protective effects on cognitive health in older adults. A review of literature was conducted. Scholarly and peer-reviewed clinical trial journal articles were examined to prove the correlation between omega-3 and cognitive health. Omega-3 supplements have reduced dementia symptoms significantly in older adults with cognitive impairment. Providing DHA supplementation as a supplement specifically has a significant positive effect on slowing gradual memory loss in older adults. By supplementing early (as early as in young adults), memory, reaction time, and cognitive health can be improved. Improving cognitive health by supplementing with omega-3, will reduce the risk of dementia and Alzheimer's disease significantly.

Presentation Type and Session: Poster III

Plant Foods Battle Cancer

Carly Dryden and Drew Hemler, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

Cancer is the second leading cause of death in the United States (CDC) and it is accepted that one third of cancer related deaths are linked to diet (NCBI). What is not commonly discussed are the implications of diet on cancer as a whole, not just those that are linked to diet. There is meaningful evidence that suggest cancer (not only specific types but most types) is preventable or treatable with the adoption of a plant-based diet. That is to say that there is an inverse relationship between cancer and plant based diets. The correlation between plant-based diets and decreased cancer explored in the interest of prevention, and additionally in the treatment of cancer in every one of the phases of the disease: initiation, promotion and progression. There have been many studies conducted on populations and in laboratories that purport the health restoring, cancer fighting properties of a plant-based diet. It is the intent of this presentation to bring to light evidence that identifies the therapeutic effect plant-based diets have on the prevention and treatment of

cancer. The presentation will reference only peer-reviewed sources, but will be extensive in international representation and statistical support.

Presentation Type and Session: Poster II

The Power of Foods for Prevention of Cancer

Hannah Santoro and Jason Stewart, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

The Center for Disease Control found that annually over 20 million Americans are diagnosed with cancer. We searched medical research to find how one can limit exposure to the risk to certain cancers by changing lifestyle, diet and exercise. We found that we can reduce the risks for cancer and prevent the dreadful disease eating a variety of colorful fruits and vegetables, whole grains, lean proteins, low fat dairy, some healthy oils and adopting healthy lifestyle. We also found that right food choices of variety of nutrient dense foods in balanced amounts from five food groups can strengthen the innate ability to fight back against invasion of pathogens and development of cancer cells. We recommend that consumption of generous amounts of various fresh vegetables and fruits can mitigate the harmful action of free radicals that pose a threat to our overall health. Fruits and vegetables provide plenty amounts of vitamins and minerals but also antioxidants, phytochemicals, health-giving fibers that are essential for prevention of cancer. As the Greek philosopher Hippocrates proclaimed, if you can't treat diseases with foods, you can't do it with medicines. We are what we eat.

Presentation Type and Session: Poster II

Real Men Wear Purple

Michael Agro, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Healthy People 2020 reports 179.3 cancer deaths occurred per 100,000 people in 2007, which necessitated implementing the objective of reducing the overall cancer death rate; current improvement is suggested at 10%. One cancer in particular that has a high mortality rate is pancreatic cancer (PC). About 85-90% of new cases remain undiagnosed until later stages of the cancer develop. There are several determinants that have an affect on PC. Substance abuse, misusing alcohol, and tobacco can increase one's risk factors for developing the disease. Another contributing factor is an individual's diet, as a poor diet can lead to type II diabetes, a known causal factor of PC. A final determinant is the environment in which an individual lives or works. Being exposed to different chemicals can cause complications in the pancreas thereby increasing risk for cancer. This literature review will focus on New York State males aged 65 and older because of their greater risk for developing PC. The presentation examines conclusions and recommendations suggested as a result of current research to

determine the viability of the aforementioned determinants effects on pancreatic cancer.

Presentation Type and Session: Poster I

Role of Complementary Therapies in Mental Health: Depression and Psychosis

Anna Copeland and Jenna Lynn, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

According to the National Center for Complementary and Integrative Health, depression is a medical condition that affects about one in ten adults in the United States. Depression can affect an individual's mood, thoughts, behaviors, and physical health; however, the symptoms and severity of depression can vary from person to person. Depression can be treated with conventional medicine including antidepressants, psychotherapy, and electroconvulsive therapy, but complementary alternative medicine (CAM) is also used. CAM therapies that are effective in the treatment of mood disorders include omega-3 fatty acids, s-adenosylmethionine (SAMe), meditation, and exercise. The purpose of our research is to find if scientific evidence exists and such evidence warrants these therapies for treatment of mental health disorders. Our findings suggest adequate intake of omega-3 fatty acids have a preventative role in depression. SAMe has been proven to be safe and effective for the treatment of depression. Meditation and exercise have both been found to reduce symptoms of depression.

Presentation Type and Session: Poster V

The Role of Genetics and Environmental Factors on the Risk of Breast Cancer

Laila Elnashef, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

With 1 million new cases in the world each year, breast cancer is the commonest malignancy and the second leading cause of cancer death in women, exceeded only by lung cancer, comprises 18% of all female cancers. According to the American Cancer Society, Breast cancer is the most common cancer among American women and the death rates from breast cancer have been declining since about 1989, with larger decreases in women younger than 50. These decreases are believed to be the result of earlier detection through screening and increased awareness, as well as improved treatment. With the fact that there is no sure way to prevent breast cancer, There are things you can do that might lower your risk., such as changing risk factors that are under your control like a diet and life style which might be areas where you can take action, or having better understanding of the role of genetics on the risk of breast cancer .which suggest the need for having more information about genetic predisposition of the breast cancer and the role of environmental factors(diet and life style)on the risk of breast cancer. We conducted a search of MEDLINE for the terms BRCA1, BRCA2, breast cancer,

environmental factors, diet and life style, risk assessment, and genetic testing. We reviewed abstracts and relevant randomized and prospective studies that included very high-risk patient groups and BRCA mutation carriers. These data provide strong evidence that the risk of breast cancer associated with some common genetic variants may vary with environmental risk factors.

Presentation Type and Session: Poster III

Search and Destroy: Disordered Eating Among Adolescents

Brad Fedele, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Approximately 11 million Americans suffer from some kind of eating disorder; to understand how the prevalence rose to that level, we must understand where eating disorders begin. Eating disorders are serious diseases that must be treated, diagnosed, and monitored properly from a medical and mental health perspective. The prevalence of disordered eating behaviors in adolescents ages 14-19 has increased over the past several years, leading many to believe that the population of Americans with eating disorders will continue to rise. Healthy People 2020 aims to reduce the prevalence of disordered eating behaviors among males and females in this age group in hopes of reducing the prevalence of eating disorders in the future. Recently, 7% of adolescent males and 13% of adolescent females reported some type of disordered eating behavior in attempt to change their weight. Society and the media have shown to negatively affect adolescents' self-esteem regarding their body image, resulting in the engagement of disordered eating behaviors. The sooner one gets help, the greater the likelihood that their health will improve. The presentation examines disordered eating behaviors with adolescents and the interrelated factors such as causes, signs, symptoms, and the means of getting help.

Presentation Type and Session: Poster IV

Sober Up 101: A Crash Course in Buzzed Driving

Alexis Weigel, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Over 3 million college students have admitted to driving under the influence of alcohol. This on-going issue has been highlighted in Healthy Campus 2020s objective to reduce the proportion of students who reported driving after consuming alcohol in the last 30 days. Multiple studies have been conducted involving college students and how different aspects of their campus, community, and life affect their decision making when it comes to impaired driving. One determinant affecting whether a college student decides to drink and drive is their environment. Some students are not exposed to drinking alcohol until they attend college and most will do just about anything to fit in. Another factor influencing a college student's chance of drinking and driving is genetics. Lastly, a major determinant affecting whether or not a college student drinks

and drives depends on what means of transportation their college or university has available. Through this literature review, I will explain why drinking and driving continues and recognize potential suggestions to improve a student's outcome associated with driving under the influence of alcohol.

Presentation Type and Session: Poster II

Stages to Excellence: Early Intervention

Asia Ceasar, HEW 411: Critical Issues in Health and Wellness
Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

One would say access to education is a birthright. The level of education one achieves is based on their competency in literature, mathematics, history, sciences, and their ability to interact on social and emotional levels in a school setting. Early interventions are essential to the foundation of a child's educational journey. According to Healthy People 2020, 91% of children received early intervention services in home or community based settings. National legislation makes it possible for children with disabilities aged birth through two years to receive early intervention services. The number of disabilities with which a child could be diagnosed is vast but early intervention allows parents and health care professionals to approach a child's educational journey with the right tools. The issue related to increasing the proportion of children who receive early intervention is educating new parents, families and care givers on the stages of development and the signs that a child is not reaching milestones during the suggested appropriate age ranges. The availability of early intervention programs throughout New York City and State are plenty. This project will identify said programs and through proper evaluation suggest achievable implementation strategies.

Presentation Type and Session: Poster I

Starving for Perfection

Iesha Hamilton, HEW 411: Critical Issues in Health and Wellness
Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

In today's society thin is in. Females are constantly compared to an unrealistic ideal of a woman and as a result are harming their bodies physically and their minds psychologically in order to fit into what is seen as the "perfect woman." According to Healthy People 2020, in 2009, 14.3% of adolescents engaged in disordered eating behaviors in an attempt to control their weight. These behaviors ultimately lead to eating disorders such as anorexia nervosa, bulimia nervosa, and binge eating. Statistics indicate anorexia nervosa is the 3rd most common chronic illness amongst the adolescent population. Causal factors that contribute to this problem include social pressures, parental influence, and depression. The compilation of these factors place adolescents' health at risk for societal approval. The objective of Healthy People 2020 is to reduce the proportion of adolescents with eating disorders. Recommendations made to help adolescents deal with eating disorders include surrounding themselves with positivity, building a positive body image, and

seeking professional help, if needed. The presentation will further explain the importance of reducing the proportion of adolescents with eating disorders.

Presentation Type and Session: Poster II

Swallowing Disorders in Elderly Patients

Anna Gordon, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Theresa Cinotti, Speech-Language Pathology and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

The elderly population is one of the fastest growing demographics in the United States. This demographic is expected to make up almost a quarter of the population by the year 2020. As people begin to live longer, the likelihood of developing chronic illnesses and other health problems that may require skilled care increases. One such health problem that affects the elderly population is dysphagia, or swallowing disorders. According to the American Speech Language and Hearing Association (ASHA, 2015), "speech-language pathologists play a primary role in the evaluation and treatment of infants, children, and adults with swallowing and feeding disorders." The normal swallowing process occurs in three stages: oral, pharyngeal and esophageal, and difficulties can occur at various stages. Proper detection, diagnosis and treatment of dysphagia is a key component in maintaining quality of life and avoiding related health issues in elderly patients. By exploring various studies, this presentation will discuss the effects and treatment of dysphagia in the elderly.

Presentation Type and Session: Poster I

Teen Mom: Niagara County

Amanda Nassar, HEW 411: Critical Issues in Health and Wellness
Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

The Healthy People 2020 objective of reducing pregnancies among adolescent females aged 15 to 17 years has an anticipated improvement of 10 percent, reducing the rate to 36.2 per 1,000. This change is necessary due to the negative repercussions associated with these young women getting pregnant and giving birth at such a young and inexperienced age. Without proper education on prenatal and maternal health, the children of these young mothers have a poor start with health and a challenged living environment. There is a concern for the young women aged 15 to 19 years in Niagara County, NY, as the pregnancy rate is 48.3 per 1,000. Three determinants contributing to this problem are lack of education, low family socioeconomic status, and limited access to health care. The author of this literature review seeks to discover causal factors for contributing to the disconnect between the education taught in schools and the lack of and/or poor communication between family members regarding the potential risks of pregnancy at such a young age. Through review of current literature, conclusions are drawn as to why this health problem is prevalent in Niagara County.

Presentation Type and Session: Poster I

Tell Us Your Story

Danielle Fletcher, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

Breast cancer is the most commonly discussed form of cancer within the US, leaving all other serious cancers mysterious and unexplored. In 2011, cervical cancer infected about 12,109 US women and killed 1 out of 3 of those women. The objective of Healthy People 2020 is to increase the number of females aged 21 to 65 years who receive cervical cancer screenings. According to HP 2020, in 2007, there were 8.3 new cases of invasive uterine cancer per 100,000 females, with an anticipated improvement of 7.5 new cases. African American women experience higher rates of incidence and mortality in comparison to other races. This may be attributed to the community in which they live affecting their income, resources offered, and knowledge gained pertaining to cervical cancer. Women who reported to have low income potentially lacked accessibility to healthcare that could cover the cost of screening. Lack of knowledge is directly correlated to the development of cervical cancer. Statistics show that women with high income and education levels are more likely to receive a cervical cancer screening. Mississippi is geographically reported as one of the highest ranked states of women with cervical cancer. This presentation will explore the determinants of cervical cancer screenings with regard to race, age, and geographical location.

Presentation Type and Session: Poster III

They Say People Are Crazy: We Have No Idea

Kelsey Broadley, HEW 411: Critical Issues in Health and Wellness

Faculty Mentor: Professor Barbara Olivieri, Health and Wellness

According to Healthy People 2020, the percentage of individuals over 18 currently treated for serious mental illness includes 65% of the population. The goal is to increase treatment by 10%. People suffering from serious mental illness can be very violent and dangerous without proper treatment, which is often necessary for these individuals in order to live a healthy life. Schizophrenia, bipolar disorder, and many other illnesses can be a threat to those suffering, and a potential threat to those around them. The Center for Disease Control and Prevention states that 71% of workers with mental illness never sought help from a medical or mental health specialist for their symptoms. In reviewing current statistics and scholarly research, studies suggest there are three health determinants that affect serious mental illness including race, ethnicity, and gender. This presentation discusses why treatment is not sought by more individuals that suffer from serious mental illness. Early diagnosis, followed by treatment plans can potentially prevent worsening of an individual's illness.

Presentation Type and Session: Poster I

Turmeric: "The Golden Goddess" Medicinal or Myth?

Mary Jo Hilferding, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

Ayurveda Medicine, the holistic healing system of India has been using turmeric (*Curcuma longa*) dating back to 250 BC. The most well known medicinal action of turmeric is its anti-inflammatory effect that may be comparable to pharmaceutical medicines like non-steroidal anti-inflammatories (NSAID). Turmeric is also associated with antioxidant and antimicrobial properties. The purpose of my research is to identify turmeric's effectiveness to mediate inflammation. Turmeric contains the active ingredient curcumin that is responsible for its vibrant yellow color and medicinal effects. Research has found anti-inflammatory activity in curcumin/turmeric. Curcumin has been shown to regulate numerous transcription factors, cytokines, protein kinase, adhesion molecules, redox status, tumor necrosis factor, prostaglandins, nitric oxide, interleukin-12 and enzymes that are associated with inflammation. Inflammation plays a major role in many chronic diseases such as cardiovascular disease, cancer diabetes, inflammatory bowel disease, and arthritis. The focus of this research is to examine peer reviewed literature and studies that will shed light on Turmeric's effect to be a legitimate medicinal agent or whether it is just a colorful culinary spice. Turmeric is considered safe for most adults and preliminary findings indicate that it may have anti-inflammatory properties.

Presentation Type and Session: Poster IV

The Use of Nutrition Education in Improving the Quality of Life of Teenage and Young Adult Cancer Patients

Stephanie Busse, Dietetics and Nutrition

Faculty Mentor: Professor Carol DeNysschen, Dietetics and Nutrition

Cancer diagnosis during teenage years interrupts an important stage of development. Peer contact, self-efficacy, and control over care are critical, even once in remission. Healthy lifestyle choices can reduce incidences of cancer recurrence, second primary cancers, and other chronic diseases, and can improve quality of life. Developing successful teaching methods for teenage and young adult cancer survivors is essential. This project studied the impact of ten weeks of nutrition education and fitness instruction on nutritional choices, fatigue levels, and quality of life in teenage and young adult cancer survivors. Five subjects, ages 17 to 19, met weekly over a ten-week period for nutrition education, physical exercise, and individualized goal setting. Education was delivered through handouts, verbal instruction, discussion, and goal exercises. Quizzes were used to evaluate knowledge retention. A physical fitness test was conducted at weeks one and ten using the Cooper Institute Protocol to evaluate strength, flexibility, and cardiorespiratory fitness.

Supervised goal setting emphasized small, achievable goals to increase self-efficacy and achieve long-term behavior maintenance. At the end of the intervention, subjects had gained an average of 3.44 pounds of lean body mass, demonstrated improved fitness levels, and reported improved quality of life on the Peds-QL 4.0 survey tool. Beginning and ending dietary intake records covering three days were analyzed for energy and protein intake, and showed that participants consumed more calories to support their increases in lean body mass. The subjects reported greater self-efficacy for physical activity. Moreover, there were unquantifiable improvements observed in participation levels, demonstrations of peer support, and self-confidence. Appropriate nutrition education is essential in guiding teenage and young adult cancer survivors toward a healthy adult lifestyle. This project demonstrated the improvements in body composition, quality of life and fatigue that can result from nutrition education and physical conditioning. Further research in this area will help validate these findings by increasing both sample size and quantitative data.

Presentation Type and Session: Poster III

Vitamin B12 and Folic Acid on Brain Function and Cognitive Activity

Blair Boller and Christine Capruso, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

Folic Acid and Vitamin B12 have essential roles in the Central Nervous System (CNS) functions. They are essential water-soluble vitamins. The purpose of our research on these nutrients is to find their effects on brain and cognitive function by reviewing the peer-reviewed journal articles on the relationship between these two nutrients and their effects on CNS function. We found that deficiencies of Vitamin B12 and Folic Acid in the body caused a decline in brain and cognitive function. They are critically essential for the methionine-synthase mediated conversion of homocysteine to methionine, which is essential for nucleotide synthesis and genomic and non-genomic methylation. The folate cycle, which synthesizes methyl groups, is also involved in the synthesis of purines and thymidine, and therefore, of nucleotides, DNA, and RNA. In conclusion, Vitamin B12 and Folic Acid play a significant role in preventing development of CNS disorders, mood disorders, and dementias. Recommended daily intakes of 2.4 mcg and 400 mcg for Vitamin B12 and Folic Acid, respectively, are adequate to achieve full brain and cognitive potential at all ages.

Presentation Type and Session: Poster IV

Wading Through Dietary Supplements on Regulations and Claims

Elizabeth Davis and Rebecca Pitman, NFS 330: Integrative and Functional Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

The popularity of dietary supplements (DSs) in the United States

has dramatically increased. Under the current U.S. law dietary supplements can be sold to consumers without first demonstrating safety and efficacy, as is required for pharmaceutical drugs. Our research will discuss how DSs are regulated and what are the possible concerns and problems for the consumers. The Federal Government regulates DSs under the Dietary Supplements Health Education Act (DSHEA) of 1994 through the FDA. Currently, the FDA regulates supplements as foods rather than drugs, and therefore the DSHEA severely limits the FDA's ability to regulate DS products. Recently, media outlets have been promoting unsubstantiated claims of benefits of their products manufactured without standards and strict regulation on efficacy and safety. Worse, the research findings behind these claims are not quite clear. In addition, most dietary supplements are herbs and bio-active products, and consumers often perceive them as safe for they are natural products. However, many different side effects of supplements have been reported due to active ingredients, contaminants, or drug ingredients in the DSs. Unfortunately, consumers are ultimately responsible for using ineffective and/or unsafe supplements until they get sick or have side effects. In our presentation we will be discussing how herbal products most likely should not be used as an alternative to the conventional medical therapies. It seems that changes to the regulations, and more research on DSs are warranted.

Presentation Type and Session: Poster I

What's New and Beneficial About Quinoa: A Super Grain?

Jenna Fadale, NFS 330: Integrative and Functional Nutrition

Faculty Mentors: Professor Suk Oh, Dietetics and Nutrition and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Quinoa (keen-wah) is a grain indigenous to South America and was first cultivated by the ancient Incas over 4,000 years ago. They praised it to be the "mother grain" of their society because of its highly nourishing qualities and ease of propagation. Today, modern science has uncovered more about the health benefits of quinoa than the ancient Incas could have ever imagined. There has been a great deal of interest in this "pseudo-cereal" because of its excellent nutritional value and its potential to help ward off disease. This grain crop, cultivated specifically for its seeds, boasts high amounts of healthful phytochemicals including antioxidants, flavonoids, saponins, polysaccharides, and omega-3 fatty acids. Current research has demonstrated that all of these nutrients play a crucial role in helping the body to combat disease. Quinoa is also one of the few grains on the planet that contains all of the 9 essential amino acids, making it an excellent source of high quality protein. Additionally, it does not contain any gluten, which makes it safe for those with Celiac Disease to consume. Modern science has confirmed what the ancient Incas knew thousands of years ago - quinoa truly is a super food.

Presentation Type and Session: Poster III



Working Memory in Typically Developing Adolescents

Hayley Payne, Speech-Language Pathology

Faculty Mentor: Professor Constance Dean Qualls, Speech
Language Pathology

The theoretical construct of working memory allows new information to be temporarily stored and manipulated (Baddeley, 2003). Working memory is especially important for completing tasks that require comprehension of new information. As typically developing adolescents get older, their cognitive skills (i.e., working memory) continue to develop. Good working memories allow adolescents to be successful academically because they are able to process and recall newly-presented information (i.e., class lecture, books, etc.). Working memory has largely been studied in younger and older adults, with very few studies examining working memory in adolescents. This pilot research examined how well one (1) typically developing adolescent performed on two working memory tasks. The participant was a 14-year old male with no documented language, learning, or reading disability. At the time of the study, the participant had recently completed the 8th grade. He attained age-appropriate scores on two standardized, developmental tests assessing cognitive and language abilities and completed the digit span and alphabet span tests. This presentation will report the results of this study; specifically, the participant's performance on the experimental, working memory tasks, the implications of this work, conclusions, and future directions on working memory in adolescents.

Presentation Type and Session: Poster I

Humanities

Advertising and the Destruction of Coral Reefs

Veronica Ponce, COM 450: Communication and Society
Faculty Mentor: Professor Michael Niman, Communication

My research examines the effects of advertising on coral reefs. Coral reefs are a very delicate and beautiful environment, hosting tens of thousands of different forms of marine life. My study focuses on how advertising these beautiful ecosystems as tourist destinations, without educating consumers about their delicate nature, have contributed to the destruction of these reefs. In 2004 twenty percent of the world's coral reefs were destroyed, with that percentage steadily increasing in the last eleven years. Although a great deal of the loss of these habitats are due to other causes like global warming and toxic runoff, a portion of damage still comes from direct human contact, with this damage heavily concentrated in tourist areas. Advertising showcases the splendor of the coral reefs and encourages travelers go to these marvelous places unaware that they may be destroying what has taken millions of years to form. What most of these travelers do not know is that simply touching coral can kill it. Coral is not a plant; it is a colony of marine invertebrates. Stepping on it, breaking pieces off, and accidental snags can cause the coral sever damage and eventually kill it. There is little to no education when advertising coral reefs, with these ads only serving the idea of profit. Through this research I will explain the underlying reason and long-term effects of toxic advertising on the world's coral reef environments.

Presentation Type and Session: Oral – Humanities: III

An Analysis of an Unplanned Pregnancy Through the Scope of Film

Madison Amey, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Lou Rera, Communications and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Unplanned pregnancy is a prevalent topic in the world today. It happens whether a woman is married, engaged, in a relationship, or single. Her age is of no difference, and yet, depending on all of those factors, society's reaction differs tremendously. If a woman is married, it is seen as a happy accident; if she is older, she will be okay as she has her affairs in order, and society will root for her; if she is young and not in a law-bounding relationship, society looks down upon this woman judging her. This issue cannot be solved, but it can be explained, demonstrated, and be brought into the light as something significant. That is what I intend to do with this project; raise awareness in the form of art, making the unplanned pregnancy, and the entire process that happens along the way, into something beautiful and difficult for society to judge. Through the use of film and metaphor, I plan to highlight the journey of a young couple, not

yet married, experiencing the trials and tribulations of an unplanned pregnancy. Through the use of a screenplay and storyboards, I will demonstrate how film can be used to raise awareness and turn something that many experience into an artful and beautiful process.

Presentation Type and Session: Poster I

Analysis of Wagers on College Basketball Games as Influenced by the Mafia

Andrew Gagola, SPC 426: Documentary Film Analysis
Faculty Mentor: Professor Meg Knowles, Communication

This research analyzes the 2014 documentary "Playing for the Mob," directed by Cayman Grant and Joe Lavine, which is an ESPN 30 for 30 film. It covers the dark world of sports gambling and most importantly, point shaving at Boston College in the late 1970s. I look at the production style and cinematography used in the film and the critical reactions to the film. The documentary focuses on the influence and power the mob had during that time, and how they manipulated these young innocent athletes to cover the spreads and then paid them for doing so. I compare it to the fiction film "Goodfellas" (1990) directed by Martin Scorsese, which is based on a true story, shows how dangerous these gangsters were and how they did what they wanted without police interference. They orchestrated the point shaving and would intimidate the athletes by going to the games or elsewhere. Comparing the fictional and documentary presentations of this history shows how they each focus on different aspects while telling the same story through different forms of media.

Presentation Type and Session: Poster II

Are We Not All Women?

Ciara Rollins, PHI 401: Respect, Diversity and Disagreement
Faculty Mentor: Professor John Draeger, Philosophy and Humanities

Patricia Arquette states in her acceptance speech at the Oscars that there is a wage gap between male actors and female actresses. She argues that gay men and people of color are obligated to fight for women's rights because women have fought for them. Ms. Arquette makes a good point that women issues need to be addressed but the formulation of her speech is problematic. The problem is that her speech lacks an acknowledgement of women of color as women. Her speech privileges white women. All women have rights and should obtain them no matter their color or what society's majority looks like. It is not to say that this is solely a racial issue. Rather it is that all women should receive the same acknowledgement of their accomplishments despite their color. Addressing civil issues is not an obligation despite how Patricia Arquette implied in her speech. Fighting civil issues appreciates human dignity and provides the respect that society failed to give to the minority.

Presentation Type and Session: Oral – Arts and Humanities: I

At-Risk Youth Outreach Effectiveness Analysis

Anthony Maldonado, PHI 189: Students For Sustainability
Faculty Mentor: Professor Justin Donhauser, Philosophy

In April, the 'Students for Sustainability' (S4S) is running an "At Risk Youth Outreach" through the Buffalo State Readiness program. The purpose of the outreach initiative is to make college an attractive option for students in Buffalo Schools who may not see it as an option. I come from Jamaica Queens, and I am one of the few individuals in my neighborhood to go to college. It is my personal goal to reach out to middle school and (early) high school students that come from a similar background, and show them what college is really like. With the help of the S4S, I am providing the opportunity to select "at risk" groups from local middle-schools and high-schools to: tour the college campus with chaperones, participate in college class sessions environment, view the facilities Buffalo State has to offer (the brand new workout facility, racket ball courts, pool, art and science buildings, etc.), and get a realistic view of what college and college students are like. This initiative will provide a memorable, fun, and educational on campus experience that will show them that kids like them can, and do, go on to thrive in college. My research project assesses the effectiveness of the outreach initiative. Middle school and high school students participating in the initiative are completing surveys that are being used to gather data on participant interest in college before and after the experience, on participant awareness of relevant statistics about life quality and completing a college degree, and on the effectiveness and limitations of the outreach initiative.

Presentation Type and Session: Oral – Humanities: II

Before Games Were Gold Mines

Daniel Almasi, SPC 426: Documentary Film Analysis
Faculty Mentor: Professor Meg Knowles, Communication

Before professional sports became a billion dollar industry that reflect America's capitalist economy, they reflected the fun-loving, go-getting American spirit that constantly asks, "why not?" My research on the subject of the documentary, *The Battered Bastards of Baseball* (2014), directed by Chapman Way will show that baseball was considered America's favorite pastime long before its commercial success and multi-million dollar contracts transformed a game into a gold mine. "The Battered Bastards of Baseball" relates the unlikely story of a wildly successful semi-professional baseball team called the Portland Mavericks in the 1970s. It shows the novelty of minor league professional sports in America and the incredible impact a sports team can have on a community. The Mavericks were a truly independent team, as they were never affiliated with an Major League Baseball team, unlike most other minor league teams that serve primarily as farm teams for the big leagues. The Mavericks' roster was comprised of players rejected from other minor league teams and walk-on tryouts, who were in it for no reason other than their love of the game. The Mavericks realized a great and

unexpected amount of success and amassed a cult-like fan base that resulted in sold-out crowds of faithful, enthused supporters. In this day and age, professional sporting clubs seem more like money-hungry businesses than the host of family-friendly events. Americans loved sports before going to a professional sporting event meant helping pay for a pro athlete's multi-million dollar mansion. Through an analysis of this film and other research on the subject, I hope to expose that modern professional sports are excessively capitalistic.

Presentation Type and Session: Poster III

Believe in the Fight

Paul Arzu, SPC 426: Documentary Film Analysis
Faculty Mentor: Professor Meg Knowles, communication

This project involves the analysis of the sport Mixed Martial Arts. I utilize the documentary film "Fight Church" (2014) which is about the life of Christian mixed martial artists to demonstrate their relationship to the sports world. My research draws upon the methods used by the filmmakers, Daniel Junge, and Bryan Storkel, to help persuade the viewer to see their positive perspectives on Christianity and sports. It also incorporates the views of real mixed martial artists to emphasize the influence of Christianity in the world of mixed martial arts. The project also explores conflicts in the Christianity and mixed martial arts communities, including the effects of managing emotional manhood and fostering fear through the use of religious principles. By analyzing the accounts of Christian mixed martial artists, I document the disparity between the religion and the sport, as well as between religion and sports fans. This study also shows the methods used by the directors in relation to style, the voice, and the approaches they took to present their arguments in the documentary genre.

Presentation Type and Session: Poster II

Can Women Have One-Night Stands with Self-Respect?

Maria Lema, PHI 401: Respect, Diversity and Disagreement
Faculty Mentor: Professor John Draeger, Philosophy and Humanities

Modern patriarchal society contributes to the view that women are sex objects and should use their sexuality to satisfy men. This view contributes to the double standard between men and women who engage in one-night stands. A woman who engages in occasional, casual sex with strangers is generally frowned upon because "she is not valuing herself," "she is not building meaningful relationships," and "she has low self-esteem." On the other hand, men who engage in one-night stands do not seem to face such degradation because they are "just being guys." I would like to pose the general question: Can women have one-night stands with self-respect? I suspect that they can. If this is the case, then we should also respect a woman who enjoys sex in the same way we respect a man who engages in one-night stands, despite the double standard. I will explore accounts of respect, such as Thomas Hill's, that will help

us better understand self-respect and respect for others. I conclude that the double standard regarding one-night stands is mistaken.

Presentation Type and Session: Poster III

Catch the Wave: How Has the Hallyu Wave Impacted North America?

Shatai Melvin, COM 450: Communication and Society

Faculty Mentor: Professor Michael Niman, Communication

My paper examines how the Hallyu Wave (Korean Wave), which is the popular phenomenon of Korean popular that is entrancing the world with music, TV dramas and movies, is impacting and influencing the people of North America. My research looks at how some people from Canada, the United States and Mexico developed an interest in Korean culture since the viral global spread of the “Gangnam Style” video. A growing number of North Americans now travel to South Korea because of their interest in its culture. The use of social media plays a huge role in promoting South Korean culture globally. Some people in North America have become a part of a “consumer community” that has developed from the Hallyu Wave. This “consumer community” is where people bond with one another over Korean dramas and music. Some North American companies such as the U.S. and Canadian divisions of Toyota, use the popularity of the Hallyu Wave to market products while many North Americans have adapted to the spread of Korean culture. This popularity is a direct result of the popularity of social media.

Presentation Type and Session: Oral – Humanities: III

The Detrimental Effects of Cellular Communication

John Reed, COM 450: Communication and Society

Faculty Mentor: Professor Michael Niman, Communication

Modern technology has enabled us to communicate faster and more efficiently than ever before, but this convenience comes at a cost. This paper examines the negative impacts of cellular communication on health and behavior. Research based on cross-sectional surveys and questionnaires suggests that there are correlations between heavy cellular communication and depression, anxiety, academic performance, social problems, personal problems, psychological/behavioral symptoms, and addiction to cellular communication. Furthermore, the paper addresses the potential consequences of these problems on a personal and global scale.

Presentation Type and Session: Oral – Humanities: III

Did You Just Say N-----?

Crystal Goodwin, Biology and Psychology

Faculty Mentors: Professor Joseph Nicolletti, College Writing Program and Professor John Draeger, Philosophy and Humanities

This research looks at how the “N” word is used in modern language. The goal is to bring awareness to the evolution of language by using a weighted word such as the “N” word. The

goal is to also enlighten those who wish to seek insight on why African Americans use this word yet take offense when others do. I plan to achieve this goal by using examples from modern music, literature, activists, and philosophers. Music plays a big role in the use of the word as it is often used as a scapegoat for others to use it. This research will delve in on the reasons why it may be socially acceptable to say the “N” word in a predominantly African American genre of music and why it is not acceptable amongst those outside the African American community.

Presentation Type and Session: Poster III

Directorial Style in James Marsh’s Documentary, “Man On A Wire”

Rico Argentieri, SPC 426: Documentary Film Analysis

Faculty Mentor: Professor Meg Knowles, Communication

This study looks at the remarkable event of Philippe Petit walking across the World Trade Center towers on a cable line in 1974. Through analyzing the documentary, “Man on A Wire” directed by James Marsh, I explore how Marsh creates this film using different directorial strategies. The documentary follows Petit through most of his life and shows that he ultimately accomplishing his life long goal of walking between the towers. Marsh constructs this film using both fiction and non-fiction resources. The director uses archival footage of Philippe Petit’s journey to the World Trade Center towers and photos of Petit walking across the towers. He also uses filmed reenactments and sound effects that represent fiction. I will be using Bill Nichols’ view in his book Introduction to Documentary to explain the advantages of using fiction in a documentary. My research will show that many viewers have positive reactions to this film and the directorial style Marsh uses. This project will also show that using fiction in a documentary lets the viewer more fully understand the story the director is trying to tell.

Presentation Type and Session: Poster IV

The Effects of Misogynistic Representations of Female Journalists

Sarah Minkewicz, COM 450: Communication and Society

Faculty Mentor: Professor Michael Niman, Communication

My research examines misogynistic representations of female journalists and how these representations affect their credibility in the profession. Female journalists, as well as females working in other areas of communication and media, face challenges based on their gender and appearance. Misogynistic representations of female journalists are portrayed in the media on hit TV shows such as House of Cards. In this show a female journalist crossed ethical boundaries when she has an inappropriate relationship with a source in order to advance in her field. This TV show makes it seem as though woman journalists regularly engage in such relationships. This leaves negative perceptions involving female journalists and makes it difficult for them to appear credible and ethical. My paper explores why the media chooses to exploit the image of woman

journalists and the effects it leaves on those that decide to make journalism a career. It also explores the global impact it has on female newsgatherers and media professionals and what this means for the everyday citizen.

Presentation Type and Session: Oral – Arts and Humanities: I

Food and Health Marketing: Making Money by Misleading

Nicholas Malahosky, COM 450: Communication and Society
Faculty Mentor: Professor Michael Niman, Communication

This paper identifies and analyzes various marketing techniques and informational campaigns waged by the food and health industries. Amidst our society's epidemic of eating disorders and diet-related illnesses are various voices calling for a myriad of solutions. Some recommend an organic diet while others denounce high sugar intake, but nearly all these people and organizations have vested interests in supporting their own positions. Companies use loosely defined buzzwords such as "natural" and "sustainable" as marketing tools. Food labels are often intentionally misleading and difficult to understand for the average consumer. Internet personalities and health authors are influencing public perceptions and business decisions. Often, these voices use unscientific arguments to promote their agendas and products. For example, after an awareness campaign by rising health star Vani Hari, Subway removed the chemical azodicarbonamide from its bread. However, scientific studies support azodicarbonamide as a safe ingredient and it is present in many other foods. On one side, you have too many people counting chemicals but not understanding chemistry. On the other side, you have companies branding unhealthy options as good for you. This paper looks at the chaotic mess that is contemporary food and health marketing and attempts to recommend viable solutions for consumers.

Presentation Type and Session: Oral – Humanities: III

From the Bottom Shelf Up: Building an Informal Library

Catherine Morse, English
Faculty Mentor: Professor Aimee Levesque, English

During Fall 2014, the BSC English Department began converting a student lounge into a library. The conversion began by organizing books that had been left behind by students and/or had been donated by faculty. All books were cataloged and the former lounge is now a functioning library. The process we implemented for this library is participatory design. In *Participatory Design in Academic Libraries: Methods, Findings and Implementations*, Nancy Fried Foster describes participatory design as "an approach to building spaces, services, and tools where the people who will use those things participate centrally in coming up with the concepts and then designing the actual products" (Foster, 2012). Since this library is a student space, it is imperative for the project to include discussions

with student users on the process of the library's development and to assess their needs as well as to use user surveys to highlight areas of strength and weakness in the library. This information will also be used to inform the English Department of the library's progress. Upon the completion of my work on this project, I will provide a report to the department that will include a discussion of library science scholarship in the context of my work. To our knowledge, the Buffalo State English Department Library is the first library of its kind. In this presentation, I will discuss the process of creating a library, what I've learned about library science throughout my experience, and will explore what is planned for the library in the future.

Presentation Type and Session: Oral – Arts and Humanities: I

Geek Gatekeeping: No Girls Allowed

Joan Nobile, COM 450: Communication and Society
Faculty Mentor: Professor Michael Niman, Communication

In the past few years, the Internet has exploded with responses to female gamers, video game designers, and video game critics, most of it being overwhelmingly negative. Women have faced emotional, sexual, and physical threats of violence based on their work or opinions about video games. My research examines the issue of ongoing harassment of women in the gaming community, why it is occurring, and the widespread effects of it. My work begins by exploring some of the key figures in the community who have faced harassment, such as Anita Sarkeesian, a feminist critic, and Zoe Quinn, a game designer. I document the work they and others have contributed, the responses and harassment they have received, and the consequences of the harassment. I draw on work from media critics and contemporary researchers to examine the intersection of gender and gaming; to discuss how character representations of women in gaming may influence how female gamers are treated; and to investigate how harassment affects female gamers in the larger community.

Presentation Type and Session: Oral – Arts and Humanities: I

The Gender Glitch

Joan Nobile, Media Production
Faculty Mentor: Professor Meg Knowles, Communication

The issue of misogyny in video games is long-standing and persistent. For such a young medium, video games seem to provide a never-ending source of controversy, particularly when it comes to the treatment of women in the larger gaming community. Consider: A feminist media critic making a series of videos focusing on literary tropes used with female characters in games received an enormous backlash of harassment and threats by many in the gaming community. A game designer was accused of sleeping with male gaming journalists in return for coverage of one of her games; while the accusation was unfounded, the harassment she received from gamers was immediate and immense. In the last

year especially, female game players, designers, artists, and critics are either downplaying their roles or leaving the industry entirely due to cyber-bullying, stalking, and threats of emotional, physical, and sexual violence. My documentary, *The Gender Glitch*, will explore these issues. This 10-12 minute video documentary is about women in the video gaming community, and how they are treated in the subculture. The purpose of the documentary is to provide personal perspectives from women in the gaming community while supplementing it with knowledge from an expert in the field, as well as providing academic research to support the arguments in the film. I want to explore why the harassment is occurring, how it affects women who play games, and what people can do, if anything, to curtail its prevalence.

Presentation Type and Session: Oral – Arts and Humanities: I

Gender Inequality and Young Women in Sports

Rose Portner, SPC 426: Documentary Film Analysis
Faculty Mentor: Professor Meg Knowles, Communication

This research focuses on the benefits of young women participating in sports and the gender inequality challenges they face that keeps them from obtaining the full experience of playing sports. Women have a lot to gain from participating in sports such as confidence, motivation, teamwork, emotional, physical and mental strength. Men have had the opportunity since the beginning of organized sports to gain all of these characteristics and experience growth through sports while the discrimination against women has prevented them from enjoying the same experience. While women have come a long way in sports, it is clear there is still a lot more work to be done to reach full equality. Director Ward Serrill's 2005 Documentary film, "the Heart of the Game," which focuses on the Roosevelt Roughriders girls' basketball team, serves as an iconic example of the experiences of women athletes. This film demonstrates the many ways in which young women benefit from participating in sports and focuses on a young star player who grew up in an underprivileged situation and was able to succeed through her participation in high school basketball. I plan to discuss the case in this film in relationship to academic studies of the structured inequality experienced by women in sports and the history of women in sports.

Presentation Type and Session: Poster III

Handling Casual Racism in the Workplace

Collin Zastempowski, PHI 401: Respect, Diversity and Disagreement
Faculty Mentor: Professor John Draeger, Philosophy and Humanities

In his essay "Dignity and Defamation," Jeremy Waldron points out that though law may deter people from committing harmful actions, we cannot expect people to apply the law to their own

actions. His primary concern is the social environment, whether or not it ensures the equal dignity of each member of society. However, many racist opinions are expressed in ways that do not directly affect the social environment. For example, we often experience the opinions of racists in instances where no one is around who will be directly harmed by their comments. Though we may create laws to indicate to the racist that he or she is unwanted in our society, these laws only drive the racist underground, which does not stop the racist from expressing his or her opinions in an everyday setting. I will explore how to handle dealing with a person that expresses a racist opinion in a quotidian situation, specifically the workplace, in a way that seeks both to make a positive change in the mentality of the racist, that is, causes the racist to alter his or her views, while at the same time not lending credence to the arguments or attitudes that inform them.

Presentation Type and Session: Oral – Humanities: II

The Harmful Global Marketing of Infant Formula

Angel Waggoner, COM 450: Communication and Society
Faculty Mentor: Professor Michael Niman, Communication

As a mom-to-be, there are many topics that I'm finding more and more important to focus upon. I'm faced with endless decisions regarding birth, genetic screening, prenatal nutrition, and nursing. Since the beginning of my nine-month journey, I have heard countless times that breastfeeding has been proven to be beneficial for both mother and baby. With that in mind, I question why so many women choose formula. Certainly some children have conditions that may not allow them to properly consume breast milk, as their mothers may be facing challenges with milk production. As I conducted my research, I began to understand that the industry is capable of, and successful at, convincing mothers that this expensive and sometimes dangerous alternative is the best option for them. This is particularly true in third-world countries where potable water to mix powdered formula is not universally available. The research I have compiled consists of information concerning the benefits of breastfeeding, the dangers of formula and the unethical marketing tactics used by the formula industry. I also examine policies put in place by various nations to promote breastfeeding over formula use.

Presentation Type and Session: Oral – Humanities: III

HockeyTwitter: How Twitter and Hockey Correlate

Brayton Wilson, COM 450: Communication and Society
Faculty Mentors: Professor Deborah Silverman, Communication and Professor Jack Karlis, Communication

The purpose of this research is to observe the rules and activity of Twitter accounts from hockey teams and also the experts who cover hockey. With sources like a social media expert of a hockey team to an NHL analyst in the field, I observe when tweets are posted, how

often are they posted, and how many people do the posts reach out to. With interviews and also research on the basic information of Twitter, I will compare tweets from the average statistics to the tweets we observe using content analysis. One subject I tried to focus on was teams and analysts tweets during the 2015 NHL Trade Deadline and how popular the tweets were and how quickly they were tweeted. The reason for this project is to observe how much of an impact Twitter has on the proverbial “hockey world” and why it is used as a source of information for many people.

Presentation Type and Session: Oral – Humanities: III

If it Bleeds it Leads: How Aggression Affects Sports

James Widger, SPC 426: Documentary Film Analysis
Faculty Mentor: Professor Meg Knowles, Communication

This study will show the increased glorification of violence and how it affects both the participants and the fans of sport. Today’s professional athletes are held to a high standard and are expected to play their hearts out, but what happens when they play too hard? For my research I viewed Alex Gibney’s film, “The Last Gladiators” (2011), and will examine it in relation to articles about the sociological impact of the aggression/violence in sports. Dating back to the gladiators, there has been a love for violence in sports, and it is still rampant in modern society. This interest in violence is reflected in the media on almost a daily basis whether for good reasons (a big hit to win the game) or terrible reasons (increase in spousal abuse, suicides, assaults). Some athletes have a hard time getting their mind away from the game and as a result their aggression translates into their personal lives. In the film, Chris Nilan, a hockey enforcer, has a hard time keeping his fighting on the ice and it shows in struggles that soon follow. Ray Rice has also been featured in headlines lately after viciously punching his wife. Such problems can only be solved by implementing more rules and giving out more fines, but most fans believe that it will ruin sport. I hope to show that both psychological and sociological factors, as shown in studies, play a major role in the attraction to violence.

Presentation Type and Session: Poster IV

The Importance of Lightness in Literature

Alexander Mogavero, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor Gregg Biglieri, English and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Paul Valéry said “One should be light like a bird, and not like a feather.” I believe his advice is of incredible importance at the times when our existence seems doomed to heaviness. Fifteen years before the year 2000, Italo Calvino wrote that lightness was necessary for humanity to preserve in the face of a new millennium—lightness, the absence of worldly weight, characterized by the precise use of language and image which is found in literature. In my presentation, I will uphold Calvino’s conviction of the value of lightness, and expound upon it as an antidote to a world that often seems to

be turning into stone. Like the Roman poet Lucretius, who in his writings dissolved the gravity and solidity of matter into its paradoxical opposite—weightless atoms in motion—I will assert that literature too dissolves the facade of the real and renews our perspective by allowing us to see to the heart of our most arduous trials with fresh eyes. Far from being frivolous or foolish, literature enables us to triumph over the darkest elements of human existence, by putting winged sandals on our feet, and permitting us to fly above them.

Presentation Type and Session: Oral – Arts and Humanities: I

The Influence of Hip-Hop on the Sports World

Montez Walker, SPC 426: Documentary Film Analysis
Faculty Mentor: Professor Meg Knowles, Communication

My research paper focuses on the ESPN 30 for 30 documentary, “Fab Five” directed by Jason Hehir (2014). This film sheds light on the Michigan Wolverines men’s basketball team. I will be exploring the influence that hip-hop has on the sports world, as seen in this film. Hip-hop played a major role in who the Fab 5 were and what they represented on and off the court. I will review how hip-hop got started, and the role it played when the Fab 5 were playing basketball at Michigan, and the role it still plays in today’s sports world. Studies show that hip-hop plays a major role in sports, from the ways that athletes dress, talk, carry themselves, play and react. This means that before the players even get on the court the hip-hop influence is recognizable. I plan to show evidence that the media plays a major role in this by the questions they ask the players, the articles they write about the players, fashion seen in sports-related advertising, the pre-game shows and music they use to introduce the players at the stadiums and arenas.

Presentation Type and Session: Poster II

Is There Romance Without Respect?

Tatyanna Picou, PHI 401: Respect, Diversity and Disagreement
Faculty Mentor: Professor John Draeger, Philosophy and Humanities

This study explores the role respect plays in romantic partnerships. More specifically, I will consider whether respect demands exclusivity. For example, it certainly seems disrespectful when one person is unfaithful in the partnership and withholds this information. This raises the question about whether or not respect is necessary for a healthy relationship. I will argue that love and respect are not mutually interchangeable. A romantic relationship can survive without love but yet cannot survive without respect. There are relationships with little or no respect. Yet, I’d have to state that these are not successful relationships. In order for a romantic relationship to be healthy and successful, there has to be an understanding and implementation of respect throughout. I argue for a connection between exclusivity and respect in a romantic relationship.

Presentation Type and Session: Poster III

Keeping Up with the Joneses: How Media Shapes Perceived Societal Norms

Kelly Mackowiak, COM 450: Communication and Society
Faculty Mentor: Professor Michael Niman, Communication

Does constant access to the media really make us better off? We used to measure our material success in comparison to our neighbors and other people we knew. In modern society, however, the Socialization Theory of Mass Communication is king. More than ever, it is the media that is shaping our society and its collective values. The repeated messages that we receive through this ever-pervasive lens distort how we see the world, skewing our reference groups and hence, our perceptions and expectations. Thus, our new perceived societal norms are delivered to us through advertising and entertainment on legacy television and Internet-based media, with our new reference groups increasingly telling us what to buy, to eat, to wear, what to look like and even how to act. Media constantly reminds us what we could be--if only we were more "successful." Not only are these standards prevalent throughout the Western world, but research shows that they are increasingly encroaching on the rest of the world as well. My research ultimately discusses how this new mediated reference group alters what we believe to be typical both within ourselves and in our judgment of others.

Presentation Type and Session: Oral – Humanities: III

The Letter, One's Destiny: a Reading of Poe's "The Tell-Tale Heart"

Garrett Busshart, ENG 390: Literary Theory and Criticism
Faculty Mentor: Professor Barish Ali, English

This paper closely examines the dialectic at work in Edgar Allan Poe's *The Tell-Tale Heart*, making constant reference to French theorist and psychoanalyst Jacques Lacan to best reflect upon the constitutive role of the signifier, or the material element of language, in the narrative's subsequent unfolding. As he states, "...the signifier plays an active role in determining the effects by which the signifiable appears to succumb to its mark, becoming, through that passion, the signified" (Écrits 578). Language using individuals as much as - if not more than - individuals use language, it will be shown how the words and even the very letters composing Poe's text determine the narrator's own murderous passion in a deliberate parallel to Lacan's famous reading of *The Purloined Letter*.

Presentation Type and Session: Oral – Arts and Humanities: I

The Manufacturing of Mental Illness: Taking Advantage of Advertising

Laura Doxbeck, COM 450: Communication and Society
Faculty Mentors: Professor Michael Niman, Communication and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

The purpose of this research is to identify the combined effects of industry-funded research, direct-to-consumer (DTC) advertising of prescription drugs, and the work of the American Psychiatric

Association (APA) on the perception and treatment of mental health in America. One objective of this research is to discuss the impact of the Diagnostic and Statistical Manual of Mental Health (DSM) on the cultivation of new mental illnesses and how these illnesses are often introduced into American culture via DTC advertising. Designed with the public's best interest in mind, DSM-5 (the most recent edition) has been reported to reflect changes that have clearly been influenced by big business. A second objective is to explore how these advertising campaigns affect the epidemic of addiction and associated rhetoric in regard to both legal and illegal drugs. Prescription drugs are perceptually less dangerous than illegal or street drugs because they are sanctified by science and law, and are therefore more socially acceptable. A third and final objective is to provide information on the manufacturing of mental illness, or how the pharmaceutical industry and those responsible for shaping the psychiatric landscape manipulate their audiences into believing that not just some, but all of their psychological distress is unnatural and can therefore be resolved by consuming brand name drugs. This research presents data on the rate of prescription drug related deaths and the potential for abuse that they truly possess. It examines the percentage of specifically psychotropic drug advertisements viewed by the average American in relation to the rate of prescriptions written by doctors annually, and asks how these advertisements are legal when the detriments are so blatantly evident.

Presentation Type and Session: Oral – Humanities: III

Marketing to the LGBTQ Community

Rachel Doktor, COM 450: Communication and Society
Faculty Mentor: Professor Michael Niman, Communication

Only recently have advertisers isolated the segment of consumers who identify as lesbian, gay, bisexual, transgendered and queer (LGBTQ). Now tailoring their ad pitches to LGBTQ communities, companies use specific advertising techniques and gay-friendly policies to show support or respect. The effects of LGBTQ targeting and its history make up a significant part of a gay consumer culture. A lack of definitive research about gay consumer behavior compared to the general population allowed for negative stereotyping and clichés. Many advertisers seeking to reach this community through personal brand positioning strategies hope to improve on past practice. Although the size of the gay market is difficult to determine due to market research reflecting only those who are openly gay, the Simmons Market Research Bureau has helped shed some light on consumer attitudes and behaviors using national probability sample surveys, meeting the demand for high-quality market research of the LGBTQ community. While this advertising helps increase LGBTQ visibility within a heteronormative world, concerns are raised within the gay community with the promotion of gendered consumerism directed to sexual minorities, and what the negative and positive social effects of such advertising may be.

Presentation Type and Session: Oral – Humanities: III

Money Talks

Dave DeLuca, SPC 426: Documentary Film Analysis
Faculty Mentor: Professor Meg Knowles, Communication

I examined the bottom line in college sports and how student-athletes are being exploited for the sole purpose of making the National Collegiate Athletic Association (NCAA) substantial profits. While students are being compensated with scholarships, some still have to work part-time to afford cars, food and shelter. That's all happening while the NCAA is profiting millions of dollars from student athletes. This research will pinpoint exactly how much the NCAA is making and the recent allegations against student-athletes for accepting benefits from universities' boosters. Journalists, former student-athletes and college professors will be used as sources in this research. Their first-hand experience will give readers a sense of what it's actually like at big-time universities and also a look at how Division III sports (non-scholarship) are thriving without TV contracts and jersey sales. Through looking at scholarly articles and the documentary "Schooled: The Price of College Sports," I will be able to provide examples in which student-athletes and universities have violated NCAA rules in recruiting and the penalty that was leveled on them. I will show that paying student-athletes is the best possible solution in solving the corruption in college athletics.

Presentation Type and Session: Oral – Humanities: III

Nappy But I'm Happy: Depiction of Black Hair in the Media

Fatoumata Toure, COM 450: Communication and Society
Faculty Mentor: Professor Michael Niman, Communication

In the 1900s African American women shifted preferences towards straightened hair, thinking such "good hair" was a sign of the elite. Hair products provided women an easy way to straighten their hair, which in the 1900s determined one's class status. Today one's choice of hairstyles determines more than class; it creates stereotypes often seen in the media. My paper examines the role that media plays in defining "good hair." I also discuss how the idea of good hair has changed within the last century, examining why more African American women started embracing their natural hair textures. My work uses current scholarship to contextualize popular culture in an attempt to see what textures of hair we are taught to subconsciously think is superior to others. This paper theorizes how important hair is to African Americans and why they allow the media to have such an influence on their idea of good hair.

Presentation Type and Session: Oral – Humanities: III

Objectification of Women in Advertising

Michael Marden, COM 495: Project
Faculty Mentor: Professor Seth Oyer, Communication

As we go about our days we get bombarded with so much media and advertisements that we miss a lot of the messages that are being said to us. These messages are used to sell us products and unless

you know what you're looking for these messages go under the radar of the public eye. So much sex is used in advertising today that most people are numb to the idea that women are strictly used as sex objects; to sell you a product. The objectification of women in advertising, takes its toll on culture. It effects how women are treated by our society, viewed by our society, and the health of the women in our society. This project takes an in depth look at the many published books, advertisements, movies and studies focusing on women objectification in advertising. In doing my research I will interview experts who have devoted years of research to this subject. Discussing objectification of women, why it happens, and who's to blame. Companies using these advertising techniques want consumers to have less of an emotional connection to women, and view them as objects. My research will bring this unethical problem to my reader's attention. Showing how commonplace it is to see objectification in women every time you open a magazine or turn on the television. It becomes the norm, and when something becomes normal it blends in. My presentation will include a speech presenting my research, including visuals to further solidify my ideas.

Presentation Type and Session: Oral – Humanities: II

One Day in September: A Study in Film

Carrisa Welch, SPC 426: Documentary Film Analysis
Faculty Mentor: Professor Meg Knowles, Communication

Film can be a tool to explore and explain, and documentary films are a medium frequently used to research events in history. One Day in September is a documentary film by Kevin Macdonald that recounts the happenings of the 1972 Munich Olympics. During these games Palestinians attacked and held Israeli athletes hostage. I will show that Macdonald's film portrays the events accurately and historically through the use of interviews and archival footage. Macdonald interviews the last surviving terrorist to get information that otherwise would be lost to history and would not be known from the existing archival footage of the events. Along with interviews and archival clips, the director deploys still photographs. My research involves looking deeper into the film and photographs by analyzing the footage from 1972 and his use of interviews to explain what happened 43 years ago. I will look at the effectiveness of the police, as well as the terrorists. I will bring in additional sources to compare the film with newspaper articles from the time period to determine how closely the directors follow the historical events in portraying them in the documentary. With this research I hope to show people the value of film and its unique ability to explain events of the past.

Presentation Type and Session: Poster II

One Day in September: The Olympic Games as a Stage for Globalization

Andrew Capuano, SPC 426: Documentary Film Analysis
Faculty Mentor: Professor Meg Knowles, Communications

This research paper delves into the world of the Olympic games

as a stage for globalization and corruption. I will focus on the film, "One Day in September," (1999) directed by Kevin MacDonald, to cite and validate my points. The film depicts the 1978 tragedy of the abduction of Israeli Olympic athletes by a group of Palestinian terrorists. The act took place during the Olympic Games in Munich, Germany inside the Olympic Village where athletes from all across the globe stayed for the games. I will contextualize the film's subject with scholarly writings about the sociology of the globalization of the Olympics and I will also be pulling from film reviews about the actual film. I compared the previous Olympic Games held in Germany in 1936, where Hitler essentially used the games as a form of propaganda and globalization. I will also discuss the film Olympia (1936) directed by Leni Riefenstahl that chronicles those Olympic Games. I want to show that the Olympic Games have the potential to be an open stage for evil doings when they are exploited in such a manner by evil people.

Presentation Type and Session: Poster III

Plastic Surgery and the Strive for Perfection

Kuburat Ibikunle, COM 450: Communication and Society
Faculty Mentor: Professor Michael Niman, Communications

People strive for perfection through cosmetic surgery and alterations. This can at times cause emotional complications, mental breakdowns and sometimes, even death. People are influenced by popular culture and have been persuaded into believing that there is only one standard of beauty. The media celebrates slim figures, big lips, big/firm breasts, and six packs, making it extremely hard for a person who lacks these traits to avoid being influenced or compelled into seeking alterations. From billboards to magazine ads, society is bombarded with pressure making people feel as though they are not good enough naturally. My work highlights the different media platforms that together work synergistically to set unattainable standards of beauty, sending some people under the knife to achieve this standard.

Presentation Type and Session: Oral – Humanities: II

Popular Media and the Gross Misrepresentation of Foreign Cultures

Emil Goranov, COM 450: Communication and Society
Faculty Mentor: Professor Michael Niman, Communication

The paper looks at how cultures are displayed in popular media and how the realities of these cultures are much different from how they are portrayed. The paper focuses on setting, motif, context, appearances, interactions among characters, tone, and driving points in storytelling. I examine the stereotypes often associated with foreign cultures in popular media. I also question the reason for these misconceptions and attempt to shed light on the stereotypes being created by misrepresenting gender and race in foreign culture. After having analyzed these misrepresentations, I explain

how this media behavior is crippling people's life experiences by creating false ideas of foreign cultures, thus diminishing the desire for people to experience them. I show that cultural distortions in the media develop, in its viewers, a sense of cultural superiority and abate the historical and present day relevance of the foreign cultures in question. These distortions take away from audiences the development of a richer and healthier understanding of the world we live in.

Presentation Type and Session: Oral – Humanities: III

The Portrayal of Women in Fairy Tales

Sara Ali, COM 450: Communication and Society
Faculty Mentor: Professor Michael Niman, Communication

Mainstream media products consistently represent women in negative ways. This image painted by Fairy tales can be especially dangerous. Even if you never read the tales, you've most likely watched them on television or in theaters. Fairy tales often revolve around two different characters: a feeble princess who puts herself in a dangerous situation, resulting in the rescue by her prince charming or the evil step-mother who has to be killed by a man so she can no longer harm those around her. These are the representations of women in the revised Brothers Grimm fairy tales. The original tales are even more horrifying – little red riding hood was actually a stripper, and the wicked step-mother in Cinderella was willing to have parts of her daughter's feet cut off to fit the shoes. In order to create an accurate study on the negative portrayals of women in fairy tales, I examine dozens of scholarly studies and employ their theories to contextualize several versions of the fairy tales (both originals and rewrites), including Disney versions. I examine how the portrayal of women in fairy tales affects the audience, both children and adults. I focus on girls ages 3-12 contextualized with interviews of young women in order to explore how this earlier exposure affected them. I use the findings from this study to critique modern representations of women in film and television.

Presentation Type and Session: Oral – Arts and Humanities: I

Promoting Sustainability within the Buffalo State Community

Ashley Coleman, PHI 189: Students For Sustainability
Faculty Mentor: Professor Justin Donhauser, Philosophy and Humanities

This project addresses the overarching research question: Are Buffalo State students and faculty aware of the environmental, economic, and social sustainability issues on campus and in the local community? The study will at once assess the effectiveness of the on campus Arbor Day and Sustainability Festival (and information fair) that the 'Students for Sustainability' and numerous partner organizations will host on April 21st. The event included: presentations from local animal rescue groups, BBQ,

donation booths, information booths (for refugee relief, the office of environmental health and safety, representatives from the Buffalo State arboretum, among other on-campus and local non-for-profit entities), and an official Arbor Day tree planting ceremony. This event brought together students, faculty, and members of the broader community to enjoy activities, gather donations, and raise awareness about environmental, economic, and social sustainability issues. Our group used surveys to gather data on awareness of sustainability issues in the Buffalo State community and on the effectiveness of the festival in raising that awareness. We will discuss the outcomes of the event and our survey findings.

Presentation Type and Session: Poster V

“Redskins”

Nick Lipa, SPC 426: Documentary Film Analysis

Faculty Mentor: Professor Meg Knowles, Communication

A podcast entitled “Redskins” explores offensive names in sports at all levels. The word “Redskin” is a derogatory slang term that is clearly defined in American dictionaries as offensive, disparaging, insulting, and taboo. Many schools and organizations with the Redskins team name have already changed it. There are still many, such as the Washington Redskins that have not. The Lancaster Board of Education recently passed a unanimous vote to dismiss its Redskin mascot. The aftermath is about to unfold and I intend to try and capture both sides of the argument through interviews with the Lancaster school district community and its board members. Many are outraged and believe the name should remain because of its long-term connection to Lancaster. Supporters of the board’s decision believe it is offensive towards Native Americans. I plan to illustrate the debated origin of the word, its current place in the modern sports world, and to use Lancaster as a relevant example. Through analysis of the local community over the upcoming weeks, I hope to convey the frustration of both sides while emphasizing the dangers and incompetence of retaining the slur “Redskin”.

Presentation Type and Session: Oral – Humanities: II

The Roles of Filmmakers

Taylor Stuewe, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor Lou Rera, Television and Film Arts and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

I explore different aspects in the making of a film. Most knows what a writer, director, or editor does. Yet, those jobs encompass a very limited range of roles that exist in the film industry. My intent is to better understand the roles of the script supervisor, assistant director, assistant operator, gaffer, and grip. As well, I investigate the differences among a producer, executive producer, line producer, and production manager. My study consists of understanding the lesser-known roles in filmmaking and then applying this understanding as I fill the role of producer, script supervisor, and assistant director for a series of short films created by other students. My presentation

shares my findings along with some recommendations about how my experiences could be used to better promote lesser-known career paths for students majoring in film and broadcasting.

Presentation Type and Session: Poster III

S4S Campus Clean-up Assessment

Jessica Lauer and **Jocelynn Richter**, PHI 189: Students For Sustainability

Faculty Mentor: Professor Justin Donhauser, Philosophy and Humanities

Students for Sustainability (S4S) is an on campus group that aims to increase awareness of personal responsibility to lessen unwanted impacts on the Buffalo State College community. We do so by fostering collaboration between existing Buffalo State College entities, to increase campus-wide awareness of sustainability issues and engage in sustainable practices. We take actions that increase sustainability to be those actions that help ensure the availability of communal resources for current and future members of the Buffalo State community. Students for Sustainability will host our second campus “clean-up” (an effort to remove trash and recyclable litter on campus) during the last week of April 2015. Our 2014 Veterans Day Cleanup had nearly 60 participants, and we anticipate that this event will be much larger. This event will also culminate in a “trash audit” and informational talk on ground/groundwater pollution and existing recycling programs on campus. As part of an attached research project, we will gather data on the effectiveness of the cleanup initiative with surveys. We will use the surveys will to collect data on participant’s sense of personal obligation and belonging to the BSC community before and after the event, as well as data on participant’s awareness of ground/groundwater pollution issues on campus and broader sustainability issues. In my presentation I will reflect on the outcomes of the initiative and discuss what I think the collected data indicates.

Presentation Type and Session: Oral – Humanities: II

Shakespeare’s Audiences - “Henry V” at the Globe Theatre, on Film, and in Delaware Park

Felicia DeLibero, English

Faculty Mentor: Professor Lisa Berglund, English

My project entails original research on how audiences with no particular literary experience connect to William Shakespeare’s “Henry V” by providing a modern context of the story in relation to Democracy and society today. I’ve related the theme of ambiguous power among 17th Century rulers and ruled to our contemporary framework, as well as explored the metaphor that theater is a lot like politics. I spent this summer proposing the question: What does “Henry V” mean today to our culture? I have examined the play’s performance and reception history in addition to working with the production team of free, outdoor Shakespeare in Delaware Park to design an audience reception survey. My survey investigated ideas

of leadership, the roles a leader plays, their impact on history versus their followers, how a leader's appearance may affect their power, and the truth one finds in a history lesson versus a fictional story. The responses I acquired helped me gain insight on audience's current response to "Henry V" in comparison to how they reacted to the play in Shakespeare's time. The propaganda of theater pieces and their ongoing effect on audiences illustrates how Shakespeare's plays continue to shape the discourse of war and politics for today. "Henry V" is still a very relevant social commentary on subject matters like cultural diversity and citizens' relationships with their government. I plan to focus my presentation on how the appearance of a leader influences their power and how a leader is marketed today to the masses to gain popularity. My evidence will include responses to my survey questions and the comments left by spectators attending "Henry V".

Presentation Type and Session: Poster IV

Spectator Sports: The Intensifying Risks

DeVon Lee, SPC 426: Documentary Film Analysis

Faculty Mentor: Professor Meg Knowles, Communication

The dangers and physical risks of spectator sports feed the intensity of the spectator's experience of the game and motivate the audience to watch, participate, or want to see more of that sport. Stunts can place one's life in a high risk of danger. This research will explain the significance of the role that physical risk-taking and threats play in spectator sports. I will explain how risk-taking and endangerment positively affect sports and its business. There are psychological reasons why endangerment and risks to athletes increase viewers' enjoyment of the sport. Observations will be taken from "Man on Wire", a documentary about high-wire stuntman Phillippe Petit's 1974 stunt. The documentary, directed by James Marsh, takes the viewer to the astounding, high-risk performance by Petit walking across a thin wire between the Twin Towers of the World Trade Center. One may take an individual's stunt as unbelievable, insane, and courageous. Another might find an aspect of art in the spectated sport. I hope to explore the significance of the role that risk and danger have in sports and overall society.

Presentation Type and Session: Poster IV

Sports and Inner City Youths

Charles Walker V, SPC 426: Documentary Film Analysis

Faculty Mentor: Professor Meg Knowles, Communication

This study examines the dynamics of how sports can provide a new and promising life for some teens. Research comes from analysis of Kristopher Belman's 2007 film, "More than Just a Game" starring NBA star LeBron James and his rise in the ranks of high school basketball. Darcy Frey's book, "The Last Shot" documents the lives of three high school youths and how high school basketball provided new opportunities and the career for former NBA star Stephon Marbury. Analysis of these sources show that high school athletics, primarily basketball, provide opportunities for men that

they would otherwise never have due to circumstances of poverty and inner city conditions. Basketball was the outlet for these athletes, and it helped lead to promising careers for a few. The wild success of a few famous players has also led to unrealistic aspirations by many teens, especially young African Americans. The majority of these teens do not make it to the next level but still go on to live promising lives, whether or not sport related. Research of college athletic success for teens along with the film and book will demonstrate the challenges of success for teens. "More than Just a Game" and "Last Shot" draw parallels that indicate how high school athletics can lead to success in a young person's life, and sometimes failure.

Presentation Type and Session: Poster II

Starving for Excellence

Jessica Cassick, SPC 426: Documentary Film Analysis

Faculty Mentor: Professor Meg Knowles, Communication

The media's conventional ideas about the ideal physical appearance of dancers do not represent strong role models for our brothers, sisters, and children. I will present a documentary podcast entitled "Starving for Excellence," which explores the root of the psychological struggles around body image that many dancers may feel on a daily basis when aspiring to emulate those in the spotlight of the media. Studies have shown that the human body can only endure so much neglect and stress before it shuts down, and one might wonder what price some dancers might be willing to pay when they begin to forego necessary nutrition, crucial for their own survival, to succeed in the dance field. This podcast will use Facebook Messenger and a voice recorder application to record live interviews with dancers and experts in the dance field to reveal and discuss the pressures that many dancers may face to be perfect, as well as the pressure and the conflict that is placed on the dance audience to perpetuate that ideal. This podcast will strive to create empathetic listeners, so they can attempt to understand the quandary and conditions that the dancers are attempting to manage to the best of their ability. I will show that the consequences of media images on subjects' lives can be seen in studies about eating disorders in the dance community. I will use this documentary podcast to demonstrate that the sport of dance is misunderstood as an athletic endeavor. I plan to find research pointing to psychological issues tormenting some dancers. Furthermore, I will present alternative approaches that today's generation may be able to use to culturally resolve the issue.

Presentation Type and Session: Oral – Humanities: II

"Steep": The Price of the Adrenaline Rush in Extreme Sports

Alyssa Burry, SPC 426: Documentary Film Analysis

Faculty Mentor: Professor Meg Knowles, Communication

While some people believe that snow-sports are no more dangerous than other athletic endeavors, the families of extreme skiing stuntmen who risk their lives on the slopes might strongly

disagree. Extreme sports have shown incredible growth in popularity in the last ten years, and with increased participation has come an increase in injury and other more subtle consequences. My research project is an analysis of the documentary film, “Steep,” (2007) written and directed by Mark Obenhaus, which follows the history of extreme and Big Mountain skiing. My research and analysis will show that extreme sports are beginning to distance athletes from their lives with their families. I plan to explain the evidence of risk-taking behavior by professional athletes, and the effect their careers have on their families. Like most people, athletes have a responsibility to spend time with their families. The demands of extreme sports may force athletes to choose to favor their careers over their family relationships. Others bring their family members into the sport through their infectious enthusiasm, and also as a tactic to spend time with them. Research has shown that since it is hard for people to separate their career from their lives, the exposure of the family to either danger or abandonment can lead to psychological trauma. It is presumed that stuntmen such as skiers and snowboarders want the adrenaline rush of drops from dangerous mountain peaks, releasing parachutes seconds before they hit bottom. Previous theories have assumed that these athletic pursuits are attractive to participants because of the risk involved. However, newer views of the growing sports fields show that when skiers and snowboarders attempt to try new areas that haven’t been explored, an abundance of caution is employed. Such contradictions will debunk previous assumptions.

Presentation Type and Session: Poster II

Steroids in Baseball

Andrew Kuczkowski, SPC 426: Documentary Film Analysis
Faculty Mentor: Professor Meg Knowles, Communication

Sport is a microcosm of society. In most societies, we do not value cheaters. In the 2010 documentary film, “The Tenth Inning” by Ken Burns, Burns explores the issues in baseball over the last decade and a half. One issue Burns stresses is the importance of steroid use in Major League Baseball and how it has affected the game. Steroids are used to build more muscle mass and creates an unfair advantage over the players who did not use steroids. Many revered athletes including the current retired home run leader for Major League Baseball, Barry Bonds, have been caught using steroids. Another issued addressed in the film was the comparison of known steroid users to the non-users. How would non-users be perceived without the comparison to the elite steroid players, who are putting up statistics that few people could achieve without the advantage of steroids? The steroid era is coming to its end and research has shown the negative effects on the careers of these players. My presentation will inform viewers about what the spectators of this era were missing out on by comparing the steroid-using athlete to the clean athlete of the time.

Presentation Type and Session: Poster III

Subterranean Searcher: Kerouac’s Life of Jazz and Buddhism

Brian Johnson, English

Faculty Mentors: Professor Barish Ali, English and Professor Thomas Newhouse, English

Though generally considered a master of travel narratives as well as general delinquency, Jack Kerouac’s works span a number of thematic and stylistic intentions. With the publication of “On the Road” in 1957 came Jack Kerouac’s fame, as well as his documented impact of contemporary post WW II literature. This novel is considered technically important for the development of beat literature and also stands as a contemporary portrayal of the American experience. In this paper I argue that Kerouac’s deep literary associations with his musical contemporaries are rather more relevant to his body of work than simply the ‘travel narrative’. Music had a large impact on Kerouac’s form of narrative. By referencing a number of his works, prose and poetry, as well as some of the works of his contemporary artists, I would like to demonstrate the influence of music and religion on his work by means of his creative processes and subject matter. This also brings up the theme of music, specifically bebop jazz. Kerouac wanted to be considered a ‘jazz poet’, and a lot of his writing style is influenced by the spontaneity and improvisations of jazz music. Charlie Parker, for example, had an extraordinary influence of Kerouac, whose name shows up in Mexico City Blues being compared to Buddha. Even within the realm of its generally accepted themes, On the Road is a novel full of references to musicians, as well as the deep contemplation that would set the stage for the discussion of religion in his later works. By analyzing some of Kerouac’s most critical narratives (poetry and prose), his connection with music and religion can be cemented as an example of a blossoming counterculture.

Presentation Type and Session: Oral – Arts and Humanities: I

“That Damn Nigger”

Asia Evans, PHI 401: Respect, Diversity and Disagreement
Faculty Mentor: Professor John Draeger, Philosophy and Humanities

In his novel entitled “Nigger,” Randall Kennedy offers examples of how the word can be used to demean African American people, how many cruel jokes would be given using that word and how, subsequently, the African American culture chose to embrace such a troublesome word. The use of the word ‘nigger,’ or as some call ‘nigga’ or the ‘n-word,’ casts light on race relations. The moral appropriateness of the term depends on who is using the word and how it is being used. I would like to argue that the use of the n-word should not be used by anyone, “black” or not. I aim to discuss the “unofficial rule” that implies that only blacks can use the n-word and how regardless it is an inflammatory word and it is hypocritical to assert that only the black community can use this word while

white people, specifically, cannot. I intend to consider Thomas Hill's account of basic respect, which states that one should respect all project pursuing people for who they are and what they represent. Based on those conditions, it is inappropriate for this word to be used in any context.

Presentation Type and Session: Poster III

There is No I in WE

Moctar Sissoko, PHI 401: Respect, Diversity and Disagreement
Faculty Mentor: Professor John Draeger, Philosophy and Humanities

Throughout the course of history, there have been many laws and moral values fundamental to the existence of social society. Within the growth of human civilization there have been two conflicting moral virtues that serve as bridges for the greater good of mankind. At the forefront of these social developments are collectivism, the moral duties imposed by the collective entity and Individualism, the moral duties motivated by the individual. There are cases today in modern day America, where it is convenient to practice collectivism at the expense of the autonomy of the individual. More intrinsically, I will explore the moral concern of whether or not it is morally correct to violate an individual's rights for the public's safety. The individual's autonomy is of great importance and must be valued significantly, however is it of greater value to be weighed over the greater good? From a utilitarian stand point it would be insufficient to say yes. Maintaining the public good at times requires that particular individuals or particular groups bear a costs that are much greater than those held by others. Practices revolving around profiling, national security, and flight (homeland) security, not only illuminates this moral concern but will be used as a means to understand the concept of individualism vs collectivism as a philosophical dimension.

Presentation Type and Session: Poster IV

Unjust Stigma: How America's View on Prostitution Harms Women

Ryan Donnelly, PHI 401: Respect, Diversity and Disagreement
Faculty Mentor: Professor John Draeger, Philosophy and Humanities

This project examines the social stigma surrounding female prostitution. Many people dismiss sex workers without a second thought, without ever putting serious consideration into their views. I attribute this quick to judge mentality to our society's negative view on female sexuality. In "Whether from Reason of Prejudice," Martha Nussbaum argues that society's view on female sex workers is not only wrong, but uncalled for. When it comes to sex in America, there is a clear double standard. The promiscuity of males is widely accepted, while females are shunned and looked down upon. In an effort to improve safety, health, and dignity of consenting female sex workers, while improving the overall well-being of females

everywhere, our outlook on female sexuality needs to shift from our current feeling of "slut shaming" towards one of tolerance and acceptance.

Presentation Type and Session: Poster IV

Veteran Health Concerns in Media: PTSD Awareness

Angel Waggoner, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Deborah Silverman, Communication and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

In America's armed forces, Post-Traumatic Stress Disorder (PTSD) is an unseen and often unheard of injury that afflicts many of our country's veterans who have faced varying degrees of trauma. This topic is of great interest to me, because my (now) husband has been enlisted in the United States military since November 2010. With his first four years spent in the Navy and attached to a carrier, he and I had limited concern for any highly traumatic events that could negatively affect his health. After his time there, he reenlisted in the Army as an infantryman. Just weeks after he departed for Basic Combat Training (BCT), I knew this job was going to affect him much more directly than any aspect of his prior enlistment had, and so I decided to conduct research on how organizations communicate with military personnel and veterans about PTSD. My research, including content analysis of websites and examination of case studies, focuses on recent attempts by organizations that have united with our returning troops to eradicate the negativity surrounding the mental health condition, and more specifically, their successes. I discovered that this injury was a "sore spot" of sorts for those experiencing it. The stigma that our society, especially media, has placed upon the illness has been highly damaging to those hoping to heal.

Presentation Type and Session: Oral – Humanities: III

Why It's OK for Women to Wear Yoga Pants in Public and Why Men Shouldn't Be Creeps About it

Robert Harms, PHI 401: Respect, Diversity and Disagreement
Faculty Mentor: Professor John Draeger, Philosophy and Humanities

A Montana lawmaker recently proposed a ban on wearing of yoga pants in public under the state's public decency laws. The rationale behind this ban holds that, in public, women should be dressed modestly, lest they provoke men to have lustful thoughts. Using Thomas Hill's work in *Respect for Humanity*, I'll argue that women, in keeping with their essential dignity as human beings, have a right to dress as they like in public, whether they choose their attire based on self-expression, utility, or simply preference. Further, I'll argue that men have a duty to respect women's essential dignity. In the case of women wearing yoga pants, or other 'provocative' clothing, this duty requires men to take responsibility for their

thoughts and actions. Specifically, this means recognizing that while the sight of a woman in certain attire may inspire lustful thoughts, men should still treat her respectfully by keeping those thoughts to themselves, as well as refraining from staring, cat-calling, and generally acting like a creep. I'd like to motivate this specific duty using Jeremy Waldron's work on hate speech and Sarah Buss's work on the importance of manners.

Presentation Type and Session: Oral – Humanities: II

Would you Let Your Children Watch That? Advertising Sexual Activity to Children

Elizabeth Roesch, COM 450: Communication and Society
Faculty Mentor: Professor Micheal Niman, Communication

Advertising has become in your face and impossible to ignore. Products are often marketed around ideas of “sexiness,” often suggesting a sexual allure with owning products. Young children are included in the audience for these images, with these messages informing them about what men and women should look and act like. My research looks at how these messages affect child development through adolescence and adulthood? Looking into current statistics about sexual activity among younger publics and how this has changed over the years, I ask if we should be more careful about what our children are watching. My research examines marketing and ad campaigns involving products geared towards both children and the general public that have very sexual messages. I also look at statistics about sexual activity among children and young adults that some critics argue may be encouraged by these forms of advertising. I complete my research by suggesting guidelines for what young children and young adults should actually be exposed to so that these messages don't negatively affect their development and ideas about sexual relations.

Presentation Type and Session: Oral – Humanities: III

You Don't Have to Pull My Chair Out, But it Still is Nice

Briand Taylor, PHI 401: Respect, Diversity and Disagreement
Faculty Mentor: Professor John Draeger, Philosophy and Humanities

Chivalry in modern times is usually seen as ineffectual or offensive. ‘Chivalry’ can be defined as men being courteous and attentive to women using acts like opening the door, pulling out a chair, shoveling a walkway, or helping to carry troubling items. These acts may seem normal or even as dutiful of young men; it may also be seen as disrespectful. Chivalry in the present day is seen as not showing respect for the autonomy of women and makes them to appear weak. A second objection to chivalry in modern society is that it creates a man that cannot think for himself, and would be lost without a code of rules. Lastly, there is the thought of “why should we?” Men today see chivalry as a way to force them out of their way to help women who seemingly can handle things on their own. Using the works of Thomas Hill on basic respect, Cheshire Calhoun

on civility, and Sarah Buss on manners, it is my intention to dispel the objections listed and show that there is a place for chivalry in today's society.

Presentation Type and Session: Oral – Humanities: II

Young Adult Literature in Secondary Education

Jena Nunnari, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor James Cercone, English and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

In the past few years, the importance of meeting the needs, interests, and abilities of young readers in middle and high schools has become much more apparent. There have also been suggestions that young adult literature is suitable for the classroom and would serve the students well in meeting these needs. The question is, what are the special needs and expectations of adolescents? What are the major developmental tasks that confront teenagers today? The major task of adolescence is the formulation, or reformulation, of personal identity. Middle and high school students are mainly involved in the task of answering the question, “Who am I?.” In the same respect, teachers need to begin asking the questions, “Do Romeo and Juliet, Great Expectations, Oedipus Rex, The Old Man and the Sea, and other novels found in the English curriculum meet the needs, interests, and abilities of young readers? Do these works help with the emotional and social development of young people?” I believe that age appropriate literature is what these students really need in order to succeed in the English classroom and that many of the books mentioned here are more suitable for adults than middle or high school students. So why is it so difficult to integrate young adult literature into English classrooms? The problem is this: Too many people (teachers and parents alike) are holding on to the notion of “tradition.” Many young adult literature books are being banned in schools across the country, such as John Green's Looking For Alaska, Stephen Chbosky's Perks of Being a Wallflower, and Lois Lowry's The Giver. Most of these books are banned on the thought of being too dark, sexual, or violent. Unfortunately, these are the books that deal most accurately with the problems and lives of adolescents. I believe that these are the books that will spark a love for reading in students. These are books they will want to read, rather than having to be told that they have to struggle through another Charles Dickens book that has absolutely no relevance to their lives.

Presentation Type and Session: Poster I

Youngstown Prisoners

Joseph DiBiase, SPC 426: Documentary Film Analysis
Faculty Mentor: Professor Meg Knowles, Communication

I examined the issues presented by the sports documentary “Youngstown Boys,” directed by Jeff and Michael Zimbalest. There are a few issues that I touch on that all fall under the umbrella of corruption in the NCAA. Paying student athletes, professional sport entry ages, recruitment restrictions, and individual athlete

restrictions are all limitations by the NCAA that should be considered illegal. Evidence of many athletes who have had opportunities tarnished and lives ruined because of NCAA rules will be presented. The documentary shows the problems in college sports through the story of former Ohio State head coach Jim Tressel and running back Maurice Clarett. Every year there is some scandal in college sports that causes the NCAA to enforce strict punishments on countless student athletes, coaches, and athletic departments. Research shows that the blame for this can be laid at the feet of the NCAA. The documentary demonstrates that the NCAA creates rules that they know people will break, and they know the rules serve no benefit to the student athlete that is the person the organization should serve. The Zimbalist's present the situation coming from Tressel and Clarett's point of view, which appropriately positions the NCAA as the bad guy. I plan to show that the film is a great promotion for change in the college football system.

Presentation Type and Session: Poster II

Physical Geography, Sciences, and Mathematics

3D Visualizations of Temperature and Humidity Along the Lake Erie Shoreline Applying Unmanned Helicopter Remote Sensing

Cheniuli Jiang, GEG 518: Great Lakes Ecosystems Science
Faculty Mentors: Professor Tao Tang, Geography and Planning and Professor Stephen Vermette, Geography and Planning

Land use and land cover affect the surface temperature and humidity. Water body, such as the Lake Erie, would moderate the near shore environment. In this research, we applied unmanned helicopter (drone) that carries a digital camera and a portable thermometer in measuring changes of temperature and relative humidity spatially and temporally along the Lake Erie shoreline and from shoreline to the inland area. The digital images would record the land use or land cover and its changes. The data of temperature and humidity illustrates the influence of different ways of land use and land cover on boundary layer atmospheric environment and the different seasonal patterns during the study period. ERDAS Imagining, ArcGIS and statistical software were applied in this research to analyze images and data. According to the unsupervised classification of airborne images, the main categories of land use along the southeast section of Lake Erie shoreline are forest, grassland, and urban areas. This research is in progress. The preliminary data shows as the altitude increase, temperature and humidity would be change in a linear pattern. Several factors influence the trends and gradients of the changes including the land use and land cover, wind speed, and moderate effects of water body near the surveying location. The unmanned helicopter (drone) was applied for field data collections. The objective of this research is to understand the changes of temperature and relative humidity four dimension-ally (x, y, z, and time) on different land use and land cover types in the boundary layer environment.

Presentation Type and Session: Poster VIII

Accessing the Human Genome

Eleana Martinez, AMT 495: Applied Mathematics
Faculty Mentors: Professor Saziye Bayram, Mathematics and Professor Valentin Brimkov, Mathematics

Activation of transcriptional factors within genetics has been associated with health issues such as tumors and other physical abnormalities. Currently, experiments are used to separate the accessible locations within the genome. This research assignment focuses on minimizing the time taken between receiving the DNA sequence files and running statistical tools, and maximizing the quality of the final output. We solely experimented with human DNA and mapped these sequences to the human genome. Alignment tools used during this research include Bowtie, Bowtie 2, and BWA.

The programs used for peak calling were PeakRanger, MACS, ZINBA, and HotSpot. Various parameters were tested between these programs to assess which set of parameters provide the highest F1 score.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: I

Acoustic Analysis and Construction of High and Medium Frequency Horn Loudspeakers

Peter Dragos, Mathematics and Music
Faculty Mentor: Professor Tom Kostusiak, Music Department

Direct radiator loudspeakers, in which the speaker cone is exposed directly the air into which it sounds, have a number of disadvantages; they require relatively large diaphragms, have comparably high distortion levels (leading to ear fatigue), overly-wide directivity (causing sound to be dispersed in unnecessary directions, such as the floor or ceiling), and low efficiency (typically around 1% of amplifier power is changed to acoustic power). Conversely, properly designed horn loaded loudspeakers use smaller compression drivers, can exhibit incredibly low distortion, have controlled dispersion characteristics, and can exhibit efficiencies in the range from 10-50%. In my design process, I use Beranek and Mellow's derivations of electro-mechano-acoustic circuits to model the behavior of horns. For construction, I chose concrete as a material for its weight and rigidity, and took inspiration from online DIY audio sources, primarily the Inlow paper-mache horn and the MiWi horn. The units that will be driving the horns are a Selenium D220Ti and a Selenium D250-X. The presentation will include a demonstration of horns, presentation of calculated versus measured behaviors, and a poster detailing the design and construction process.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: I

Action Research and Design-Based Research for Physics Teacher Preparation in Germany: A Pilot Study

Joseph Heimbürger, PHY 690: Master's Project
Faculty Mentors: Professor Dan MacIsaac, Physics, Professor Kathleen Falconer, Mathematics, and Professor David Henry, Elementary Education and Reading

I describe my preparations and initial pilot activity undertaken in collaboration with pre-service physics teachers, their instructors and mentors at the Universität zu Köln in Germany making use of Design Based Research and Action Research methods. A literature review was prepared to inform and guide our scholarly exchanges while creating a Transatlantic Design Based Research / Action Research Network for physics teacher preparation in German and U.S. schools. Action Research projects have been widely used in the US for teacher development, notably by physics teachers enrolled at Arizona State University, but not yet in Germany, where Design Based Research is

better known. Cologne is home to what we believe to be the largest physics teacher preparation program in Europe. I present interim data collected during our pilot observations and planning carried out with the pre-service teachers as part of an initial graduate student exchange in Cologne, Germany from January – February 2015. We are currently supporting ongoing DBR/AR projects with German physics teaching students via Skype during spring of 2015, planning further scholar exchanges of both German and Buffalo student scholars and researchers between Buffalo and Cologne in late spring and summer of 2015.

Presentation Type and Session: Poster V

Activation of a Stress Related Signal Transduction Pathway in Response to Loss of GRP170 Chaperone

Camila Bonemann Bender, BIO 495: *C. elegans* Genetics
Faculty Mentor: Professor Gregory Wadsworth, Biology

Glucose related protein 170 (GRP170) is the largest member of glucose related protein family and is part of the ER chaperone network. GRP 170 assist in the protein folding, assembly and transportation of secretory or transmembrane proteins. Previously studies have shown that in the round worm *Caenorhabditis elegans*, strains of worm genetically deficient for GRP 170a induce high levels of expression of another related chaperone called HSP-4. HSP-4 is known to be induced by ER stress in a process called Unfolded Protein Response (UPR). Therefore it has been hypothesized that loss of GRP170a results in accumulation of unfolded proteins that in turn activates the UPR signal transduction pathway that ultimately leads to induction of HSP-4. To test this hypothesis, I will investigate whether loss of GRP170a activates the UPR signal transduction pathway. During UPR activation, upon accumulation of unfolded proteins in the ER, the mRNA for the transcription factor XBP-1 undergoes a regulated RNA processing. The processing removes a small intron from the mRNA and allows expression of the transcription factor XBP-1. The XBP-1 in turn induces expression of HSP-4. For my project, I will use reverse transcriptase quantitative PCR as an assay to detect splicing of xbp-1 mRNA in worms deficient for GRP170a. Increase levels of sliced xbp-1 in GRP170a deficient worms will confirm that loss of GRP170 leads to activation of the UPR signal transduction pathway. This evidence will support the contention that GRP170 is important to normal protein folding in the ER.

Presentation Type and Session: Poster VI

Analysis of Different Iron Compounds in Dietary Supplements

Jessica Spencer, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Alexander Nazarenko, Chemistry and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Iron is a metal necessary to carry out multiple biological

processes in the human body. As a result, some individuals may need to take iron supplements in order to maintain a proper level of iron in their blood. Iron is a key component of hemoglobin, which when deficient, risks the possibility of low blood oxygen levels or anemia. Iron is available in many different forms, which can affect the way it is absorbed into the human body. In this experiment, I will explore the different forms of iron used in iron supplements. In order to analyze the structure, I will digest the iron supplement and analyze it using UV-vis absorption to check the structure and determine the amount of iron in the compound. In doing so, I hope to find that the form of iron that is claimed to be in the supplement is correct, in addition to checking the possibility of impurities in the iron compound.

Presentation Type and Session: Poster III

Analyzing Threats to Hellbender Salamanders

Nicholas Engl, Integrative Biology
Faculty Mentor: Professor Amy McMillan, Biology

The purpose of this study was to identify and analyze relationships between the Eastern Hellbender salamander and hypothesized threats, and to improve existing knowledge of hellbender distribution in New York State. Hellbender populations have declined throughout much of their range over the last several decades. Research was conducted to narrow the field of possible causes, allowing conservation efforts to focus on factors most likely to be affecting hellbender populations. Information obtained during this study, along with existing data layers compatible with ArcGIS (Geographic Information Systems), ultimately produced a multi-layered map used to visualize how the threats in question relate to occupancy patterns. Hypothesized threats included habitat destruction/land use changes, water quality impairment, over-exploitation, introduced species, and disease. Preliminary analyses of mapped data indicate that point-source pollutants and developed land use may be associated with the loss of hellbender populations. Methods to determine presence/absence of hellbenders in the wild involved physical rock lifting, trapping, night lighting, and water sample collection to detect environmental DNA (eDNA). Fieldwork focused on the Susquehanna River watershed where fewer than 10 hellbenders have been reported in the last decade. After weeks of searching in cooperation with the NYS Department of Environmental Conservation, an adult male hellbender was captured, along with the nest he was defending. Morphometric measurements were obtained, and the animal was implanted with a Passive Integrated Transponder (PIT) then released. The nest was the first found in that part of the Susquehanna watershed since the early 1990's, and the resulting larvae are currently being raised at the Bronx Zoo as part of a captive release program.

Presentation Type and Session: Poster V

Are Closed Channels Really Closed? Characterizing the Water Permeability of Gap Junctional Hemichannels

David Littere, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Derek Beahm, Biology and Professor
Andrea Guiati, Director, Muriel A. Howard Honors Program

Gap junction channels are channels that span two cell membranes to connect the cytosolic compartments of adjoining cells. They allow cells to share ions, metabolites, and signaling molecules and are responsible for the synchronization of electrical activity and other cellular processes. A gap junction channel is formed by the end-to-end docking (binding) of hemichannels contributed by each cell. These hemichannels usually remain closed in the plasma membrane of each cell to prevent the loss of important cellular molecules, and they only open after they dock to form a gap junction channel. The “closed” state is traditionally defined by the inability to pass electrical current. Interestingly, preliminary data from students in a Buff State biology lab course indicates that cells expressing different types of hemichannels will swell and burst faster when placed in water compared to cells not expressing hemichannels. This evidence suggests that hemichannels in their closed state may actually be permeable to water molecules even though they are impermeable to ions. This project focuses on developing a quantitative assay to determine the water permeability of different types of hemichannels. Oocytes will be used to express different hemichannel types and imaging will be used to measure the change in the diameter of an oocyte as it swells in response to being placed in a hypotonic solution. Oocytes are spherical and so volume can be calculated from the diameter measurements. The rate of volume change will be normalized to total membrane area as determined by capacitance measurements to calculate water permeability. Quantitative data showing that closed hemichannels are permeable to water would have significant impact on our understanding of these channels by placing new constraints on structural models and revealing possible new functional roles in volume regulation for the undocked hemichannels.

Presentation Type and Session: Poster VI

Balancer Chromosomes to Generate a Source of Caenorhabditis elegans Lacking the Chaperone GRP170

Tiago Zaninelli, BIO 495: *C. elegans* Genetics
Faculty Mentor: Professor Gregory Wadsworth, Biology

Post-translation processing of proteins in the Endoplasmic Reticulum (ER) involves protein folding, amino acid modification and glycosylation. These processes must be precise regulation in order to avoid accumulation of improperly folded proteins. Among the proteins involved in the ER post-translational processing is the chaperone Glucose Regulated Protein-170 (Grp170). The nematode *Caenorhabditis elegans* has two Grp170 genes. Previously studies have shown that mutations of both GRP170 genes inhibit the

nematode development preventing it to reach the adult stage. Studies of this double mutant have been difficult because of the complexity of generating double mutant worms with traditional genetic crosses. My project is to develop a nematode strain that produces double mutant worms regularly. The strategy I will employ involves a genetic tool called a balancer chromosome. My poster will discuss the genetics of GRP170 in *C. elegans*, the concept of a balancer chromosome and my strategy to use it to generate GRP170 double mutants. I will also describe my progress in generating the GRP170 balancer chromosome strain.

Presentation Type and Session: Poster VII

Being a Spy: Encoding, Decoding, and Correcting Errors with Reed-Solomon Code

Mike Grunzweig, MAT 491: Research in Mathematics
Faculty Mentor: Professor Robin Sanders, Mathematics

Imagine you are a spy. You receive a coded message in the field. Without an error-correcting mechanism like Reed-Solomon code you would be left wondering if you received the right message. My presentation is about how Reed-Solomon codes are used to encode data in a way that the receiver can detect and correct certain types of burst errors. We look at how Reed-Solomon codes use polynomials over finite fields to build code words. We also examine several different algorithms for decoding transmitted data, including the Peterson decoder, the Euclidean decoder, Berlekamp-Massey algorithm, and Gao's algorithm. The differences between the decoding algorithms will be discussed and examples included. Gao's algorithm can directly decode the intended message without finding the error locator polynomial making it easier than the Berlekamp-Massey algorithm. The Berlekamp-Massey algorithm finds the error locator polynomial directly and made the Peterson decoder better. The Peterson decoder is based on syndrome decoding. The Euclidean decoder uses the Euclidean Algorithm to find the error locator polynomial. Modern applications of Reed-Solomon code will be described using real world examples such as digital TV, cell phones, and bar codes.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: II

Can Antibodies Raised Against the Vertebrate Chaperone GRP170 be Used to Study the Invertebrate Homologue?

Raven Baxter-Christian, Biology
Faculty Mentor: Professor Gregory Wadsworth, Biology

Glucose regulated protein 170 (GRP170) is a molecular chaperone found in the endoplasmic reticulum (ER) of vertebrates and invertebrates. GRP170 assists in folding of nascent polypeptide chains by functioning as a “holdase” which prevents unfolded proteins from aggregating and as a nucleotide exchange factor that stimulates other cellular chaperones. The round worm

Caenorhabditis elegans is a model system for study protein folding machinery in animals. It has two genes encoding GRP170, *grp170a* and *grp170b*. Recently, these two genes have been shown to be differentially regulated at the mRNA level during protein folding stress. In worms treated with an antibiotic that prevents normal protein folding, *grp170b* mRNA increases fifty fold but *grp170a* mRNA remains essentially unchanged. These data have led to a model of GRP170a functioning as a house keeping chaperone and GRP170b functioning as a stress inducible chaperone. One limitation of these studies is that only mRNA levels were analyzed while chaperones function at the protein level. For my MA Thesis project, I am interested in adapting an antibody raised against vertebrate GRP170 to study *C. elegans* GRP170 at the protein level. There are several sources of antibodies raised against vertebrate GRP170. While these antibodies react with GRP170 from species across the vertebrate phylum Chordata, it is not known whether they react with GRP170 from invertebrate phyla. It is reasonable to believe they might as antibodies against other vertebrate proteins react with their invertebrate equivalents. I will use the technique of western blotting to analyze whether the anti-vertebrate GRP170 antibodies will recognize the *C. elegans* GRP170s. Worms strains deficient in GRP170 will be used to confirm specificity of the antibody recognition. Demonstration of an antibody that reacts with *C. elegans* GRP170 will open up new avenues of investigation of the protein folding machinery of the round worm.

Presentation Type and Session: Poster V

Chaotic Motion of a Billiard Ball

Raymond Hutchings, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor David Eitestad, Physics and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

I investigated the theoretical path of a billiard ball as it bounces around a rectangular table. Normally when the ball bounces off an edge of the table it will have angle of reflection equal to its angle of incidence. This leads to a fairly predictable path. If we add spin to the ball this is no longer true and many interesting types of patterns occur. In particular the path may settle down into a limit cycle where it repeats itself over and over again after a set number of bounces. It may also end up in a totally chaotic path with no repetition at all. My goal was to find out which values of aspect ratio (width/length of the table) and spin factor would eventually produce a limit cycle. Using a computer program I made a plot of these values in the phase space of aspect ratio and spin factor. This plot has an incredible amount of detail, which I display on my poster. I also show how for one very interesting section of this plot (corresponded to a 17-bounce limit cycle) I analyzed carefully the sequence of bounces in real space and accurately predicted the shape in phase space.

Presentation Type and Session: Poster VI

Cosmic Connection: A Look at Muon Showers

Jacob Oddy, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Michael DeMarco, Physics and Professor

Andrea Guiati, Director, Muriel A. Howard Honors Program

Muons (positive, neutral and negative) are created in the upper atmosphere by collisions of cosmic particles with nuclei and are one of the only subatomic particles that manage to get all the way through our atmosphere to the surface of the Earth. A set of two Geiger detectors detects high energy radiation from the muons using a constructed electronic coincidence circuit. The radiation from the muons passing through both detectors per hour as a function of angles with the zenith has been measured from zero to ninety degrees. The measured data scale with the accepted results from other published groups that show the detecting system is working properly. The rate of detection of muons at ground level varies in time due to changes in both the incident flux at the top of the atmosphere caused by such phenomena as solar storms and also changes in atmospheric conditions. The muon measurements made in this detector system may add to the existing knowledge of the effects of solar storm phenomena and to the effects of pressure and temperature on the number of muons. It is these muon measurements with pressure/temperature that will be presented. Since the experimenter intends to be a high school physics teacher, these experiments can be performed in the future before and during a solar storm with high school students since the muon detector apparatus is reasonably priced. Another independent measurement has been made on of the muon lifetime using another apparatus based on a large scintillator detector. The charged muon is detected by the energy it is losing in the scintillator and if the same charged muon decays in the scintillator through emission of a positron or electron, the lifetime of the particle can be measured through a start-stop mechanism coincidence circuit. It has been measured to be 2.0×10^{-6} seconds in agreement with published data.

Presentation Type and Session: Poster V

Depletion of Boron in Radiation Treatment Room Door Due to Neutron Shielding

Hope Genco, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Michael DeMarco, Physics, Professor Matthew Podgorsak, Roswell Park Cancer Institute Department of Radiation Medicine, and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

The radiation treatment machine used is called a Varian Linear Accelerator, or LinAc. The Linac is used in the treatment of many different cancers in order to decrease the tumor size. It can create a range of high-energy x-rays, depending on the location of the tumor. A bi-product of the x-rays are the production of neutrons, which can penetrate most surfaces and are harmful to people. A

shielding is required in the room and door so that neutrons and scattered x-rays are captured and do not cause harm to anyone. In the treatment room door there is borated polyethylene used to capture the neutrons. The purpose of this study is to evaluate the lifetime of boron-10 in the borated polyethylene protective shielding of the radiation treatment room door. Three Varian linac and only patients with a treatment dosage higher than 15MeV were considered because neutrons can only start to be produced at 10MeV. The neutron fluence at the maze door was calculated. The door dimensions and density of the boron in the door were used in order to find the amount of boron-10 atoms upon installation. The average number of patients and the average dosage they received in a year were collected in order to calculate the number of neutrons produced annually. Once the number of neutrons produced per year, the boron-10 depletion was calculated. Based on the neutron fluence on the door, and assuming an average number of patients a year receiving the same dose it was determined that the door would serve as a protective barrier for 3592.52 years of additional radiation treatments. These calculations provide evidence that the treatment room door is highly effective in barricading the neutrons. The door will be able to capture neutrons for almost 3600 years. It will begin to lose effectiveness about half way through probably, because the number of atoms of boron-10 available for capture will be reduced by half.

Presentation Type and Session: Poster VI

Determining Frost Depth Using Ground Penetrating Radar

Justin Blicharski, Geography and Planning

Faculty Mentors: Professor Stephen Vermette, Geography and Planning and Professor Kevin Williams, Earth Sciences and Science Education

Frost depth is a measure of the depth of frozen soil. The depth of frozen soil in the winter has implications for agricultural, construction, and horticultural, among others. On campus, frost depth measurements have been taken using a frost tube - a hollow plastic tygon tube filled with a liquid, dyed with methylene blue. Where frozen, the dye changes color from blue to clear. The depth of the clear liquid, from the soil surface, is a measure of frost depth. Ground penetrating radar (GPR) has been deployed in Arctic regions, where the soil type consisted of sand and cobble, to measure the depth of the active layer above permafrost. The focus of this study was to determine if GPR could identify the frost depth on campus soils (organic over clay horizons) during the 2014-2015 winter season. Using the GPR, multiple runs were conducted over the winter. Along with each radar run, GPR imagery was examined and compared with frost depth. Frost depth was measured simultaneously using a frost tube, and ground temperature was recorded at different depths.

Presentation Type and Session: Poster VII

Dissecting a Channel: Identifying the pH Sensitivity Elements of Cx50 Hemichannels

Mariah Schaus, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Derek Beahm, Biology and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Gap junctions are channels that connect two cells by allowing the direct exchange of ions and small molecules. In the vertebrate eye, gap junctions provide a pathway for current flow and water transport through the transparent lens tissue to help drive nutrient delivery and waste removal in the absence of blood vessels. The proteins that form gap junctions in the lens, Connexin 46 and Connexin 50 (Cx46 and Cx50), are unique because they also form functional hemichannels that open and close in the plasma membrane of single cells. It is unknown if these hemichannels serve a physiological role independent of their role in forming gap junction channels. Testing for possible roles will require a strategy that alters hemichannel function without affecting gap junctions. Previous work demonstrates that Cx50 hemichannels are uniquely sensitive to extracellular pH and close in response to slight acidification. Because external pH does not affect gap junction channels, the external pH gating mechanism is an ideal target for manipulation to alter hemichannel function without altering gap junction function. This project focuses on identifying the structural determinants of pH sensitivity in Cx50 hemichannels with the goal of generating a mutant that remains closed in the hemichannel form but still assembles into normal gap junction channels. Site-directed mutagenesis will be used to alter amino acid residues in the wildtype protein that may be involved in pH sensitivity. Histidine residues will be targeted first because these residues undergo protonation in the same pH range that affects Cx50 hemichannels. Functional consequences of these mutations will be tested by expressing the proteins in *Xenopus laevis* oocytes and using electrophysiological techniques to assay channel activity under different external pH conditions. These results will contribute to our understanding of hemichannel structure and function and provide an experimental strategy to test for their possible physiological roles.

Presentation Type and Session: Poster VI

Distinct Physiological Roles for the Two Isoforms of the ER Chaperone GRP170 in *Caenorhabditis elegans*

Yuanyuan Li, Biology

Faculty Mentor: Professor Gregory Wadsworth, Biology

GRP170 is a large chaperone found in the ER of all eukaryotes and is a member of the Hsp70 class of chaperones. Nematodes are unusual among animals in that they have two separate genes encoding distinct isoforms of GRP170. The two GRP170 loci in the soil nematode *Caenorhabditis elegans* are: T24H7.2 (grp170a) and T14G8.3 (grp170b). My hypothesis is that grp170a functions in the non-stress "housekeeping" physiology of the worm and that grp170b functions under stress conditions. To test this hypothesis,

I compared the phenotypes of nematodes genetically deficient for grp170a (strain BSC07) or deficient for grp170b (strain BSC06) with a control strain (strain N2). The nematode strain deficient for grp170a (BSC07) matured 32% slower than the control strain (N2). The loss of grp170a was also associated with a significant increase in embryonic lethality with embryos arrested early in development. The nematode strain deficient for grp170b (BSC06) matured at the same rate as the control strain and showed no increase in embryo lethality. These results were consistent with grp170a playing a more important role in the housekeeping physiology of the nematode compared to grp170b. To investigate the roles of the two grp170 loci under stress conditions, the nematodes were treated with the antibiotic tunicamycin. Tunicamycin causes ER stress by preventing normal protein folding. Again the strain deficient for grp170a showed greater sensitivity to the tunicamycin than the control strain. Surprisingly, the strain deficient for grp170b was less sensitive to tunicamycin than control worms. These results were inconsistent with a simple model of grp170b functioning as a general stress related chaperone.

Presentation Type and Session: Poster VIII

Does the ER Stress Response Allow Cells to Survive in Loss of the Protein Folding Chaperone, GRP170?

Diogo Portella, BIO 495: *C. elegans* Genetics

Faculty Mentor: Professor Gregory Wadsworth, Biology

The endoplasmic reticulum (ER), a major site of protein synthesis in cells, contains a complex array of protein folding chaperones to prevent newly synthesized proteins from misfolding and forming toxic aggregates. One of these chaperones named GRP170 is found in the ER of all eukaryotes from yeast to man. Surprisingly a mutation that inactivates a GRP170 gene in the round worm *Caenorhabditis elegans* had a minimal effect on the organism. Recent studies have shown that loss of this GRP170 gene activates an ER stress response called the Unfolded Protein Response (UPR). UPR functions by inducing expression of a battery of other chaperones. I hypothesize that worms survive the loss of GRP170 because they activate UPR that induces chaperones that are able to compensate for the loss of GRP170. To test this hypothesis I will conduct genetic crosses to introduce the mutant gene for GRP170 into a strain of worms unable to induce UPR. If UPR is important to survival in the absence of GRP170, then blocking UPR should cause these worms to show severe abnormalities or death. To conduct these crosses I must first develop a molecular genotyping assay to track the gene for defective UPR called IRE1. I will employ a standard duplex PCR genotyping strategy for the genotyping assay and will validate its effectiveness before initiating crosses. For the genetic crosses, I will use a standard Mendelian dihybrid cross to generate three strains of worms: 1) deficient in GRP170; 2) deficient in the UPR response (IRE1 mutants); and 3) deficient in both. The morphology and physiology of these three groups of worms will be compared.

Difference in phenotypes may provide insight into the specific role GRP170 has in protein folding in the ER.

Presentation Type and Session: Poster VII

Does the Nearby Lancaster Sanitary Landfill have an Impact on the Tillman Wildlife Management Area?

Jacob Stanek, GES 460: Environmental Field Methods and Analysis

Faculty Mentor: Professor Elisa Bergslien, Earth Sciences and Science Education

The primary objective of this project is to determine if localized contaminants from a nearby landfill and chemical processing plant have migrated to a well-frequented public land use area. As towns grow and expand over time, land is used and re-used for many different reasons. Along the outskirts of any town is most likely where you will find the most pollution because these locations tend to be the ideal location for the dirtiest industries. On the outskirts of Clarence, NY and Lancaster, NY a forty-five year old landfill borders a Wildlife Management area. A metal processing plant named Safety-Kleen is also within the area of concern. Two major contaminate sites have been identified within a one mile radius of a Wildlife Management area as well as residential housing. The question is, do the contaminants from the landfill adversely impact the nearby public land area? Through contaminate comparison studies on a group of ponds are in close proximity I hope to examine this relationship. In addition to water testing for nitrates and heavy metals I will be testing the soil in a judgmental manner. I intend to concentrate my efforts on short-range migration in the soil by sampling along the border of both the landfill and public use land that surrounds the landfill. Elevation maps indicate that groundwater could flow towards public land and water areas. I believe the results of testing will indicate a relation in groundwater and soil between the landfill and the surrounding public area.

Presentation Type and Session: Poster VII

The Effect of Exercise on Oxygen Consumption in Small and Large Animals

Safia Hosein, BIO 402: Comparative Animal Physiology

Faculty Mentors: Professor Randal Snyder, Biology and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

When comparing the metabolic rate of a small animal to a larger animal, smaller animals will consume more oxygen per gram of their body weight than a larger animal. However, larger animals will consume more oxygen overall, in a whole-body sense. Exercise, or some form of physical task affects an animal's metabolic rate such that more oxygen must be consumed. Exercise will increase an animal's oxygen consumption to make up for any deficit. Two pairs of animals were used to determine how exercise affected each of their metabolic rates. Controls of each animal were tested against the

animals who exercised, and the rate at which oxygen was depleted was recorded as a measure of how much oxygen was used. The metabolic rate for each animal that exercised was then compared to the weight-specific metabolic rate of the control animals, to determine whether the size of the animal affected the amount of oxygen consumed with respect to exercise.

Presentation Type and Session: Poster V

Electrical Transport Measurements on Magnetic Oxide Thin Films

Michelle Pascolini, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor Ram Rai, Physics and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

LuFe₂O₄ (LFO) belongs to the magnetic oxide family RFe₂O₄ (R = Y, Dy-Lu) in which the mixed valent Fe²⁺ and Fe³⁺ ions reside in a triangular lattice structure. LFO exhibits the magnetic and electronic properties arising from its complex charge and spin interactions of Fe ions, making it an important material from both scientific and technological stand point. In general, resistivity of a sample indicates the intrinsic opposition of the flow of electrons in the material. By measuring resistivity of a sample at different temperatures, we can probe its electronic properties and correlate with other physical properties of the material. We have investigated the resistivity of LuFe₂O₄ thin films on YSZ and sapphire substrates. We looked at how the resistance changes as the temperature of the sample is raised from 9 K to room temperature (~300 K). Our measurements show that the resistance of the LFO thin film decreases significantly as the temperature increases. For example, a 100 nm LFO thin film has resistance of about 250 MOhm at 295 K and 2300 GOhm at 9 K, which are typical resistance values for a magnetic insulator. Moreover, the current-voltage graph shows a non-linear behavior that can be associated with the Fe²⁺ and Fe³⁺ charge ordering observed in LFO. We discuss the electrical transport properties of LFO and compare our thin film data with the single crystal data.

Presentation Type and Session: Poster VII

Enhancing the Performance of Turbulent Magnetic Field Modeling

Timothy Schuler, Physics and Mathematics

Faculty Mentors: Professor Dermot Coffey, Physics, Professor James Beatty, Physics, The Ohio State University, Professor Michael Sutherland, Physics, The Ohio State University, and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

The origin of ultrahigh energy cosmic rays (UHECRs) remains a great mystery in astrophysics. Since UHECRs consist of charged nuclei, they undergo deflection induced by cosmic magnetic fields including that of the Milky Way. The publicly available numerical tool CRT was developed to propagate UHECRs through Galactic magnetic field models by integrating the relativistic equations of motion. One recent model contains both coherent and random

components scaled to radio astronomical datasets. However, inconsistently high field strengths exist when compared with the realizations of other codes that generate random fields. The purpose of this study was to investigate different methods for eliminating these higher field strength regions. We examined the effects of changing sampling ranges in kspace for the code's random number routines as well as the constraints for generating the fields. The results of these changes were compared to GARFIELDS, a different numerical technique used for generating random fields. In changing the random number routines, we limited the random number distribution that characterizes the root mean square of the field Brms. We observed a decrease in field strength as well as a cutoff on the tail of the distribution of random values. We also considered the possibility of periodicity in logspace, motivating us to sample kspace logarithmically. This method produced higher field strengths along with greater tails in the distribution of random field values. Moreover, we limited modes in kspace so that the maximum mode corresponded to the Nyquist frequency $k_{max} = k_0 (N/2)$. This addition produced significantly lower field strengths similar to GARFIELDS, and narrower tails in the distribution of random field values. With the removal of the higher field strength regions, we present an updated version of CRT that produces turbulent fields that are more consistent with other simulation techniques.

Presentation Type and Session: Poster VII

Environmental Impact of Combined Sewer Systems in Buffalo Public Parks

Marc Young, GES 460: Environmental Field Methods and Analysis
Faculty Mentor: Professor Elisa Bergslien, Earth Sciences and Science Education

The goal of this study is to examine the role of precipitation in producing a public health risk due to its generation of combined sewer overflow (CSO) events in Buffalo. In a combined sewer system, sanitary sewers are combined with storm sewers in a shared sewer that carries the water to a treatment facility. Combined sewer overflows were designed to relieve pressure on the sewer system during heavy precipitation to protect treatment facilities from overflowing. If flow exceeds wastewater treatment capacity during heavy precipitation, storm water and sewage is discharged into local waterways through combined sewer outlets. However, the current overflows are not in compliance with modern standards of the EPA's Clean Water Act. There are 59 CSO outlets located in Buffalo, and an average of 68 combined sewer overflow events occur annually. CSO #53 is located on the east side of Forest Lawn Cemetery near the Main Street entrance; therefore, any sewage waste discharged during an overflow event is emitted into a waterway that flows through a tourist attraction. An understanding of the correlation between precipitation and CSO events would allow for more active or proactive management of the Buffalo sewer system and may be useful in planning future improvements to the Buffalo sewer system. Precipitation data collected for the Scajauada Sewer District will be correlated with the discharge events over a one-month period.

The indicator bacteria *E. coli* will be used to determine the presence of a sewage overflow. Higher levels of bacteria are expected during periods of high rainfall.

Presentation Type and Session: Poster VIII

Euclid Unparalleled? The Fifth Postulate

Kimberly Hendricks, MAT 491: Research in Mathematics

Faculty Mentor: Professor Robin Sanders, Mathematics

Euclid, a Greek mathematician, wrote “The Elements” over two thousand years ago. This work is the basis for Euclidean Geometry, the same Geometry that is used in classrooms around the world today. “The Elements” contains definitions, postulates and “common notions”. There has been much discussion through the years about Euclid’s fifth postulate which states: “If a straight line intersecting two straight lines makes the interior angles on the same side less than two right angles; then the two lines (if extended indefinitely) will meet on that side on which the angles are less than two right angles.” This is also known as the parallel postulate. My presentation will give a brief history of Euclidean Geometry with detailed focus on Euclid’s fifth postulate. I will discuss and analyze the parallel postulate equivalent statements who developed them and why they developed them. This includes but is not limited to the Pythagorean theorem, the triangle postulate, Playfair’s axiom, Proclus’ axiom and the equidistance postulate. I will include some appropriate mathematical proofs where they apply. I have gathered information from a variety of sources. High school and college geometry textbooks have provided necessary proofs, postulates and definitions. I have used several written articles to gather information on the history of Euclidean Geometry and the equivalent statements to the parallel postulate. Several of the articles are from education websites. I will demonstrate that Euclid’s work is unparalleled even until this day.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: II

Evaluating Bicycle Infrastructure Improvements

Nathan Mroz and **Keith House**, PLN 410: Sustainable Transportation

Faculty Mentor: Professor Wende Mix, Geography and Planning

Sustainable transportation means different things to different people. Research focuses on alternative fuels for motor vehicles, transportation demand management strategies to reduce vehicle miles of travel, and improving mode choices to encourage active transportation and transit use. Active transportation, such as bicycling, has become the focus of many planners who want to use land use and street infrastructure improvements to encourage those who do not currently choose active transportation to do so. A program, called “Complete Streets” has been implemented in many cities to accommodate the use of the right of way by all modes of transportation, including walking and bicycling. Active

transportation is the most environmentally friendly but has the added benefit of positive health impacts. The City of Buffalo has changed some of its streets to encourage safer bicycle and pedestrian use, however for the purposes of this assessment, we will be focusing solely on bicycle travel. This research questions the “If you build it, they will come” philosophy of these programs. Ideally, before and after studies would be conducted to evaluate the change in use of a facility. However, given a limited timeframe, we will only be able to collect “after” data during April to benchmark activity. If possible, we will compare these estimates to data gathered by the city prior to implementing these improvements. Otherwise, we will identify similar sites with no improvements and measure their level of bicycling use.

Presentation Type and Session: Poster VIII

Evaluating Two Approaches for Measuring Sunshine at Buffalo State

Justin Blicharski, Geography and Planning

Faculty Mentor: Professor Stephen Vermette, Geography and Planning

Buffalo State recently installed a Foster-Foskett sunshine switch from the Buffalo National Weather Service, a device that records sunshine minutes. Two photoelectric cells within the unit; one shaded and one unshaded, determine the amount of sunshine in minutes every day. If there is no sunshine, both cells only react to diffuse radiation and no sunshine is recorded, whereas if there is sunshine, direct solar irradiation can exceed a fixed level, and sunshine is recorded. A different method was developed by Jack Kanack (Weather Medic, Inc.) in determining the amount of sunshine through cloud cover data. His methodology consists of obtaining cloud cover data on any given day, and assigning a percentage of sunshine value to the type of cloud condition and height of the clouds within an hour. The percentage is then converted to minutes and a total percentage of sunshine is determined between the total amount of sunshine minutes that was calculated and total amount of minutes in the day, from sunrise to sunset. Using 2010 sunshine and cloud data from Buffalo’s National Weather Service site, the purpose of this study is to determine the accuracy of the new methodology by comparing the results to the Foster-Foskett sunshine switch. A preliminary study was conducted using January 2015 sunshine and cloud data, and showed promising results.

Presentation Type and Session: Poster VII

Evaluation of Changes in Channel Geometry Following Environmental Dredging in the Buffalo River

Mark Legeza, Interdisciplinary Master’s

Faculty Mentor: Professor Jill Singer, Earth Sciences and Science Education

The Buffalo River is an urbanized watershed and a designated Great Lakes Area of Concern. The Buffalo River is a federal

navigation channel that the U.S. Army Corps of Engineers (USACE) maintains to a navigational channel depth of 23 feet below mean lake level by dredging every 2-3 years. To remove some of the most contaminated sediments, a large-scale sediment removal project was conducted between 2011 and 2014. This environmental dredging project involved the removal of more than one million cubic yards of sediment from both within and outside the navigation channel, significantly modifying the river's cross-sectional profile. To quantify the volume of sediment removed from selected portions of the river, USACE collected pre- and post-dredging bathymetric data along closely-spaced bank-to-bank transects. These digital data sets were used to draw cross-sections of the river between Hamburg Street and the Concrete Central Elevators. Documentation of changes in channel width and depth (cross-sectional area) were obtained by comparing the cross-sections before and after dredging. These findings are augmented by side-scan sonar records collected annually over the same period.

Presentation Type and Session: Poster VI

Field and Laboratory Study of Rock Unit Patterns in a New 3-D Outcrop, Sebago Area, Southern Maine

Brandon Luther, Earth Sciences

Faculty Mentor: Professor Gary Solar, Earth Sciences and Science Education

The purpose of this research project is to analyze and evaluate structural and mineral patterns found in the Northern Appalachian Migmatite-Granite complex in southern Maine that formed around 400 million years ago when the rocks were buried deep within a mountain belt. This project focuses on the rock type called migmatite, and the igneous bodies that have intruded it (granite). Migmatite is a high-grade metamorphic rock containing small igneous bodies that are a result of anatexis (partial melting when the rocks are very hot/deep). The field location is dominated by rocks with a high biotite and low muscovite content suggesting peak temperature of $\sim 700\text{-}750$ deg. C; and because the migmatite is deformed, their documentation is crucial to understanding melting processes during mountain building episodes. The focus of this work was on a large, recently exposed 3-D outcrop in Cumberland Center, Maine. This area is usually low outcrop density, but this outcrop is over 3,600 square meters horizontally with an adjacent cliff face that of similar area, thus providing a rare opportunity to study different structures and textures of the migmatite-granite complex in one place. Fieldwork was two weeks that included measurements of layers and mineral patterns (fabrics) in the rocks in order to create a structural map of the rock units (and the total outcrop). Specimens were then collected, and lab work involved preparation for microscopy (thin sectioning), and subsequent microanalysis as well as geochronological data and Scanning Electron Microscope data to fully understand the composition and mineral content of

the outcrop. Results show a distinct structural pattern across the exposure that is consistent with regional studies conducted by previous work.

Presentation Type and Session: Poster V

Forensic Investigation of Gasoline Residues on Household Materials

Michael Swierczynski, Jr., Chemistry and **Kelly Grau**, Chemistry

Faculty Mentor: Professor Joonyeong Kim, Chemistry

Arson is an easy to commit crime. The required supplies are easily and cheaply available to the general public and no special knowledge such as hacking and marksmanship is required. It is also effective, as fires can quickly cause huge monetary damages and loss of life. Arson can be problematic to forensic investigators, as the nature of flames can destroy evidence such as fingerprints and hair at the scene of the crime. In nearly all cases of arson a liquid accelerant is used. Liquid accelerants, such as gasoline, speed up the process and increase the damage done during the time. Our research focuses on the detection of gasoline residues on different household samples over various intervals of time. For this goal, regular unleaded regular gasoline (87 octane number) and four common household materials: carpet, plywood, newspaper, and cotton fabric were chosen. These household samples were cut into the same size of pieces, a small amount of gasoline was splashed on them, and they were dried at room temperature for various time intervals prior to chemical analysis. Detection of gasoline residues from these samples were conducted via gas chromatography with headspace sampling and flame ionization detector. Our preliminary data has shown that a trace amount of gasoline could be identified from a cotton fabric sample even after 48 hours of staying at room temperature.

Presentation Type and Session: Poster VII

Fractal Models of Real World Phenomena

Alban Morina, AMT 495: Applied Mathematics

Faculty Mentor: Professor Joaquin Carbonara, Mathematics

This project uses the concept of self-similarity from Fractal Theory to model real world phenomena. This is important because scientists depend heavily on mathematical models to do their job, meeting needs of and solving crucial problems in society. We present several real life examples of numerical and geometrical data along with models and metrics derived from computational fractal theory that provide valuable insight into the nature of the examples. Conjectures of how to modify the examples based on the models created to meet individuals' needs are part of the project.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: II

Fractals: Finding Measure in the Immeasurable

Amanda Rojo, MAT 491: Research in Mathematics

Faculty Mentor: Professor Robin Sanders, Mathematics

Mathematicians have a stigma of either over-simplifying or over-complicating measurements. Textbook life application problems never steer far from finding the area of a stop sign or the volume of water in a water bottle in the month of October with a dew point of .35. Is it possible to find an object with right triangles or perfect squares to measure? The likelihood of that reality is rather slim. Look at the world and all the irregularities that lie within: how vast and beautiful life is. The differences abound in the trees, clouds, mountains, and snowflakes. The question remains, how do we measure a world that seems simply immeasurable? The goal of this research is to find a standard in measuring the world and everything in it by using Benoit Mandelbrot's fractals. Fractals are a group of equations that produce infinitely complex patterns that are similar across different scales. Measuring the world using fractals requires fractal dimensions. Unlike normal dimensions of length, width, depth and height, fractal dimensions are not merely integers. Instead the dimensions are ratios comparing how details in patterns change with the scale at which it is being measured. Fractal dimensions can be used to illustrate the abstract as well as measuring details in irregularities and complexities seen all throughout the world today. Life itself is already complicated and according to Mandelbrot, "Clouds are not spheres, mountains are not cones, coastlines are not circles, and bark is not smooth, nor does lightning travel in a straight line."

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: II

Genetic Counseling and Connexin 31

Desiree McConnell, Individualized Studies

Faculty Mentors: Professor I. Martha Skerrett, Biology and Ms. June Mikkelson, Clinical Genetics Service, Roswell Park Cancer Institute

This study connects research conducted in the Biology Department with an internship in Genetic Counseling. Alterations in the genetic code represent a source of diversity in all organisms. Most are harmless and account for differences between individuals; however some have deleterious effects (mutations). In humans, mutations may cause hereditary disorders. The gene GJB3 encodes the protein connexin31 (Cx31), which is expressed in the skin and inner ear. Mutations in GJB3 gene can cause a skin disorder, erythrokeratoderma variabilis (EKV) or hearing loss (NSHL). These conditions are being studied at the level of protein function using the *Xenopus* oocyte expression system. This information is invaluable to providing information to individuals affected by these conditions. Genetic counseling is the process of providing individuals with education about genetic conditions. Families with either of these conditions should be evaluated by a genetic counselor for risk

assessment and confirmatory testing. If a mutation is identified, relatives may be assessed to determine their risks. Pedigrees can be used by genetic counselors to help determine inheritance of genetic conditions, which guides testing and determines recurrence risk for an individual and/or their relatives. Attempts will be made to create pedigrees for the GJB3 mutations studied in the lab.

Presentation Type and Session: Poster VI

Global Positioning System Uses, Mathematics, and Privacy Concerns

Edward Block, MAT 491: Research in Mathematics

Faculty Mentor: Professor Robin Sue Sanders, Mathematics

Ever since little boxes with colored pictures that plugged into cigarette lighters started telling us where to go, literally, people have been wondering how this global positioning system does what it does, how it got started and by whom. Currently there are five global positioning systems in operation. Russia, India and Japan operate one each with the People's Republic of China operating two. Another system is being developed by the European Union. Uses for the global positioning system other than auto, ship and boat navigation are; surveying, mapping, construction, mining, prospecting, oil rig placement, as well as, road and access planning to name a few. Terrastar and Altus are two private systems of satellite reference stations, available to clients for commercial use when used with compatible receivers. This research project will explain the current operational global position systems applications, the mathematics involved in GPS, which include the bi-variate Newton-Raphson method and the approximated inverse of a Jacobian matrix, as well as what the future holds for GPS. We will also consider whether quantum positioning can replace the existing system and when. There are other concerns that we will address as global positioning advances further, that is, if GPS along with other devices such as national identity cards, child protection and pet RFID chips, electronic monitoring and enhanced licenses will erode the privacy of citizens.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: I

Growth and Optical Properties of YFe₂O₄ Thin Films

Josh Hinz, PHY 495: Project

Faculty Mentor: Professor Ram Rai, Physics

Thin films of functional materials are of great importance to building future technologies. One such promising material, that is the focus of this research, is Yttrium-Iron-Oxide (YFe₂O₄). What makes this material special is its optical and electrical properties, in particular how the thin films respond to electrical stimuli. YFe₂O₄ (in short YFO) has a triangular lattice structure occupied by the mixed valence states of Fe with equal number of Fe²⁺ and Fe³⁺ ions. We deposited 100 nm YFO thin films on single crystal (0001) sapphire substrates using the electron-beam deposition. In order to

collect data the sample was connected in a circuit with the voltage source, then a combination of liquid nitrogen and a heating element were used to achieve equilibrium at different temperatures. All of this was done inside of an optical cryostat so that the transmittance and reflectance could be measured using a spectrometer in order to see how the thin film sample responded to the applied voltages. The optical spectra of YFO show several electronic excitations in the energy range 1 – 6.0 eV, and temperature dependence of the electronic excitations display an anomaly at 200° K, indicating a structural distortion. Furthermore, the YFO film showed significant changes in both transmittance and reflectance in response to applied voltages particularly at temperatures 200° K and below. The observed electro-optical responses could arise from the electric-field-induced changes in the charge order state of YFO. More investigation is needed to determine the full story of what is going on, but from the data it seems that there may be a potential use for YFO films in devices.

Presentation Type and Session: Poster VII

Habitat Use and Behavior of Map Turtles and Slider Turtles in the Upper Niagara River

Brian Haas, Biology and Jeremy Henderson, Biology
Faculty Mentors: Professor Ed Standora, Biology and Professor Wende Mix, Geography and Planning

Biotelemetry was used to study habitat use and behavior of northern map turtles (*Graptemys geographica*) and red-eared slider turtles (*Trachemys scripta elegans*) in the upper Niagara River. During two field seasons, three different types of traps were deployed for almost 2000 trap nights. This effort resulted in the capture of five map turtles, five slider turtles and numerous non-target turtles representing five species in total. Radio and sonic transmitters and temperature/depth data loggers were affixed to each map and red eared slider turtle. Data were used to analyze these two sympatric species and their relationships. Turtles were tracked using GPS, and GIS software was used to generate home ranges. Data collected during these years indicate that both species spend much of the summer months in areas with no natural shoreline and limited boat traffic. Preferred sites have deep slowly moving water with an abundance of floating vegetation and a high density of mussels. In the fall, female map turtles moved long distances, up to 20 km downstream, to multiple locations for brumation. Turtles were monitored over the winter months and will be recaptured for removal of equipment in spring 2015. Sonar mapping and underwater video was used to precisely define underwater features of habitats and hibernacula. We have defined key habitat requirements for basking, nesting, and brumating. Findings will be incorporated into conservation and management efforts, with a focus on habitat enhancement and population recovery.

Presentation Type and Session: Poster V

Hydrodynamics of a River Undergoing Environmental Restoration: Buffalo River, NY

Matthew Kraft, Earth Science

Faculty Mentors: Professor Jill Singer, Earth Sciences and Science Education and Professor T. O. Manley, Middlebury College, Geology

Due to its environmental degradation including contaminated sediment, poor water quality, and lost habitat, the lower 9.2 km of the Buffalo River is a Great Lakes Area of Concern (AoC). To better understand the river's hydrodynamics, particularly the interaction between the downriver and upriver flow, since 2009 five horizontal and five vertical Acoustic Doppler Current Profilers (H-ADCP and V-ADCP, respectively) have been deployed year round in the lower 9 km of the Buffalo River. The ADCPs were programmed to take measurements every 15 (H-ADCPs) or 20 minutes (V-ADCPs). Data were processed to ensure integrity and permit temporal changes to be investigated. During the period of ADCP deployment, the Buffalo River has undergone dredging, including a large-scale environmental dredging project which widened and deepened some sections of the river's channel. ADCP measurements document several different flow behaviors including high flow events related to runoff from snowmelt and high precipitation and flow reversals related to the upriver propagation of Lake Erie wind-driven surges. River velocities generally are low (~10cm/s), but may reach up to 2 m/s during high flow events. The Buffalo River also has its own periodic (~1.75 - 2 hr) oscillation (river seiche) that is best observed during times of non-lake surge activity or low downstream velocities. The river seiche persists year round during open as well as ice-covered conditions.

Presentation Type and Session: Poster VI

Investigating Relationships between Riparian Buffers and Measures of Bank Stability and Water Quality in Niagara Greenway Streams

Megan Klein, GEG 430: Senior Thesis

Faculty Mentor: Professor Kelly Frothingham, Geography and Planning

It has been established that riparian buffers help support a healthy functional stream by enhancing the overall health of a stream ecosystem. Other research has shown that the optimal width of a riparian buffer is dependent on the function of the buffer (e.g., providing bank stabilization, filtering chemicals and nutrients, moderating flooding). The objective of this project was to investigate the relationships between riparian buffer width and qualitative measures of bank stability and water quality. Riparian buffer data quality assurance/quality control also was investigated by comparing qualitative riparian zone scores with estimated buffer widths. Data collection was completed during the summer of 2013 and involved using the Stream Visual Assessment Protocol (SVAP) to visually assess the physical, chemical, and biological conditions of streams

located in the Niagara River Greenway. A total of 348 reaches on 12 streams were assessed. A Pearson product correlation analysis was used to investigate relationships between riparian zone SVAP element scores and bank condition, water appearance, and nutrient enrichment element scores. Although a strong positive correlation was expected between riparian zone scores and the other SVAP element scores because as buffer width increases, bank stability and water quality should increase, the results showed only a weak relationship between riparian zone scores and elements of bank condition, water appearance, and nutrient enrichment.

Presentation Type and Session: Poster VII

An Investigation into the Impacts of Land Use Change on Urban Stream Health: Scajaquada Creek

Alexandra Santora, GEG 430: Senior Thesis

Faculty Mentors: Professor Kelly Frothingham, Geography and Planning and Professor Mary Perrelli, Geography and Planning

The Scajaquada Creek, NY watershed is a small catchment negatively impacted by urban expansion. Previous research has shown that as land use development intensifies in a watershed, stream health is diminished as water quality decreases. Booth and Jackson (1997) identified the land use in the upper portion of a watershed as a characteristic critical in determining overall stream health. This research was conducted to examine temporal changes in land use in the upper portion of the Scajaquada Creek watershed from the 1950s, 1970s, and 2010s and to relate land use changes to water quality measurements in the upper portion of the creek. Land use was interpreted from historic aerial imagery and water quality data for dissolved oxygen and *E. coli* was sourced from historic records. Interpretation of aerial imagery showed increases in high- and medium-intensity land uses, while agricultural land uses have been almost entirely removed from the landscape. Corresponding water quality data shows increases of both dissolved oxygen and *E. coli* with increased land use intensity.

Presentation Type and Session: Poster VI

An Investigation of Invasive Shrubs on Native Moth and Butterfly Populations

Lauren Grunzweig, Biology

Faculty Mentor: Professor Robert Warren, Biology

Biodiversity is a critical component in keeping a habitat functional. High biodiversity, especially at the lowest trophic levels, increases the number of possible interactions between plant and animal species. This relationship allows nutrients to cycle to the highest trophic levels most efficiently. The presence of exotic invasive plant species reduces the biodiversity of insects because it reduces palatable food sources for native leaf eating insects. My research focused on determining the abundance and species richness of Lepidoptera larvae (caterpillars) on common buckthorn (*R. cathartica*), an invasive species, and native woody species (e.g., oak,

hickory, maple) at Tiff Nature Preserve. I found significantly less diversity and abundance of Lepidoptera on common buckthorn than on the native woody trees. These results indicate that invasive plants support less insects than native plants, indicating that the effort to control invasive organisms provides great value to a habitat by promoting biodiversity.

Presentation Type and Session: Poster VII

Is the Fountain in Hoyt Lake Changing the Water Quality?

Bre'Asia Andrews and **Kelly Mellon**, GES 460: Environmental Field Methods and Analysis

Faculty Mentor: Professor Elisa Bergslien, Earth Sciences and Science Education

Delaware Park is the centerpiece of the Buffalo parks system located in North Buffalo. Originally referred to as "The Park," it is one of few created by Frederick Law Olmsted that includes a water feature, a meadow, and wooded area. Hoyt Lake, also known as "Gala Water" was originally 42 acres in area, and formed by damming Scajaquada Creek. Subsequently, the creek was directed into a tunnel and the lake is now a stagnant body of water. Because of the lack of flow, water quality has been diminished. The city granted \$150,000 to install a 50-foot-tall water fountain in the southeast end of the lake in attempt to mitigate issues. The fountain is part of a larger effort to improve the water quality of the entire Scajaquada Creek Watershed. The question of significance is whether the water fountain has truly improved the water quality of Hoyt Lake. The fountain aerates the water, reducing algal blooms, and should overall improve fish and wildlife habitat. The water quality will be tested at the northwest side of the lake located behind the Buffalo Historical Society and the southeast closing of the lake, which is located closer to the fountain. The data collected will be compared to water quality samples taken before the fountain was installed. The fountain is expected to improve water conditions but, being fairly new, the water quality will have improved some but not drastically. The change in water quality is expected to be gradual since the fountain's installation, due to the size of the fountain compared to the lake itself.

Presentation Type and Session: Poster VIII

Mathematics on Predators and Prey

Kaylee Gatto, MAT 491: Research in Mathematics

Faculty Mentor: Professor Robin Sanders, Mathematics

Why are Predator-Prey Models important? These models are real world situations that use mathematics. These models are used to show two different species when their growth rate depends on the size of both populations. They show different circumstances where the predator population may increase while the prey population would decrease. As stated by Duke University, "Mathematical ecology requires the study of populations that interact, therefore affecting each other's growth rates." This is important because predator and

prey do in fact affect each other's growth rate. The Lotka-Volterra Model shows the differential equation part of the Predator Prey Models. This is an important model with many different differential equations used to create the Predator Prey Models. My presentation will show how these models relate to real life situations while using mathematics as well. The audience will be able to see the different equations that are used to make a prediction on the predator and prey. These models help with prediction on what will happen between two different species.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: I

A Multivariate Regression Model for Stock Market Price

Brian West, AMT 495: Applied Mathematics

Faculty Mentor: Professor Bruce Sun, Mathematics

The purpose of this research is to determine if a linear regression model can accurately predict future stock prices. The multivariate regression is an approach to find the causal relationship between independent factors and the response variable. The first phase of the project involves gathering economic data from government websites, and inputting the data into the software SPSS. The final phase is running the regression analysis and interpreting the results. By identifying a model for the stock market price, I make it possible to determine future stock market prices, as well as the relevant effect that each individual variable has on the market as a whole. This allows for a better understanding of fluctuations in the stock market price as well as the factors that directly impact it.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: II

The Nature and Behavior of Oscillations in the Buffalo River, Buffalo, NY

Kari Clayton, Earth Science

Faculty Mentor: Professor Jill Singer, Earth Sciences and Science Education

The Buffalo River, an urbanized watershed located in Buffalo, New York, USA, discharges into the east end of Lake Erie. The lower ~9 km of the river is a navigation channel with a depth of ~9 m. Due to the orientation of Lake Erie in the same direction of the prevailing WSW winds, persistent winds pile water up at the eastern (Buffalo) end of the lake causing large setups (elevation changes) on the eastern side of the lake which in turn, create a surge into the Buffalo River. The Buffalo River is susceptible to Lake Erie surges as a consequence of its deepening from dredging, low gradient, and lower flow velocities. To understand lake surges, including how they propagate into the Buffalo River reversing flow, three water level recorders were installed for five to six months each year between 2010 and 2014. River elevations were measured at 5-minute intervals from 2010 to 2012 and at 1-minute intervals from 2013 to 2014.

Changes in river elevation between the mouth and 9 km upriver show the propagation of these surges. Lake surges can increase river elevation > 50 cm. The Buffalo River also has an oscillation (i.e., river seiche) with a period of ~1.75 - 2.0 hours and amplitudes from ~5 - 10 cm.

Presentation Type and Session: Poster VIII

A Novel Approach to Fabricating SERS Substrate

Eric Gauchat, Chemistry

Faculty Mentor: Professor Jinseok Heo, Chemistry

I am presenting a simple method for preparing Surface Enhanced Raman Scattering (SERS) substrate, which can be used for highly-sensitive analyte detection. The preparation method reported relies on the formation of self-assembled Au nanoparticle (AuNP) layers on a glass surface by evaporating a solution of AuNPs (70 nm diameter) having a narrow distribution in size. The SERS substrates were prepared by adding sodium iodide to the AuNP solution, followed by evaporating a drop of the AuNP solution on a poly-L-lysine (PLL)-treated glass surface with the presence of ethanol vapor in a vacuum-assisted container. This method accelerated the solvent evaporation time by 25 times compared with a traditional evaporation method, while it improved the uniformity of AuNP deposit layers by removing coffee ring effect, which is often a problem in evaporating colloid particles. The visible absorption data suggested the formation of the aggregate of AuNP layer, whose plasmon band fit well in the wavelength range of near-IR laser excitation. The Raman spectrum of the AuNP deposits showed an efficient removal of capping ligands that were present on AuNPs, which could interfere with the Raman peaks of analytes. The SERS activity of the prepared substrates was confirmed by testing with a Rhodamine 6G (R6G) Raman dye. This new method is straightforward to use, quick to prepare, and cost-effective. Thus, it is anticipated that this substrate can be routinely used for identifying unknown samples in a micromolar concentration range.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: I

Outsourcing Logistics Activities: A Cost Analysis

Stacy Zalamea, AMT 495: Applied Mathematics

Faculty Mentor: Professor Lorena Mathien, Mathematics

In today's business world, firms concentrate their resources on limited activities and processes in which they have competency. Successful companies are the ones who have built reputable leadership in more than five or six competencies; these core competencies are what differentiate a firm and provide them with a sustainable competitive advantage. Recent logistics research examines the increasing trend in logistics outsourcing, which has been found to improve a firm's quality of customer service as well as reduce costs by outsourcing its logistical functions. Using survey

data from 38 supply chains from various industries, the results empirically test the hypotheses to determine if the outsourcing of logistics functions to a third party is positively related to logistics performance. This research compares these various industries by using statistical methods to distinguish which logistics functions should be outsourced to provide the most financial benefit.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: II

The Phenomenon of Benford's Law and Its Presence at Buffalo State

Timothy Miller, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Peter Mercer, Mathematics and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Benford's Law is a naturally occurring phenomenon in which the leading digit of the values in many data sets is most often 1, followed by 2, and so on, with 9 occurring least frequently. The leading digit of a number is the first non-zero digit; for example, the leading digit of .00237 is 2. Data sets which follow Benford's Law (including population numbers, building heights, and physical constants) will have frequency distributions which closely mirror a decreasing curve in which 1 as the leading digit occurs approximately 30.1% of the time, successively decreasing to where values which begin with 9 are only 4.6% likely. This project explores Benford's Law, providing a basic explanation of why the phenomenon occurs. Furthermore, various data sets were collected around Buffalo State, and it was determined which of these sets of data follow Benford's Law. Reasons are provided for why the samples which obey Benford's Law do so. Likewise, and equally important, explanations are given as to why each other data set does not follow Benford's Law. Finally, this project considers some of the applications of Benford's Law, including fraud detection.

Presentation Type and Session: Poster VIII

Phytoremediation of Heavy Metal Contaminated Substrate at the Former Republic Steel Site

Joshua Konovitz, GES 460: Environmental Field Methods and Analysis

Faculty Mentor: Professor Elisa Bergslien, Earth Sciences and Science Education

The substrate of the former Republic Steel site is composed of slag material from the steel manufacturing processes previously conducted on site. Remedial contaminated soil removal has been conducted, but the presence or absence of metal contamination in the remaining substrate is undetermined. The western half of the property is a field dominated by weedy species, while full habitat restoration projects have been completed in the east. Soil and plant material will be collected from the east site, west site, and from a control site; Hunters Creek County Park, which exhibits

natural conditions with minimal disturbance. Sampling locations and species will be selectively determined in the field. Locations at the Republic steel sites are selected for exhibiting characteristics indicating contaminated substrate, the Hunters Creek site by a healthy natural community. Specimen selection will be determined by presence at all three sites. Collected samples are analyzed to ascertain heavy metal concentrations in the substrate and plant material, and examined for comparison. Comparative analyses include; substrate contaminant levels by site, plant uptake by plant type and by site, and comparison to the health and safety limits per contaminant. The contaminant concentrations of the substrate and plant material are expected to be greatest in the field area of the former Republic Steel site and lowest at the control site. Furthermore, these levels are expected to be within the legal limits. Finally, it is expected that the weedy species accumulate the greatest concentrations of contaminants.

Presentation Type and Session: Poster VII

The Potential Plasticizing Effects of Tinuvin® 292 on Varnishes and Adhesive Components for Paintings Conservation

Carlos Rosales, Forensic Chemistry

Faculty Mentor: Professor Rebecca Ploeger, Art Conservation

In the field of cultural heritage, Tinuvin® 292 is predominately found in painting varnishes for fine art. It is a hindered amine light stabilizer (HALS) added to help prevent the photo-oxidative degradation of varnish layers. This project is extending the application of Tinuvin® 292 in the field and studying its potential use as a UV stabilizer in consolidating adhesives. Part of the design process when developing new adhesive materials involves researching the interaction between the components of interest. Since Tinuvin® 292 is a liquid, it has a potential of acting as a plasticizer by modifying the glass-transition temperature (T_g) of commonly used adhesive components. Sixteen sets of samples were prepared, each including a reference and 2wt% Tinuvin® 292; varnish samples with 1,2 and 5wt% Tinuvin® 292 were made for comparative purposes. These were tested using differential scanning calorimetry (DSC) at different temperature ranges. None of the results obtained showed conclusively that Tinuvin® 292 acts as a plasticizer. The results obtained from the varnish samples did not yield any concentration-dependent trends. However, the T_g of some samples were significantly lower than expected, suggesting sample preparation may have affected the results. Sample analyses were redone after one month, and the results showed a slightly higher T_g, inferring solvent retention may have affected the T_g of the samples, thereby acting as a plasticizer. Further research is being developed to better characterize the role of Tinuvin® 292 in adhesive and varnish components.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: I

The Prevalence of a Chytrid Pathogen, *Batrachochytrium dendrobatidis*, in the Eastern Hellbender Populations of New York

Linxuan Wu, Biology

Faculty Mentor: Professor Amy McMillan, Biology

The hellbender (*Cryptobranchus alleganiensis Daudin*) is the largest and fully aquatic salamander endemic to the eastern United States. There is growing evidence of serious declines in hellbender populations throughout their range and the populations in the Allegheny River drainage of New York State have declined significantly over the past 30 years. Among many possible causes for these declines (e.g. habitat loss, overutilization by humans, reproduction and recruitment problems, etc.), a global emerging infectious disease, chytridiomycosis, has been recently implicated. Chytridiomycosis is an amphibian fungal disease mainly caused by *Batrachochytrium dendrobatidis* (Bd). This study applied real-time PCR to detect the prevalence of *Batrachochytrium dendrobatidis* in Eastern hellbenders by using hellbender samples (including tail clips, swabs, blood, and eggs) collected from the Allegheny River drainage between 2004 and 2014. In this research, 23 out of 158 samples (14.56%) were found to be Bd positive. Most of the positive samples were collected between 2012 and 2014, and the earliest positive ones could be traced back to 2004. These results showed that Bd has existed in the hellbender populations of Allegheny River drainage as early as 2004, which might provide insight into hellbender population declines in New York. In addition, we found out that different sample types may provide different results. Eighteen individuals that were found Bd positive for swab samples had negative tail clip samples, while one animal was Bd positive both in the swab and tail clip. Two hellbenders had positive tail clip samples but had negative swab samples. These results may indicate the different distribution of Bd on the hellbender bodies. This research can help inform the conservation initiatives of these Near Threatened animals.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: I

The Pythagorean Theorem

Emery Fleck, MAT 491: Research in Mathematics

Faculty Mentor: Professor Robin Sanders, Mathematics

Everyone can recall some aspect about the Pythagorean Theorem after their high school years, mainly remembering its wonderful equation or associating it with right triangles. There are hundreds of ways to prove this theorem. However, it was several specifics of Euclid's elements about triangles that lead to this theorem. That's where my research begins, dating back to before the development of the Pythagorean Theorem. The relation of Euclid's postulates, propositions, and axioms to this theorem are crucial points to be looked at. These are basic important factors of Euclid Geometry. I show other mathematical ideas that this theorem leads

to. The Pythagorean identity in the unit circle is one of them. To find the angles of right triangles these identities are used and can be derived by using the basic trigonometry function relationships and applying the Pythagorean Theorem. In proof of his theorem, Pythagoras founded his idea of triples, the ratio of the lengths of the three sides of a right triangle. The Pythagorean Theorem is a cornerstone of mathematics, having hundreds of different ways to prove it directs mathematics in to new directions and findings. These findings are what mold mathematics to what it is today. By making the connection and relations of the different theorems and properties we know makes it interesting to see the thought process of historic mathematicians.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: I

Radiocarbon Dating of Paleosols of Santa Ana Volcano, El Salvador

Guilherme Oliveira, Geology

Faculty Mentor: Professor Bettina Martinez-Hackert, Earth Science and Science Education

To better understand the eruptive history of the Santa Ana volcano in El Salvador, plant material contained in paleosol layers are being dated. The Santa Ana volcano has a history of periodic eruptions and between eruptions soil layers can form at the surface. The next eruption buries the soil layers and plant material can be preserved in these layers. I have been involved in the characterization of paleosol layers, particularly in the preparation of four samples for radiocarbon dating. This has involved the careful separation of the plant material containing carbon from the soil, or regolith, in which the plant material was found. After its separation, the carbonized material is prepared to send to a specialized laboratory to obtain its age. My project is part of a larger research collaboration aimed at understanding the frequency and timing of eruptions of the Santa Ana volcano.

Presentation Type and Session: Poster VIII

Rainfall/Snowmelt Event: Effect on Water Quality in Cayuga Creek, Erie County, NY

Spencer Podsiadlo, GEG 430: Senior Thesis

Faculty Mentors: Professor Stephen Vermette, Geography and Planning and Professor Kelly Frothingham, Geography and Planning

Cayuga Creek is a tributary of the Buffalo River in Erie Country NY. Four sites were accessed to monitor water quality every one to two weeks, for a total of ten samples per site from October 2014 to January 2015. The section of the creek being sampled runs through several parks as well as through sections of Cheektowaga, Depew and Lancaster. These sites have varying amounts of vegetation and urbanized areas nearby. Water quality parameters monitored included: *E. coli*, suspended solids, hardness, nitrate, dissolved solids and pH, among others. This presentation focuses on a rainfall/snowmelt event between 1/3/15-1/4/15, to determine its effect on

water quality monitoring conducted on 1/5/15. Close to 2 inches of snow had fallen before 1/3/15, before rising temperatures initiated a snowmelt. In addition, rainfall totaling 1.1" fell from 1/3/15-1/4/15. Photographic evidence shows the changes to the streambed. This rainfall/snowmelt event greatly altered some of the water quality parameters measured, while having little or no effect on others. For example, the rainfall/snowmelt produced the largest suspended solids influx for the entire study at all sites, and two out of four sample sites experienced an increase in *E. coli* colony counts. On the other hand, parameters such as hardness and nitrate showed little change.

Presentation Type and Session: Poster VI

The Relationship between Riemann and the Lebesgue Integral

Tiansheng Zhao, MAT 491: Research in Mathematics
Faculty Mentor: Professor Robin Sanders, Mathematics

I investigate the relationship between Riemann integral and Lebesgue integral. We utilize a Riemann integral to calculate the area under the curve of a function. But for some special functions, such as the Dirichlet function, we can't use the Riemann integral. Sometimes we can utilize the Lebesgue integral instead. So I want to know the relationship between them, and how can we select one of them to calculate a particular integral. Firstly, we need to know the definition of Riemann integral and some of its properties. We can use a significant theorem, the box-sum criterion, to inspect whether the Riemann integral of a function exists. And we will look at some special cases that are Riemann integral such as an example of a function which is discontinuous at a finite number of points. Next, we need to know the definition of Lebesgue integral and some of its properties, including the fact that a function that is bounded measurable on a set of finite measure E is Lebesgue integrable. I will talk about the Lebesgue integral in four cases-simple functions, bounded functions, nonnegative functions and general functions. I will find some Lebesgue integral examples, such as the Dirichlet function, that are not Riemann integrals. Finally we will look at some relationships between Riemann integrals and Lebesgue integrals, such as the theorem that states, "If a bounded function is Riemann integrable, then it is Lebesgue integrable."

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: II

Renin Gene Expression and Spermatogonial Cell Lineage in the Murine Testis

Carlos Rosales, Forensic Chemistry
Faculty Mentor: Professor I. Martha Skerrett, Biology and Professor Kenneth Gross, Molecular and Cellular Biology, Roswell Park Cancer Institute

The renin-angiotensin system (RAS) is a signaling system best known for its role in regulating blood pressure and electrolyte

homeostasis in adult vertebrates. Traditionally believed to be localized in juxtaglomerular cells of the kidney, renin is now known to also be involved in the development of a number of other organs, including the male reproductive system. However, details of its role throughout development are not completely known in this system. Through the use of confetti, a multicolor fluorescent reporter gene complex that produces color when activated by a renin-driven recombinase system, cells that express renin during the testicular development of the *mus musculus* model organism can be visualized and monitored. Analysis of these cells at different time frames using this reporter system, in concert with *in situ* hybridization, can reveal the type of cells that are derived from renin, the length of time renin stays active in these cells, as well as the cellular progression of meiotic development within seminiferous tubes. In addition, ectopic xenografting of Ren-marked testicular cells into sterile recipients can be used to functionally assess the spermatogonial stem cell status of the identified cell lineage. These studies will assist in determining the types of cells that renin helps differentiate and its role in spermatogenesis.

Presentation Type and Session: Poster VI

Risk of Survival in the ICU

Sarah Herberger, AMT 495: Applied Mathematics
Faculty Mentors: Professor Chaitali Ghosh, Mathematics and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Every year in the United States there are over 4 million Intensive Care Unit (ICU) admissions for various reasons such as heart and blood vessel problems, multiple organ failure, brain injuries, major surgery monitoring, infections, respiratory failure, and renal failure. An ICU is the highest level of care in a hospital with special equipment, and specially trained personnel who care for seriously ill patients requiring immediate and continuous attention. About 500,000 of these 4 million patients admitted each year die while in the ICU. This project predicts the association between routinely collected admission variables and survival in the ICU in a cross-sectional study of 200 adults who were admitted into an ICU of a single hospital. Predictors such as age, type of admission, service at ICU, level of consciousness, systolic blood pressure, heart rate, history of chronic renal failure, CPR prior to admission, infection at ICU admission, fracture, and previous ICU admission are considered using standard statistical analysis. Subgroups most or least likely to survive in the ICU are identified which may assist physicians in decision making and aggressiveness of care.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: I

Role of the GRP170 in the Larval Development of the Nematode *Caenorhabditis elegans*

Layara Santana de Carvalho, BIO 314: Advanced Cell Biology
Faculty Mentor: Professor Gregory Wadsworth, Biology

GRP170 is a member of the 70 kilodalton Heat Shock Protein (HSP70) super-family of chaperones. These proteins function in protein folding, targeting of misfolded proteins for degradation, and regulating the transducers of the unfolded protein response. *Caenorhabditis elegans* has two genes encoding distinct isoforms, GRP170a and GRP170b. Previous work has demonstrated that worms with genetic deletions of both GRP170 genes fail to develop beyond the larval stage of development. However, the exact stage of the larval development defective has not been characterized. My project is generate worms deficient for both GRP 170 loci using a modified dihybrid cross between hermaphrodites deficient for GRP 170b and males deficient for GRP 170a. I will use Nomarski differential interference contrast microscopy to characterize the morphology of the larva whose development was arrested due to mutations in the GRP170 genes. The goal of my project is to identify the specific developmental process blocked by loss of GRP170 as so to better understand the role of GRP170 in *C. elegans*.

Presentation Type and Session: Poster VII

Scajaquada: The Culverted Creek

Nickey Sereluca, GES 460: Environmental Field Methods and Analysis

Faculty Mentor: Professor Elisa Bergslien, Earth Sciences and Science Education

Scajaquada Creek has been a dumping area for roughly 56 permitted sites, though regulations for dumping have only been around since the mid 1900's. Due to the smell in the early 1920's parts of the creek were covered (also known as a culvert). Now roughly 5 miles of this 13-mile stream are underground. These tunnels have been around as the city grew and urbanized for roughly 95 years now. The question is: Do these tunnels affect the water? Does their composition, age, ability to block sunlight and run off, and other factors affect the water changing the quality before and after entering the culvert? In order to provide data for this question the creek will be divided into six sub-sites: the beginning and end of each culvert which are located on either end of Delaware Park, Forest Lawn Cemetery, Villa Maria College, and on either side of Walden Galleria Mall. Testing will include metals identification, pH, temperature, and other trace elements and contaminants that are not correlated to pollutants from the surrounding areas. The importance of this research is not only does the Scajaquada and its watershed occupy a majority of the urbanized Buffalo area, it's also a tributary to Erie Lake. Despite the fact that there has been remediation along the creek, not much has been done for the condition of the culverts and their effects on the water. What is expected from this research is to see higher metal content and lower temperature because

the culverts most likely add metals to the stream and change the temperature due to the coverage.

Presentation Type and Session: Poster VII

Soil Contamination in Red Jacket Riverfront Park

Lindsey Chadderdon, GES 460: Environmental Field Methods and Analysis

Faculty Mentor: Professor Elisa Bergslien, Earth Sciences and Science Education

The vegetation in the Red Jacket Riverfront Park is vital for the inhabitants of this ecosystem. Areas where vegetation is contaminated, or the soil quite possibly infertile, appear to be related to spots where there were buildings and infrastructure. Red Jacket Riverfront Park used to be an area of industrial use that was transformed into a park in 1997. It was originally the epicenter for the Buffalo's railways system. In addition to the railroad tracks and trains, the site had industrial facilities located on it. One facility of concern was one of Buffalo Color's facilities that produced chemical dyes. The park was cleaned up to serve as a public park in 1996 and officially opened as a park in 1997. During the clean-up, petroleum chemicals, lead and mercury, were found in the soil. As of today, the park's trails and land are maintained by clearing out debris on the trails, picking up garbage, and lawn mowing. What I'll be searching for in soil samples are the pH and heavy metals such as, lead and copper. In order to determine a conclusion to my hypothesis, I will be taking soil samples in spots lacking vegetation, located by the abandoned Buffalo Color facility and areas of pre-existing structures, as well as samples from areas with healthy vegetation. In addition, I will be taking these samples and comparing and contrasting the results from my findings with a peer's soil samples in a site that is now being developed as an industrial facility. I expect to find poor soil quality that is too contaminated to support vegetation.

Presentation Type and Session: Poster VII

Solutions to Polynomials

Angela Zych, MAT 491: Research in Mathematics

Faculty Mentor: Professor Robin Sanders, Mathematics

My research focuses on how and why polynomials with degree less than 5 are soluble by radicals. The proof of the quadratic formula and the rational root theorem are discussed since these methods are used to find the solutions to the polynomials of degree 4 or less. Galois is mentioned briefly due to his research of group theory that incorporates the origins of the Rational Root Theorem. Then the solutions to cubic and quartic equations are explained, accompanied with examples. My research covers solutions to polynomials of degree 6 and less using the presentation software Beamer.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: II

Solvability of Higher Order Polynomials

Eleana Martinez, MAT 491: Research in Mathematics
Faculty Mentor: Professor Robin Sanders, Mathematics

Evariste Galois, a famous mathematician who worked in the field of abstract algebra, invented what is now known as Galois theory and started research in group theory and field theory. In this research, I will be focusing on the solvability of polynomials. First-order polynomials, which are of the form $y = ax + b$, are very easy to solve in the general sense; the general solution would just be $x = (y-b)/a$. Second-order polynomials, which are of the form $y = ax^2 + bx + c$, are still quite simple and the general solution is known as the quadratic formula. General solutions for third and fourth order polynomials, despite existing, are quite complicated. However, through Galois theory, we find that not all fifth-order polynomials can be solved by radicals. As proven by Galois, a polynomial can be solved by radicals if and only if its Galois group is a solvable group. I will be presenting what exactly makes fifth-order polynomials unsolvable, and expanding on general solutions for higher order polynomials.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: II

Spatial Analysis of Invasive Japanese Knotweed (*Fallopia japonica*) and Its Habitat in Erie County, NY

Jiazhen Zhang, Great Lakes Ecosystems Science
Faculty Mentor: Professor Tao Tang, Geography and Planning

Japanese knotweed is a perennial herbaceous that is native to East Asia in China and Japan. It is one of the worst invasive species worldwide according to the World Conservation Union. It can always be found in abandoned places, along roadways and other disturbed areas. Once established, it forms dense stands that shade and crowd out the native plant species. In this research, I apply unmanned helicopter with multiple sensors, digital aerial camera, thermometer, humidity meter to survey the hot spots of Japanese knotweed and its three dimensional (3D) habitat conditions. The areas of each of the hot spots surveyed were identified and delineated in polygons applying ERDAS Imagine and ArcGIS software. The temperature and relative humidity distributions were visualized in 3D method in GIS environment. The objectives of this research are to verify and confirm the invasive hot spots published online by the New York Department of Environmental Conservation – iMap, and to identify the geographic areas of spreading and the local habitat conditions.

Presentation Type and Session: Poster VII

Spatial and Temporal Distributions of Air Particulate Pollution in Beijing, 2009 – 2011

Yingyu Zhang, Great Lakes Ecosystems Science
Faculty Mentor: Professor Tao Tang, Geography and Planning

This research analyzes the spatial and temporal distributions

of air pollution particles in Beijing, China from 2009 to 2011. We surveyed the counts and concentrations of air particle pollutants at a total of eighty four points in the urban districts of the city applying the laser particle counters. Geographic Information System (GIS) was used to study the spatial and temporal distributions of air particulate pollutions (PM_{0.3} μ m, PM_{0.5} μ m, PM_{1.0} μ m, PM_{3.0} μ m, PM_{5.0} μ m) in different seasons and at different places in Beijing. The results indicate that ultra-fine air particulate matter (0.3 μ m) had the high concentrations in the northwest and central west areas in winters in the city. However, air pollutants of other particle size (PM_{0.5} μ m, PM_{1.0} μ m, PM_{3.0} μ m, PM_{5.0} μ m) demonstrated higher concentrations in the southwest of the city. It appears that larger particles had higher concentrations in summer than those in winter. The goals of this research are visualizing the spatial and temporal patterns of air pollution concentrations, tracing the sources of air pollutions, and helping the government to mitigate and control the air particulate pollution.

Presentation Type and Session: Poster VIII

Spring Brook Stream Visual Assessment Protocol

Megan Klein and **Alexandra Santora**, GEG421: Watershed Analysis
Faculty Mentor: Professor Kelly Frothingham, Geography and Planning

Students in the Watershed Analysis class used the Stream Visual Assessment Protocol (SVAP) to conduct a qualitative assessment of Spring Brook within the Village of Springville, NY. The purpose of the project was to establish baseline stream corridor conditions prior to the installation of a habitat improvement and bank stabilization project. The SVAP was developed by the Natural Resource Conservation Service (NRCS) as a basic tool to visually assess the physical, chemical and biological conditions of stream corridor health (NRCS 1998, 2009). Six teams evaluated the stream elements of channel condition, riparian zone, bank condition, water appearance, nutrient enrichment, instream fish cover, pools, and canopy cover in six reaches of Spring Brook. Each element was assigned a score of 0 to 10 based on a scoring matrix. While all reaches received overall fair or good SVAP ratings, nutrient enrichment was the only element to receive consistently high scores in all reaches. Scores of the other individual elements varied by reach with no single element earning consistently low scores. These pre-construction assessment results can be compared to post-project results.

Presentation Type and Session: Poster VIII

Structure-Function Analysis of Rectifying Electrical Synapses

Viviani Jardim, BIO 495: Independent Study
Faculty Mentor: Professor I. Martha Skerrett, Biology

Two transcript variants of the *Drosophila* ShakingB gene are

expressed in neurons of the Giant Fiber System, a network of neurons that plays a role in the jump/flight reflex of the fly. The protein products are innexins, invertebrate gap junction proteins, and they form electrical synapses between neurons. Gap junctions serve a general role in animal cells, bridging gaps between adjacent cells and creating direct passageways from the cytoplasm of one cell to that of another. Gap junctions allow cells to communicate with their neighbors. A rectifying synapse is a rare electrical synapse that permits a signal to travel unidirectionally. Our project is aimed at recreating a rectifying synapse using the *Xenopus* oocyte expression system. Since two transcript variants of the *ShakingB* gene produce a rectifying synapse when expressed in adjacent neurons, we plan to express them in adjacent oocytes. The oocyte expression system is commonly used to understand structure-function relationships of membrane proteins. In this case rectifying junctions will form between oocytes expressing different transcript variants of *ShakingB*. Voltage clamp methods will be used to record rectifying currents passing between the oocytes, providing a simple system to better understand molecular mechanisms underlying the rare property of electrical rectification.

Presentation Type and Session: Poster VI

Symmetry Within Music and Art

Jessica Katrein, MAT 491: Research in Mathematics
Faculty Mentor: Professor Robin Sanders, Mathematics

Symmetry occurs naturally throughout nature as it does within music, art, and mathematics. It is how we each describe and use symmetry that will be my focus. Some questions I posed are the following: How does symmetry relate to music and art? Do musicians and artists make use of symmetry, if so are they aware of said use? Do they view symmetry in the same way a mathematician would? Most musicians and artists have a very loose way of referring to symmetry, for example referring to one side of a work looking the same as the other as symmetry, whereas mathematicians explore what the implications of one side of objects seemingly looking like the other are. Mathematicians ask, "Is it actually the same? And if so how do we prove it?" Mathematicians refer to the intuitive symmetries used by musicians and artists as rigid symmetries or isometries. We use the mathematics as rigid symmetries to analyze the informal symmetries that musicians and artists use.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: I

Tessellation vs. Penrose Tiling: What's the Difference?

Calvin Leung, MAT 491: Research in Mathematics
Faculty Mentor: Professor Robin Sanders, Mathematics

Tessellation and Penrose tiling are two different types of tiling we see all around us. A tessellation is a pattern created from one specific shape or a multiple of shapes. These tessellation shapes

can be rotated and translated throughout a mathematical plane so that there are no gaps in between. The multiple shapes used in tessellation tiling cannot overlap however; they can be alike in size, but do not have to be identical. Penrose tiling is a combination of two different shapes known as a dart and kite. The darts and kites only need to follow a set of rules when being placed on a plane. These dart and kites are placed in such a way that seems to form a pattern of symmetry much like a tessellation of tiles seen on different wallpaper tiling, even though there may not be symmetry there. These two different types of tiling seem very similar, however they are mathematically very different. We analyze multiple pictures that use both of these two types of tiling and see if we can tell the difference between them. We will break down each picture and see why it's a tessellation or why it's a Penrose tiling. Specifically, we are going to explore what makes them different mathematically.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: II

Testing the Methane Content of Water at Eternal Flame in Chestnut Ridge

Nicholas Miller, GES 460: Environmental Field Methods and Analysis

Faculty Mentor: Professor Elisa Bergslien, Earth Sciences and Science Education

The Eternal Flame is a site at Chestnut Ridge Park that has a natural gas leak, seeping out behind a waterfall. Often times, the gas is lit, flaring off as it leaks through the rock. The natural gas below the ground escapes upwards through fractures in the shale that dominates the Chestnut Ridge region. The question of this project is, does the natural gas leak result in the potential for gasses such as methane and ethane to mix with the water, ultimately contaminating the water in the ridge? With the Eternal Flame being such a unique attraction, it's important to understand the affect this and other natural gas leaks may have, especially if those gas leaks are present at or near water sources. If natural gas leaks can significantly contaminate water sources, it is important to know where they are and what they are doing at the surface. This project will hope to determine if the water flowing over the Eternal Flame is more contaminated than water flowing in the same channel, but further away from the seep. I will be testing for dissolved methane in the water at and near the Eternal Flame site, and then I will repeat those tests at sites both upstream and downstream. I expect to find higher levels of methane at the Eternal Flame site, and lower levels, if at all, in the upstream waters. I also expect contaminant levels to be less further downstream from the Eternal Flame site due to dispersion.

Presentation Type and Session: Poster VI

TNVR: An Effective Humane Approach to Curb Overpopulation of Free Roaming Community Cats

Julie Tatro, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Mark Fulk, English and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

The purpose of my research is to exam TNVR (trap, neuter, vaccinate, return) as a practical solution to the growing free roaming cat population. Traditional methods such as catch and kill or relocation have proven ineffective and costly to taxpayers. TNVR has benefits that are complimentary to both cat supporters and those with not so favorable opinions. TNVR stabilizes the population and over time it will decline. Research has also shown shelter in-take numbers to decline after implementation of an intensive TNVR program, thus reducing costs. Vaccinations help promote healthy animals and caregivers continue to TNVR any new arriving cats. Research has shown TNVR to be successful of implementing on a large-scale basis and also shown trap and kill to be a failure because of the vacuum effect. Cats have lived near humans for thousands of years and are here to stay. Because of TNVR's success more than 240 local governments have endorsed ordinances supporting TNVR and many of those recognize this as the only effective method of animal control. Our city of Buffalo is one of many TNVR supporters. I have participated in TNVR in the city of Buffalo and have witnessed its success. I will review research and present the evidence that TNVR is a humane and successful means to reduce overpopulation.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: I

The Urban to Rural Shift: Measuring the Gradient

Katelyn Reed, HON 400: Muriel A. Howard Honors Colloquium
Faculty mentors: Professor Robert Warren, Biology and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Urban forests are tree islands in city landscapes that are disconnected from more expansive natural areas outside of urbanized areas. Urban forests likely will play an increasingly important role in the sustainability of cities as global urbanization spreads. The transition from urban city centers to surrounding rural areas is assumed to be a gradient (gradual change) in which urbanization decreases as distance from a city increases. This gradient provides a framework for studying the effects of urbanization on ecosystems, but the assumption that the transition from urban to rural occurs as a gradient pattern has not been verified. I investigate whether the urban to rural transition exists as a gradient or forms a more abrupt transition pattern, such as exponential. I sampled 30 cities randomly selected from a list of the 300 of the most populous cities in the United States. The selection was stratified to only include cities east of the Mississippi River. For each selected city, 30-km transects were established on digital satellite maps (Google Earth Pro) at each of the four

cardinal directions from the city center outwards. Urban parameter surveys (vegetation, road, residential, industrial, agriculture) will be conducted at 5km intervals along each transect using iTREE software (USDA Forest Service) which allows customizable landscape cover sampling in 100m² plots. It is assumed that the urban to rural gradient exists as a gradual decline in urbanization outward from a city center and into natural environments, but I expect urbanization decreases in a more discrete pattern with a clear, drastic decline in urbanization.

Presentation Type and Session: Poster VI

Using Arctic Ice Thickness and Floe Size to Estimate Ice Thickness on Europa

Hiruni Senarath Dassanayake, Geology
Faculty Mentor: Professor Kevin Williams, Earth Sciences and Science Education

The goal of this research is to analyze ice thickness and floe size data from the Arctic in order to determine whether a relationship exists that can then be applied to data from Jupiter's moon Europa. Europa is a moon encased in ice, and spacecraft images show evidence for water underneath the ice. Earth's Arctic sea ice is the closest analog on Earth to areas of ice floes on Europa. The Arctic data was collected from various Soviet military projects between 1928 and 1989. If the data regarding ice thickness and floe size (length and width) reveals a relationship between the two properties, this relationship can be applied to floes in the Conamara Chaos region on Europa. Floe sizes on Europa can be calculated from images acquired by the Galileo spacecraft. These sizes can then be used to estimate the thickness of Europa's icy shell, and these results will be compared to previous estimates of ice thickness on Europa in order to consider how the Conamara Chaos estimates compare to estimates from other locations on Europa. Determining ice thickness on Europa is important as it relates to the potential to access the liquid layer and to understanding how much tidal heating Europa experiences.

Presentation Type and Session: Poster VI

Using Ground Penetrating Radar for Geoarchaeological Investigations in Western New York

Trevor Jennings, Earth Science
Faculty Mentor: Professor Kevin Williams, Earth Sciences and Science Education

Ground Penetrating Radar (GPR) is a non-invasive geophysical tool used to examine the subsurface, and it has many scientific applications in geology, archaeology, engineering, and environmental science. In this study, a GSSI Inc. SIR-3000 GPR system with a 400 MHz antenna was used at four sites in Western New York including two cemeteries and two historic sites. At both cemeteries, GPR was used to locate unmarked burials where tombstones were either lost

or never existed. The Buffalo State Archaeological Field School laid out and surveyed the grids so that the lost burials could be compared to existing tombstones. Because early records from both cemeteries were lost, results from this project support ongoing restoration projects at both sites. Along the Niagara Gorge, GPR was used at the BATTERY Elevators site to search for buried foundations related to buildings that existed in the late 1800s. Buried foundations and other archaeological features were also searched for in data collected at Old Fort Niagara. By collecting data in precise grids, 3-dimensional views of the subsurface were assembled to provide better and more complete interpretations. Results from Old Fort Niagara are being used to better plan locations of archaeological excavations for the 2015 Archaeological Field School. GPR's non-destructive approach to collecting subsurface information was highly beneficial at each of the sites as excavations are costly, time consuming, and not an option in many cases.

Presentation Type and Session: Oral – Physical Geography, Sciences, and Mathematics: I

Water Elevation Changes in the Fox River, Green Bay, Wisconsin

Brandon Franks, Physics

Faculty Mentor: Professor Jill Singer, Earth Sciences and Science Education

The Fox River begins at Lake Winnebago and flows northeast for 63 km (39 miles) where it enters Green Bay and Lake Michigan. OU 4 is the lowermost stretch of the Fox River between the De Pere Dam and Green Bay. The Fox River is the site of the largest cleanup of PCBs from a waterway in the US. This investigation builds upon prior studies about sediment transport in the Fox River and an oscillation behavior documented in the Buffalo River (Buffalo, NY). It aims to answer the question: Does the Lower Fox River oscillate and if it does, is its pattern similar or different than the oscillation that occurs in the Buffalo River? To answer these questions, two water level recorders with temperature sensors were deployed in the Fox River from June 21 to November 16, 2013. One recorder was placed near the mouth of the river; the second recorder was placed ~8 km upriver. Measurements were collected every 5 minutes. These data reveal that OU 4 of the Fox River displays several distinct patterns including: seiche-driven changes in river elevation, non-seiche related elevation changes, and minimal variation in river elevation. To explain the cause(s) of these patterns we are utilizing other available data, including wind velocity and direction and river velocities and gage heights recorded at the USGS Oil Tank Depot at Green Bay, WI.

Presentation Type and Session: Poster VIII

Which Tissues in Animals Depend on the Chaperone GRP170 for Protein Folding?

Mengxin Wang, Biology

Faculty Mentor: Professor Gregory Wadsworth, Biology

Polypeptides must fold into proper three dimensional shapes to function in cells and misfolding is associated with a number of disease conditions. Folding of polypeptides is dependent on a special class of proteins called chaperones. The largest chaperone, GRP170, is essential to animal life, but its physiological role in different tissues has not been established. The microscopic round worm *Caenorhabditis elegans* provides a model system to characterize tissue-specific roles for GRP170. While the worm has only 1000 cells as an adult, it possesses the major tissues of larger animals. *C. elegans* has two genes encoding GRP170. Deletion of these genes interferes with normal protein folding and triggers a stress response in the worm. To investigate whether the GRP170 genes function at a tissue-specific level, I will analyze whether loss of these genes induces a stress response that is limited to specific tissues or whether that stress response occurs in every cell of the worm. The stress response can be monitored using a reporter gene that causes individual cells to produce a fluorescent protein when they are stressed. Therefore, the stress response of individual cells can be easily monitored using fluorescence microscopy to analyze the accumulation of the fluorescent protein. Knowledge of tissue specific functions for GRP170 will provide insight into the role of GRP170 in multicellular animals. I will present my experimental design for this MA Thesis project and my preliminary results.

Presentation Type and Session: Poster VII

A Worm's Life Without the Protein Chaperone GRP170

Madeleine Pope, BIO 498: Honors Research

Faculty Mentors: Professor Gregory Wadsworth, Biology and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

A common problem in many organisms is the accumulation of misfolded proteins in their cells. These proteins are in themselves toxic, and further promote other proteins to misfold. The accumulation of misfolded proteins within cells is highly toxic and responsible for many fatal diseases including Alzheimers and mad cow disease. Cells produce proteins called chaperones that help misfolded proteins correctly fold. If a cell accumulates dangerous levels of misfolded proteins it can induce stress responses that increase production of these chaperones. One such stress response, called the Unfolded Protein Response (UPR), is induced when unfolded proteins accumulate in the ER of the cell. The largest chaperone in the cell is the ER chaperone, GRP170. It is found in all eukaryotes and is believed to play an important role in protein folding in the ER. Recently, nematodes with a genetic deletion of GRP170 were shown to be able to survive with little adverse effects. The nematodes lacking the GRP170 chaperone were also shown to

induce UPR. This raises the question of whether the induction of UPR allows these nematodes to survive. For my experiment, I have acquired a strain of nematodes that lacks xbp-1, a gene required for nematodes to induce UPR. For my honor's project I will use genetic crosses to generate a strain of nematodes that is both deficient for GRP170 and xbp-1 and therefore is unable to induce UPR. I will determine if this strain has more defects than a similar strain that is able to induce UPR. To achieve this end, I have obtained and established cultures of a worm strain that has a deletion in the xbp-1. I will describe my experimental design, my strategy for monitoring the genotypes of worms during the crosses and a discussion of expected results.

Presentation Type and Session: Poster VII

Psychology and Social Sciences

Adopted Women: Narratives of European-American Women in Native American Captivity

Alyssa Casale, ANT 499: Advanced Indigenous Studies
Faculty Mentor: Professor Lisa Anselmi, Anthropology

In 1704, 7-year old Eunice Williams was captured by French and Mohawk warriors and was later adopted by a Mohawk family. Over 100 years later, Olive Oatman was orphaned and enslaved at the age of 14 by Yavapai Indians before being adopted by the Mohave. Sarah Wakefield was a married 33-year old woman taken as prisoner by the Dakota while on the run during the Dakota War with her two children. Captives of young ages were most often taken by Native American raiding parties to be adopted into their families. What these well-known women have in common is the written accounts of the lives they led before, during and after their captivity. The purpose of my presentation is to recount the narratives of these women's lives, how they dealt with their new lives with a Native American group, and the aftermath.

Presentation Type and Session: Poster VII

The Affect Afterline

Joseph King, Sociology
Faculty Mentor: Professor Lindsey Freeman, Sociology

An analysis into what the social reality is, how it is constituted and bound, is the dictation of my memories of my childhood, the dietary compositions of several close people in my life, and their commodity infrastructure in which they lived. One of the biggest tasks of my work has been the composition of past memories of mine in previous essays and remarking them in ways that could prove valuable to compare and analyze through their own extensions between the mental, immaterial world and the material world. My approach is taking a liking to the ways of Roland Barthes' *Camera Lucida*, and just like his methodology, I will invoke photographs and the memories I have around those captured on film, the elements within the visual arena, and capture some of the minute, momentary elements of affect that shaped the world in which we, the larger social constituents of all of us, live in.

Presentation Type and Session: Oral – Psychology and Social Sciences

Audio-Visual Input Helps Understanding of Phonologically and Structurally Difficult Sentences

Leanna Kalinowski, Psychology, **Aroosa Syed**, Psychology, **Kelly Yuhnke**, Psychology, and **Caley Wekenmann** Psychology
Faculty Mentor: Professor Stephani Foraker, Psychology

We examined whether audio-visual input helps people

understand difficult sentences. Participants viewed a video of someone saying individual sentences, and half had background noise, as if in a noisy café. We measured their accuracy for a comprehension question, and the speed of answering. We found that structurally difficult garden path sentences produced lower comprehension accuracy and slower response times than control sentences and phonologically difficult tongue twisters. This held for both noise and no-noise contexts. Seeing a video of the speaker's face did help comprehension overall, for all types of sentences, as we predicted. However, this effect was strongest for structurally difficult sentences, rather than tongue twisters, as we had predicted. Perhaps participants were less affected by background noise for tongue twisters because they could adjust their attention once they realized they were hearing a "tricky" sentence.

Presentation Type and Session: Poster VIII

Backyard Nightmares: Surviving Love Canal

Jennifer Kwoka, HIS 300: Research and Writing Seminar
Faculty Mentor: Professor Bridget Chesterton, History and Social Studies Education

Love Canal was once a quiet and peaceful neighborhood. That changed when the canal people built their lives around was classified as a chemical waste disaster. Residents had their everyday lives disrupted and flipped upside down as the homes and neighborhood they loved became a medical and financial nightmare. Newspaper articles and interviews conducted with individuals living at Love Canal during the crisis will be primary sources of information for this presentation. Another large portion of the information gathered comes from the photographs of residents and the Love Canal area. They were taken during the late 1970s, when Love Canal residents first became aware of the danger lurking in their backyards. Many of these photos depict children who lived in the area at Love Canal. This presentation will highlight the outcomes of the many innocent people affected at Love Canal (physically, emotionally and financially). It will also include precautionary measures being taken now to prevent another disaster like the one at Love Canal.

Presentation Type and Session: Oral – Psychology and Social Sciences

Betrayal at Veracruz: Santa Anna's Return to Mexico

Eric Szymanski, HIS 300: Research and Writing Seminar
Faculty Mentor: Professor Bridget Chesterton, History and Social Studies Education

In August of 1846, the United States government negotiated a secret agreement with deposed Mexican leader Antonio López de Santa Anna allowing him to return to Mexico. Santa Anna pledged to the Americans he would negotiate a swift end to the war that had broken out some months before, and would negotiate a sale of the disputed territory that was the stated object of the war. Santa Anna

also wrote to his former Vice President, Valentín Gómez Farías, now President of Mexico, a man with whom he had a contentious political relationship, stating his wish to defend Mexico from foreign aggression, but that he did not aspire to political power within Mexico. In the end, he would double-cross them both. By February of 1847 he led the Mexican Army against the Americans; by March he was once again President of Mexico, having driven Gómez Farías from power. Those who would return Santa Anna to Mexico understood they were taking a risk, but how great of one? Contemporary accounts from politicians, diplomats, and military men involved in the conflict will be examined to determine whether Santa Anna's return to Mexico was viewed as a reasonable proposition, a calculated risk, or a foolish idea.

Presentation Type and Session: Oral – Psychology and Social Sciences

The Body as a Force for Change: Deconstructing Femen's Topless Power-Performances

Sarah Twardowski, ANT 498: Honors Research
Professor Kimberly Hart, Anthropology and Professor Staci Newmahr, Sociology

This paper explores how public spaces are constructed, how meanings are ascribed to these spaces, and how the social meaning of these spaces changes over time. By considering Foucault's (1975) research on the panopticon as a force of regulating the body, this paper analyzes how performances in public space are policed and regulated politically through state power, and socially through social interactions. Specifically, I explore the performances of Femen, the "sextrémist" social and political activist group and movement originating in Ukraine. Using Femen as a lens to understand how bodies are policed and marginalized by their performances that challenge social norms. I argue that by challenging the social norms and pushing the margins of normativity, their performances generate a discourse that shifts the power dynamic, acting as a trajectory for social change.

Presentation Type and Session: Oral – Psychology and Social Sciences

Bone Damage Due to Scavengers in Central New York

Jefferson Sinnott, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor Melanie Mayberry, Anthropology and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

A common complication for forensic anthropologists is the scavenging of human remains by carnivores and rodents, which is especially true for bodies deposited on the surface or in shallow graves. In North America, the animals most commonly responsible

for this are domestic dogs and coyotes, but bears, cats and many other animals contribute to the process as well. Knowledge of these processes aids in calculating the time needed for varying amounts of scavenging to occur, or to estimate the postmortem interval, which is important for identifying remains. This project aims to gather data collected from the scavenging of chicken bones that have been distributed in Dryden, NY. The results will compare the tooth marks collected to those of known samples, allowing for determination of the types of scavengers. Additionally, observations will be taken of the movements of bones from the original location. This study will allow for better understanding of what species of scavengers would affect surface finds in central New York, as well as the nature of locating disturbances in remains.

Presentation Type and Session: Poster III

Brides of the Howard D. Beach Collection: The Use of Fashion Trends in Photograph Dating

Alyssa Frijey, MST 590: Independent Study
Faculty Mentor: Professor Noelle Wiedemer, History and Social Studies Education

The Howard D. Beach Collection of dry-plate negatives has preserved over 50,000 moments in the lives of prominent citizens of Buffalo, NY. Of particular note are the moments celebrating events of marriage, showcasing brides in breath-taking gowns from the early 20th Century. The wedding dress, with a history all its own, reflects the time period in which it was created and fashion trends as they developed over the years. While the majority of collection documentation has been successfully preserved, there are negatives with an unknown date of origin. In the absence of documentation, could the aesthetic details of a bridal gown assist in determining the time period in which the photograph was taken? The purpose of this project is to analyze a series of bridal photograph negatives from the collection, ranging from 1900-1930, to determine the extent to which the wedding gowns shown reflect their time period, down to the year. Photograph negatives with documentation will be analyzed in the hopes to search for recurring fashion patterns in time. It is the aim that these patterns will aid in determining the time period of those negatives whose dates remain unknown.

Presentation Type and Session: Poster I

Che: An Argentinian Revolutionary in Bolivia

Zachary Snellings, HIS 300: Research and Writing in History
Faculty Mentor: Professor Bridget Chesterton, History and Social Studies Education

In 1966 Ernesto Che Guevara began his aid of the guerrilla forces of Bolivia by being both: present in Bolivia and leading the fighters himself. Though this was very short lived, his execution being only a year later, his presence held a great impact on Bolivia

and the political stage of the world. His actions here have solidified him as an international symbol of Marxism and rebellion, even more so than in Cuba. By combing through Che's diary writings, newspaper articles, biographies and interviews, this speech shall show that Che's activities in Bolivia were greatly significant to him as both a person and a figure. Similarly to a "shot heard around the world," Che's execution was one that impacted the global community. Be it the outpouring of sadness from the Cubans and the East Bloc or the positive outlook by the majority non-communist peoples of the Western Bloc. His visage would become even more popular with his death, the famous Alberto Korda photo adorning shirts, posters and buildings of revolutionary/rebellious peoples. His eulogy, though given in a literal sense in Cuba, has become his stalwart revolutionary spirit that lives on for years after his end. From his beginning of the Ñancahuazú guerrilla base, his aims were clear in that he fought for a Marxist revolutionary government. By toppling the current government, he wished to bring about a Latin Vietnam, in which the guerrillas will fight off the invading US forces. This would lead to a third world war and, what he believed, a world wide socialist solution to the capitalist problem. If this ambitious man succeeded in this goal, the world today, would be drastically different from what we currently understand it to be.

Presentation Type and Session: Oral – Psychology and Social Sciences

College Stress

Carolyn Sciabarrasi, PSY 499: Independent Study
Faculty Mentor: Professor Jill Norvilitis, Psychology

Research has shown that stressful events are linked to mental health issues among adults. As college students merge into adulthood, there are many sources of stress that may appear for students during this time in their lives. High percentages of students report feeling overwhelmed and distressed (Calloway, Kelly, & Ward-Smith, 2012). The third leading cause of death for those between the ages of 10 and 24 is suicide (Centers for Disease Control and Prevention, 2014). Although there has been much research on specific larger sources of stress and their impacts on mental health, such as PTSD, there has not been as much research on the smaller stressors that may accumulate among college students and the potential occurrence of mental health problems. The purpose of this study is to identify the relationships between common stressors that exist among college students such as course load, bills, jobs, and family and mental health problems such as anxiety, depression, college adjustment, and overall well-being. The study will examine if moderators such as coping methods and resources (i.e. money, social support, personal coping techniques) are related to a reduction in the instances of such mental health issues. The hypotheses are that common stressors among college students will be correlated with instances of depression, anxiety, impaired well-being, and poor college adjustment. However, students who utilize coping methods and resources will show decreased instances of such mental health

struggles. The study will use an online questionnaire taken by Buffalo State College students to analyze the variables discussed. The information obtained from this study will be beneficial due to the mental health instances amongst college students and stressful factors that may contribute to it. Also, identifying potential moderators that may enhance or reduce such instances would be helpful with prevention.

Presentation Type and Session: Poster IV

Community, Language, and Education: History of the Deaf Community in WNY

Hannah Fish, HIS 300: Research and Writing Seminar
Faculty Mentor: Professor Bridget Chesterton, History and Social Studies Education

This research project will describe the history of the Deaf community in Western New York. Topics of discussion include changes in how the Deaf community is perceived by the hearing community, and landmarks and developments in the areas of education, language, and the community as a whole. Specific topics of interest include: the founding of Saint Mary's school for the Deaf located in Buffalo, and it's continuing work in educating Deaf children and young adults; the history and social functions of the Buffalo Club of the Deaf; the history and impact of the National Technical Institute of the Deaf at the Rochester Institute of Technology, and the 1930 convention of the National Association of the Deaf, which was held in Buffalo. The goal of compiling this information is to provide a localized historical narrative that is centralized around the Deaf community.

Presentation Type and Session: Poster II

Coracles: Replicating the Irish Fishing Boat Through Experimental Archaeology

Mary Clark, ANT 400: Ancient Materials
Faculty Mentor: Professor Lisa Marie Anselmi, Anthropology

The purpose of this project was to replicate the traditional Irish fishing boat known as the coracle found in the Boyne Valley in the east of Ireland. Through the study of indigenous methods, recreated and modernized by Claidhbh Ó Gibne, I set out to construct a model of these single-person skin boats in order to better understand the culture that crafted them. Woven out of hazel rods and tied together with willow, these lightweight basket boats were then covered with hide before being used on the river. While coracles are most well known as fishing boats, they were also used for transport along the river Boyne. Their larger counterpart, the currach, was large enough to carry stones used to create the passage tombs of Newgrange and Knowth. The history of the coracle and currach live on today through experimental archaeology practiced in order to determine not only how much these maritime crafts could withstand, but if they could in fact be a form of travel that was possible in the Stone Age.

Presentation Type and Session: Poster VIII

Cultural Icons Study: How Princess and Superhero Priming Influences Women's Views of Mathematics

Emma Walsh, Psychology, **Jenna Turchiarelli**, Psychology, **Brianne Wright**, Individualized Studies, and **Kelly Yuhnke**, Psychology

Faculty Mentor: Professor Jennifer Hunt, Psychology

This study examines how women's interests in math and pursuing math related fields are influenced by popular cultural icons, such as princesses and superheroes. The portrayal of princesses encompass a limited and stereotyped representation of women's capabilities, downplaying autonomy, emphasizing domestic roles, and leading to the possibility of lowered overall aspirations for women and girls. Superheroes as a cultural icon whose attributes such as strength, power and autonomy are in direct opposition to those of princesses. We are testing whether priming women as superheroes makes them more interested in math whereas priming women as princesses makes them less interested in math. We are conducting an experiment in which women are randomly assigned to be primed either with princesses, superheroes, or themselves (control group). Participants then complete a series of explicit measures assessing identification with princesses and superheroes as well as views of different academic fields, with a particular emphasis on math. To measure implicit views of math, each participant completes the Go/No-Go Association Task (GNAT) The GNAT compares the speed with which participants can categorize target words as relating or not relating to a concept (e.g., math) and each of a pair of attributes (e.g., good v. bad; me v. not me). If our predictions are supported, the findings would suggest that the associations surrounding princesses as a representative of traditional femininity may negatively affect girls' identification with math on conscious and non-conscious levels whereas associations with superheroes as non-traditional representations of femininity may positively affect identification with math.

Presentation Type and Session: Poster V

Decorated Human Remains

Nicollette Winiewicz, ANT 498: Honors Research

Faculty Mentor: Professor Lisa Anselmi, Anthropology

What happens to the human body after death is an obsession that people have been fascinated with throughout history and across many cultures. Within Christianity, after the destruction of many holy relics in Central Europe due to the Protestant Reformation, martyrs discovered in the catacombs of Italy in the late 1500's began making their way north as replacements. These Katakombenheiligen or "catacomb saints" became a new form of sacred holy relic. The skeletons were lavishly adorned with gold and jewels and put on display to encourage the devotions of the faithful. But Christianity is just one culture. The preservation of the human body for religious purposes has occurred among Buddhist monks, Japanese

princes, and Egyptian pharaohs as well. My research explores the ornamentation of culturally important human remains and cross culturally compares state level societies' burial of people with high statuses; how they were buried or displayed, if they were meant to be viewed or hidden, why they were displayed and the importance behind doing so. My goal is to extend this knowledge to others in order to preserve and promote these culturally significant practices.

Presentation Type and Session: Poster V

Determining Citizen Preference: Why Are We So Different?

Taryn Moss, PSC 470: Senior Seminar

Faculty Mentor: Professor Peter Yacobucci, Political Science

I am researching why citizens of differing countries have different allocations of their family budget. Specifically, I compare the United States consumption patterns against those of forty other countries across the world. My data come from several sources and are being assessed using a OLS linear regression. My findings suggest the United States is an outlier in how we spend our money and is significantly different from citizens in countries around the world. While other citizens have significant savings rates, here in the United States our savings rate over the past two decades has been close to zero, with some years having a savings rate below zero. In addition, the citizens in the United States spend a smaller percentage of their budget on housing. This is true even though home ownership rates in the United States are traditionally much higher than most other countries. To explain these differences, I am assessing the social, political, and economic variables. Based on my results, it appears that social factors are more important in determining these differences than either political or economic factors. The implications of these results will be shared.

Presentation Type and Session: Poster II

Effects on Reaction Time of Heading During Soccer Play in Women and Men College Athletes

Sasa Vann, Psychology and Hospitality Administration

Faculty Mentor: Professor Jean DiPirro, Psychology

The present study is designed to assess the effects on reaction time of heading during soccer play in women and men college athletes. The occurrence and severity of sports-induced concussions are receiving greater attention, which has fostered concern for risks posed to athletes. The negative consequences of concussion for the neural health of the athlete make it critical to understand the nature and gravity of athlete-sustained concussions to facilitate efforts aimed at treatment and prevention of this perturbed neurological state. Soccer, as a sport that incorporates and encourages the use of the head during ball play, is the focus of much current research. Research on concussion-induced changes in cognitive ability indicates that heading and concussion lead to slowed reaction

time and deficits in executive function (e.g., memory, planning, & judgment). Heading effects in male soccer players have been examined but few studies have investigated female soccer play. Because their absence in the research does not reflect their large-scale participation in soccer, their inclusion in scientific investigation is worthwhile. What is known suggests that women and men soccer players experience different post-concussion symptom length (i.e., symptoms last longer in women than men), perhaps due to different head-size to ball-size ratios and different body structures. In the present study, we will assess the effects of concussion on reaction time, as a simple way to gain insight into the consequences of concussion on higher order neural processes. Participants will be Buffalo State athletes from the fall 2014 Men and Women's Soccer and Track & Field teams. The study design is 2 X 2 between-subjects (ex post facto): SPORT – soccer OR track & field X SEX – female OR male. Reaction time will be measured using a computerized test. The results should add to our knowledge of this important and timely topic.

Presentation Type and Session: Poster IV

An Ethnographic Analysis on Government Participation and Perception Among 'Bronies'

Alexandra Agostinelli, Political Science

Faculty Mentor: Professor Peter Yacobucci, Political Science

This research examined the impact of modern media on the political opinions and actions of its audience. Specifically, the research determined whether viewing the "My Little Pony: Friendship is Magic" franchise influenced its adult American fans by promoting an antagonism towards the conventional political system thus lessening their civic engagement. Based on the explicit and implicit messages inherent with the series, I expected that viewers would feel alienated from the national government and express lower efficacy than the average voter. However, at the local level, these fans expressed a heightened sense of empowerment that was displayed through a greater level of participation in local politics, as well as in their community. A factorial analysis of the series was used to suggest a significant political component to the series. With this established, data of American residents from the General Social Survey (GSS) was compared to data collected from over five hundred completed surveys of dedicated adult fans of the program. To make this comparison, I conducted a series of regression analyses, as well as several limited categorical data models. To supplement the statistical analyses, interviews were conducted with patrons and voice actors from the show at BronyCon, a "My Little Pony" yearly conference, along with own personal observations while in attendance. Preliminary analysis suggests a distrust and dislike for all levels of government expressed by the adult fans of the series; however the adult fans of the show are highly engaged in their communities, both online and off, and are strongly concerned with

the welfare of people. This result is robust when possible other factors are included in the model. Despite the target age group of pre-teens, the messages from the show and franchise are changing political beliefs and behavior patterns of their adult devotees.

Presentation Type and Session: Oral – Psychology and Social Sciences

Federation, Consociation, and Conflict in Greater Kurdistan: Exploring the Effects of Transnational Group Power on Intrastate Conflict

Megan Connelly, Political Science

Faculty Mentor: Professor Kyeonghi Baek, Political Science

Power sharing and autonomy have been recognized by scholars as institutional arrangements that can resolve ethnic conflicts. However, the regional demonstrative effects of group autonomy and ethnic power sharing have not been adequately addressed by the current quantitative or qualitative literature. The governments of Turkey, Iran, Syria, and Iraq, for example, have struggled with Kurdish autonomy in Iraq and the prospect of the Kurdistan Regional Government's (KRG) independence from Baghdad. Also, it has renewed the debate throughout Greater Kurdistan about acceptable political and territorial solutions for the Kurds. The study asks the question: Does a transnational ethnic group's power status in one state affect the probability that the group will be involved in a regional conflict? I attempt to explain the intrastate and regional demonstrative effects of group autonomy and ethnic power sharing using the example of the KRG in a qualitative study by conducting interviews with political leaders and academics in the KRG. It also uses a panel logistic regression analysis to observe the effects of power sharing and autonomy on the emergence of episodes of intrastate and regional warfare. The preliminary results of the quantitative study show that while the power status of a group in one country does have an impact on regional ethnic conflict, the case study on Kurdistan calls into question the assumption that ethnic groups act as a unit with common motivations and policy preferences.

Presentation Type and Session: Oral – Psychology and Social Sciences

Gettysburg: The Battle of Communication

Daniel Moreno, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Katherine Grennell, History and Social Studies Education and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

The most important aspect of the Battle of Gettysburg was not modern weaponry nor military tactics, rather basic general to subordinate communication played the biggest role in determining the outcome of the largest clash during the Civil War. Previous scholarly research points to advantages in Union positioning on

Cemetery Ridge as the determinant of Federal victory. However, Union General George Meade was in direct communication with his assistants and was able to analyze as well as relay information before, during and after the battle rapidly unlike Confederate forces. This allowed the Federals to match the Army of Northern Virginia's every move and outmaneuver General Lee, producing a hallmark victory of the Civil War. This topic can be discussed through the perspective of the Union and Confederate high command with primary sources from Generals Lee, Longstreet, and Meade, troopers like Harry Heth and Alexander Porter as well as renowned Civil War authors like Stephen Sears and James McPherson. To validate my argument, I will incorporate primary sources and statistics to support the idea that the Union Army won the Battle Gettysburg because of a better communication system.

Presentation Type and Session: Oral – Psychology and Social Sciences

Hawaiian Culture: The Role of Hula

Fateema Villani, Ant 499: Indigenous Hawaiians

Faculty Mentor: Professor Lisa Anselmi, Anthropology

The Hawaiian culture has encountered many obstacles, down falls and revivals. With the ancient tradition, language and dance that is the Hula, Hawaiian culture has thrived. Research was done on the connection between the Hawaiian culture and hula throughout history. The hula started out as a language using gestures to praise the gods and tell stories. It is a ritualistic way of connecting with the native Hawaiian culture, linking the past to the present. In the past the hula has undergone being celebrated, being banned and several artistic transformations. In the research the importance and correlation of the hula and the strength of the Hawaiian culture is explored.

Presentation Type and Session: Poster V

Heart Disease in Males and Females Buried at Forest Lawn Cemetery, Buffalo, NY

Sabrina Sharrif, ANT 418: Seminar in Physical Anthropology

Faculty Mentor: Professor Julie Wieczkowski, Anthropology

The National Vital Statistics Reports from 2000 (Miniño, et al., 2002) reports that heart disease is the leading single cause of death in the United States, killing more males than females. This paper studies heart disease in people buried in Forest Lawn Cemetery, Buffalo, New York between 1895 and 1905. I hypothesize that the leading causes of death will be heart disease, and that more males will have died from heart disease than females. The data was gathered from the Margaret L Wendt Archives and Research Center at Forest Lawn Cemetery, Buffalo, New York. The first hypothesis about heart disease being the single leading cause of death was supported with 34% of males and females overall dying from Heart

Disease. The second leading cause of death of males is Pneumonia at 18% and for females the second leading cause of death is Old Age at 18%. The second hypothesis that males die from heart disease more often than females was not supported; males and females died equally from heart disease. The reason why may be the differences in society from 2000 and the 1895 – 1905 decade, and also the roles that males and females played throughout these two time periods.

Presentation Type and Session: Poster VII

Humor in Federal Law Enforcement

Kristine Celeste and **Hannah Stryker**, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentor: Professor S. Marlon Gayadeen, Criminal Justice and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Benefits have been found between the use of humor and the psychological health and bond between officers. Current research on humor and policing has primarily focused on local level law enforcement. This study contributes to humor and policing scholarship by focusing on federal law enforcement. Through snowball sampling, data were collected from semi-structured interviews of federal officers from three agencies. This research will reveal how federal law enforcement officers use humor to cope and socialize while on the job. Results of this study will provide a broader outlook on how law enforcement uses humor across all levels of the profession.

Presentation Type and Session: Oral – Psychology and Social Sciences

The Impact of Education on Crime

Brandon Myers, PSC 470: Senior Seminar

Faculty Mentor: Professor Peter Yacobucci, Political Science

Research suggests that people with lower levels of education are more likely to commit street crimes rather than a person who is educated. In previous research done Groot & Van Den Brink, (2014) stated that education is potentially an important element to prevent individuals from engaging in criminal behavior. In an analytical discussion, it was observed that there are a variety of reasons for the increase of crime rates, and where they occur specifically this study will focus on the impact education has on property crime rates in New York City. For the purpose of this study, the research collected will aim to identify the correlation between levels of education as it pertains to criminal activities within New York City. Previous research has shown that if the quality of education improves then, the crime rates can be seen as significantly lower. Therefore bringing another contributing factor within the study, when collecting data and that would be the importance, and the quality of an education. The findings of this study will provide information useful on how significant it is to retain students in these New York City schools. The data collected for this study will be retrieved through online

databases for New York City. The findings for this study will prove or disprove that the level of education plays a significant role in relation to criminal activity.

Presentation Type and Session: Poster II

The Impact of Personal Factors on Subjective Judgments of Distance and Headway in Traffic Situations

Charlene Moultrup, Psychology

Faculty Mentor: Professor Dwight Hennessy, Psychology

This study investigated the effects of personality (such as locus of control, hazard monitoring, thrill seeking, and other personality factors) on subjective judgments of distance between vehicles and headway while driving. Hennessy (2010) has argued that interpersonal space in the traffic environment extends beyond the person to include the vehicle as well. This space represents a “psychological distance” that is subjective in nature and impacted by individual differences in personal perception and interpretation. According to Hayduk (1983) people are generally not very accurate in judging or evaluating distances. Methods used to collect data involved recruiting college students from summer psychology courses, as well as recruiting potential participants via social networking. Participants initially completed a questionnaire to measure personality factors. Immediately following, they viewed two videos three times each. Each video was filmed in real traffic conditions as one vehicle approached a second vehicle from behind on a four lane divided highway with a speed limit of 60 mph. The first video was shot through the windshield of the vehicle approaching the second vehicle to measure front space judgment. The second video was filmed through the rearview mirror of the vehicle being approached to measure rear space judgment. Participants were asked to stop each video at a specific distance between the vehicles (i.e. one distance per viewing): at 90 feet, 175 feet, and 260 feet. Results showed that, overall, participants were a poor judge of spacing/distance, especially at longer distances. Pearson Correlation Coefficients were used to examine relationships between demographics, judgment of space and distance in the traffic environment, and personality constructs. The judgment of 260 feet was positively related to fatigue proneness and total stress (i.e. overestimates of distance), and negatively related to aggression, thrill seeking, and highway code violations (i.e. underestimates of distance). In addition, the judgment of 175 feet was negatively related to thrill seeking (underestimates of distance).

Presentation Type and Session: Poster V

Intersections of Identity: Race and Sexuality

Adonis Kernen, Sociology

Faculty Mentor: Professor Thomas Weinberg, Sociology

This research examines the perception of self of black homosexual males and the meanings of masculinity and race for

these men. The core explanatory framework used to understand how these men develop their perception of social realities is symbolic interaction, which focuses on how people place meaning on themselves, others and situations and act in terms of these meanings. Data for this study were gathered using an interview schedule focusing on five areas: self-labeling or how one came to terms with the notion of being a homosexual, disclosure to others, stigma and perception of the African American Community and perception of the LGBT community. Respondents were obtained via a snowball method, local advertisements and Internet based advertising. Each interview lasted approximately an hour. Interviews with respondents indicate that coming to terms with a gay self-identity is a difficult process. Usually this occurred during a situation in which they began to realize that there was something “off about them.” The time of coming out from the point of realization differed greatly among these respondents. Some men found it difficult to tell others and let them figure it out for themselves. Coming out to family varied within the sample. All of the men experienced some form of stigma placed on them. Often this was related to participation in a black church. In addition to church-based negative reactions the men felt in the black community, they also noted that there was a general hostility toward gays. All but one of the men see their community’s view of them as being negative. Consequently, some men disassociate themselves from that community and they attempt to surround themselves with those who are supportive. The men’s definition of the gay community varied, from that of downtown night life and the drag scene to a small peer group. One of them pointed out that there is a hierarchy within that culture of gay stereotypes. The men varied in how they saw themselves and their relationship to their specific community.

Presentation Type and Session: Oral – Psychology and Social Sciences

Intimate Partner Violence on Campus: An Examination of Attitudes Among Students Attending a Large Urban College

Diamond Briggs, Sociology

Faculty Mentors: Professor Ron Stewart, Sociology and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

Intimate partner violence is a major concern in American society, particularly on college campuses. This study examines the perception of intimate partner violence among students attending a large urban college located in Western New York. The data for this study comes from a nonprobability quota sample of 341 students. Both univariate and bivariate analysis were employed to test six hypotheses related to the impact of three objective and three subjective independent variables on the dependent variable. Contrary to existing literature wherein it indicated both types of factors are germane in explaining the variability in the dependent variable, the results revealed two subjective factors influenced students’ perception of intimate partner violence. Most pronounced, as seen in this quantitative analysis, objective factors such as race, gender, and

residence had no impact on students' perception of intimate partner violence. Limitations associated with the analysis along with policy recommendations and suggestions for future research are offered.

Presentation Type and Session: Oral – Psychology and Social Sciences

Irish Republicanism in Transition: The Fenian Brotherhood in the Aftermath of the Failed 1866 Invasion of Canada

James Siniscalchi, History

Faculty Mentor: Professor Andrew Nicholls, History and Social Studies Education

Irish immigrants provided much of the muscle that propelled Buffalo from small town to second largest port in the world during the 19th century. This legacy lives on in the streets of the First Ward, in signs inscribed, in English and Gaelic, with names like O'Connell and Republic, commemorating the heroes and heroics of the Irishmen who made the Queen City their adopted home, and which bear the harp – the mark of Buffalo's Fenian forebearers. During the summer of 1866, a large contingent of battle hardened Irish-American veterans, under the command of former Union Army officers, invaded southern Canada, in the hope of forcing British concessions toward independence in Ireland. Well-armed and funded, these Irish Republicans represented one of the first trans-national revolutionary movements – a movement which drew support for nationalist aims from the Irish diaspora, well beyond Irish shores. This paper represents a preliminary analysis of primary source materials surrounding the Fenian Invasion of 1866 and its aftermath. By exploring this transitional period and the feedback associated with debate between North American and Irish contingents, it seeks to broaden our understanding of the processes of ideological change within the movement, which allowed Republicanism to maintain political relevance, despite its failure.

Presentation Type and Session: Oral – Psychology and Social Sciences

Is There a Causal Link Between Age and the Complexity and Type of Crime?

William Knight, Political Science

Faculty Mentor: Professor Peter Yacobucci, Political Science

The purpose of this research is to specify the causation between age and type of crime. The goal is to show how there is a relationship between age and type of crime in New York State. Criminology research shows that the age of an individual can be used to determine the complexity of a crime that an individual will participate in. In the determination of type of crime age is the easiest fact about crime to study because the age of an offender is routinely recorded. Information from American Journal of Sociology shows that crime usually occurs when a person is in their youth. The relationship between age and crime type increases as time

progresses. According to data from the FBI Crime data site (FBI), the age that the complexity crime increases is between the ages of 15- to 20-years-old. The main focus of this research is to specify how crime type and complexity elevates as a person ages. Previous studies show that a more positive impact on the youth can result in the lowering of crime rates and reducing the transition of young criminal to more complex crimes. By identifying how age and crime correlate, we will also be able to identify how the relationship can be used to impact a person life positively. The findings of this study will provide information useful on how significant the correlation between age and crime.

Presentation Type and Session: Poster II

Justice for Injustice: Black and Latino Men in Prison

Solomon Johnson, PSC 470: Senior Seminar

Faculty Mentor: Professor Peter Yacobucci, Political science

There are many problems with our justice system. The United States has one of the highest incarceration rates in the world. According to the Bureau of Justice Statistics, National Prisoner Statistics Program, in our justice system there are higher numbers of Black and Latino men in prison than there are white men. My research examines the factors of why the incarceration rates for black and Latino men are higher than their white peers. If black and Latino people only make up 12, and 16 percent of the total population respectively, why are the incarceration rates for minorities so high? My Hypothesis is the incarceration rates are higher for minorities because of racial profiling, flaws in the judicial system, education level, social economic status and location within the US. My Null Hypothesis is the incarceration rates are not higher for minorities because of racial profiling, flaws in the judicial system, education level, social economic status and location within the US. The unit of analysis is cities and I will be using 50 largest cities in the U.S. The dependent variable is the incarceration rates of White, Black, and Latino men. My Independent variables are racial profiling, flaws in the judicial system, location, social economic status, and education level. The number of arrest/arrest rates for Blacks, Whites, and Latinos will measure for racial profiling. Prison sentences for similar crimes split by race (Black, White, and Latinos) will measure for flaws in the judicial system and racial profiling. These two variables will show any disparities in treatment for different races, by the justice system. Location, social economic status, and education level will help determine if other factors contribute to the incarceration rates. SES will be measured by income, and education level will be measured by high school graduation rates and higher education status.

Presentation Type and Session: Poster IV

Lather, Rinse, Repeat: The Effect of Germ Theory on Age At and Cause of Death

Kristin Hatch, ANT 418: Seminar in Physical Anthropology
Faculty Mentor: Professor Julie Wieczkowski, Anthropology

Many changes were taking place at the end of the 19th century. One of the main developments was the public health movement and the acceptance of the germ theory of disease. With the application of the germ theory to medical practice, sanitation procedures became more common and death by infectious disease decreased. This trend follows a large decline in mortality that is seen at the same time. The purpose of this study is to investigate the effects of the application of germ theory in the 1880s in those whose deaths are recorded at the Margaret L. Wendt Archive Center of Forest Lawn Cemetery in Buffalo, New York. A sample of 100 individuals was used to determine the changes in cause of death and lifespan prior to the 1880s and post-1880s. Through the use of inferential statistics and the comparison of percentages it was determined that, of the people sampled from Forest Lawn cemetery, cause of death by infectious disease decreases and lifespans increase after the 1880s.

Presentation Type and Session: Poster VII

Lending a Helping Hand: Individual Differences Modulate How Gesture Facilitates Working Memory

Danielle Bellman, Psychology
Faculty Mentor: Professor Stephani Foraker, Psychology

Why do we gesture? Studies over the past decade have used a variety of memory recall tests and gesture manipulations to see if gesturing helps memory, and how exactly it is represented (Hostetter, 2011; Hostetter & Pothoff, 2012; Wagner et al., 2004). In my study, I had participants perform a dual task procedure. Each participant had to remember a pattern of dots while describing objects from a picture to the experimenter. Half the time they had to gesture while describing, and half the time they couldn't. I measured their accuracy for the dots to see whether gesturing helped their visuospatial memory. I also collected individual differences such as speech and gesture rate, and spatial working memory span (Redick et al., 2012). Gesture and speech were coded to test if they were also predictors of accuracy. I developed a mixed linear regression model using the R statistics platform, and found that memory span score was a significant predictor of accuracy, and the lower the participant's span score, the more gesturing helped their memory, by reducing cognitive load. I also found that speech rate interacted with spatial span, so that people with a higher span score and a higher speech rate had the best accuracy. These results are consistent with findings from Chu et al. (2014) who also found that lower working memory span was associated with more gestures, but my finding that gesturing improves the efficiency of spoken communication is very noteworthy.

Presentation Type and Session: Poster VIII

The Misuse and Abuse of Mummies

Nikkia Spencer, ANT 499: Independent Study
Faculty Mentor: Professor Lisa Marie Anselmi, Anthropology

Mummies date back to 1936 CE, when the oldest known naturally mummified severed head of a human was found in South Africa. While mummies used to be considered embalmed corpses with intact soft tissue that were only found in Egypt, mummies now include any human or animal body that has been preserved either through natural or intentional exposure to extreme temperatures or exposure to chemicals. Mummies are not just found in Egypt; mummies have been found all over the world. As an anthropology major, my particular interest is on how mummies were misused by Victorian-era Europeans. Mummies and parts of mummies were used as souvenirs of travel to Egypt, in medicine, and as fuel, among other uses. There were mummy unwrapping events/parties where portions of the skeleton were ground up and mixed with alcohol to form a 'medicinal' elixir. It was during the Victorian era that the popular legends about mummies also grew including the idea of the "curse of the mummy". Some of these legends were incorporated into contemporary literature and eventually into the growing film industry. My presentation will share my findings about how the use of mummies has changed over time and how the folklore about mummies stems from the Victorian era.

Presentation Type and Session: Poster V

Mummification of Cats in Ancient Egypt

Alyssa Casale, ANT 499: Mummies of the World
Faculty Mentor: Professor Lisa Anselmi, Anthropology

Ancient Egyptian culture is centered on the afterlife and the rituals surrounding death. Many of these rituals consisted of making offerings to different gods and goddesses to further their path to a good afterlife. The earliest dated cat mummy was found in a carved limestone sarcophagus in the tomb of Prince Thutmose who lived around 1350 BC. The goddess Bastet is known to have existed throughout all of Egyptian history: this is proven by her name being written in hieroglyphics and her portrayal in many art forms. The temple at Boubastis represents the Greek translation of the Egyptian goddess' name. This place was the destination of many pilgrims who offered the cat mummies purchased there to the goddess. The abundance of cat mummies is said to have resulted from an increase in pilgrimage and the travelers desire to worship Bastet with an offering. The study of the temple has led scholars to believe catteries existed there to provide more cats for mummification. Mummification is said to have peaked between 664 BC and 332 BC and continued throughout the remainder of Greek rule over Egypt.

Presentation Type and Session: Poster V

Native Americans and Early Buffalo

Anadarlin De Jesus, HIS 300: Research and Writing Seminar
Faculty Mentor: Professor Bridget Chesterton, History and Social Studies Education

Things rapidly changed for the Seneca Indians when the Europeans took over Seneca Indian's native land in Buffalo. Why did the Europeans feel some type of entitlement to the land the Seneca Indians occupied? How did the shift in power affect the Seneca Indians in Buffalo politically, socially, and culturally? The ways in which the Seneca Indians interacted with Europeans in order to keep their land caused controversy and a shift in powers. Noticing the primary sources of original pictures shown in the text, "Red Jacket: Last of the Seneca" by Arthur C. Parker, showed how the ways in which the Seneca Indians lived but were always portrayed as wrong because it was not what the Europeans followed. Europeans often wanted to force assimilation on the Seneca Indians. The important political figure that was the Seneca Indians chief, Red Jacket, was ultimately tricked into giving up his people's corresponding land. Using the research on the primary sources will help support the argument that Europeans committed a selfish act when they took the land that corresponded to the Seneca Indians and asked them to leave the land. Analyzing the sources like, "Seneca Possessed: Indians, Witchcraft, and Power in the Early American Republic" by Matthew Dennis will also help carry out the project because it demonstrates some of the perceptions Europeans had about the Seneca Indians. An oral presentation will help show the significance in the change of power in Buffalo, and how it has affected the way the Buffalo community has changed overtime both show how important the Seneca Indians were to Buffalo.

Presentation Type and Session: Oral – Psychology and Social Sciences

A Place of Our Own: Preserving Ruthenian Identity and Traditions Through a Community Cultural Center

Deirdre Reynolds, MST 640: Museum Administration
Faculty Mentor: Professor Cynthia Conides, History and Social Studies Education

Some of the most important functions of a cultural center is its ability to, through research and interpretation, connect a community to its heritage, preserve identities, traditions, and intangible heritage, and to ignite curiosity in the minds of its visitors. Many ethnic groups have their own centers or museums that provide these functions and serve as a way for the community to come together. Ruthenians, an ethnic group from Eastern Europe, has no such cultural center. Ruthenians trace their families back to the Carpathian Mountains, with most from the junction point of Poland, Ukraine, Slovakia, further down to the border of Hungary. They are ethnically and linguistically distinct from Polish and Ukrainian peoples, though these are the two groups in which they

are most commonly put. Many Ruthenians immigrated to the United States in the years leading up to World War I, and a large portion settled in Binghamton, New York, where they have established a firmly entrenched ethnic community. This project is the first part of a longer Master's Thesis that will provide the administrative groundwork for a proposed cultural center for Ruthenians located in Binghamton, New York. By utilizing Ruthenian history, traditions, and intangible heritage, a cultural center will be created, from floor plans to membership guidelines. Available for viewing will be all associated materials, such as the collections inventory, floor plans and elevations, and staff descriptions.

Presentation Type and Session: Poster I

Prenatal Cigarette Exposure and Language Development

Shakila Randall, PSY 499: Independent Study
Faculty Mentor: Professor Pamela Schuetze, Psychology

The purpose of this study was to examine the association between prenatal cigarette exposure and language development at 24 months of age after controlling for relevant demographic factors and other prenatal and postnatal substance exposure. The possibility that child gender would moderate any association was also explored. The participants consisted of 150 mothers who smoked during their pregnancy and 100 mothers who did not. To assess language development, the preschool language scale-3 was used at 24 months that measures auditory comprehension and expressive communication (Zimmerman, et al., 1992). I predicted that cigarette exposed toddlers will have deficits in language capabilities compared to non-exposed toddlers. I also predicted that non-exposed girls will have overall better language capabilities. There were no differences between non-exposed and exposed toddlers on either receptive or expressive language. The results also suggested that there might be a trend that boy toddlers have higher receptive abilities than girls.

Presentation Type and Session: Poster IV

A Property Value Impact Assessment: The Case of Tim Hortons in Buffalo, NY

Laura Stetzko, Economic Geography
Faculty Mentor: Professor Vida Vanchan, Geography and Planning

Coffee has become an essential part of many people's daily routines. Billions of dollars are spent on coffee every year making it a very lucrative business. In Buffalo, Tim Hortons' coffee shops have become a familiar sight. They are located on many street corners throughout the city, and in various neighborhoods. These neighborhoods are often unique, central, and cultural areas that attract a wide variety of customers. Coffee shops have been found to increase local economic viability. Therefore, the purpose of this study is to examine a potential impact of three selected Tim Hortons' locations in Buffalo on the surrounding residential property values. It aims to provide a longitudinal assessment of the impact

by examining both short-term and long-term changes that have occurred around those locations. Data for this study mainly come from the U.S. Census Bureau, the Erie County property data records, and the Federal Housing Finance Agency. Preliminary evidence indicates an increase in property values over time.

Presentation Type and Session: Poster I

Public Opinion and its Effect on American Foreign Policy

Dyllan Robert Wloch, PSC 470: Senior Seminar

Faculty Mentor: Professor Peter Yacobucci, Political Science

America in a post-cold war world has acted as the 'world police,' and has done so with an American public that is heavily polarized with regards to support for military action abroad. The question therein lies, do elected officials pay heed to the American peoples wishes and national wants when passing legislation that directly affects their constituencies? These questions are valid, and must be answered, not only for the sake of the American people but also for the preservation of America's influence, and standing on a global scale. Within this research project specific pieces of literature will be dissected in order to shed some light on the mystery that is, the American Public Opinion. It must be stressed that as Americans we elect men and women to represent our views, and expect that when our voices are lifted that they will be heard. By analyzing information from the General Social Survey (GSS), a few variables will be considered a few are Gender, Education Level, Income, and Political Ideology I Hope to show the relationship between a populace Ideological standing and how it can affect Foreign Policy decisions as a whole.

Presentation Type and Session: Poster II

Public Service Announcements: Do They Work or Not?

Harris Danenza, PSC 470: Senior Seminar

Faculty Mentor: Professor Peter Yacobucci, Political Science

Advertising is one of, if not the strongest asset a person, business, group, etc. can use to display messages. People are exposed to thousands of ads daily, whether they notice them or not. The more effective an advertisement is, the more people will notice it, understand it, remember it, and then act upon it. People even consider cave paintings to represent the first forms of advertising. Determining the effectiveness of advertisements is very important. Realizing the correct medium for the ad, the ad's wording, the format of the ad, the audience, etc. all goes in to determining the effectiveness of an advertisement. There are also laws governing advertisements and what they can legally say, varying by each jurisdiction. As defined by the Federal Communications Commission, a public service announcement is "any announcement for which no charge is made and which promotes programs, activities, or services of federal, state, or local governments (e.g., recruiting,

sale of bonds, etc.) or the programs, activities or services of non-profit organizations (e.g., United Way, Red Cross blood donations, etc.) and other announcements regarded as serving community interests, excluding time signals, routine weather announcements and promotional announcements." In other terms, a public service announcement (or advertisement) are messages pertaining to public interest spread by the media with the objective of raising awareness towards attitudes and behaviors on usually social issues. The purpose of this research is to determine the effectiveness of certain kinds of public service advertisements in the interest of health, morality, annoyance, etc. Data provided by the Ad Council will be utilized to assess the effectiveness of varying public service announcements. This paper will focus on anti-smoking advertisements, prescription drug advertisements, and texting while driving advertisements.

Presentation Type and Session: Poster II

Refugee Adjustment in Buffalo, NY

Jacquelyn Pason, PSY 499: Independent Study

Faculty Mentor: Professor Jill Norvilitis, Psychology

In Buffalo, NY, there is a large refugee population. Journey's End Refugee Services helps refugees who come to Buffalo find a home to live in, provides financial assistance for a duration of time, helps to find a job, provides classes for learning English, and so on. Many refugees may have trouble adjusting to the new culture here in the United States. High rates of unemployment and depression are frequently found among refugees in their host country (Renner & Senft, 2013). Journey's End cannot support and guide the refugees for an extended amount of time. This study's purpose is to identify how helpful Journeys End's services were for the refugees in their future success, and how well the refugees are adjusting to life here in the United States, both economically and socially. The study will investigate their goals, if they are separated from their family, if they have experienced discrimination, and advice or opinions about Journey's End. Data for the study will be collected through in person interviews to identify common themes. The findings of this study are intended to help Journey's End learn more about the experiences of refugees they have provided assistance to, as well as offer insights as to how well refugees are adjusting to life in Buffalo, and areas in which they may need more assistance.

Presentation Type and Session: Poster VII

The Relationship between College Students' Diets and Factors Associated with Success

Laura Helda, Psychology

Faculty Mentor: Professor Jill Norvilitis, Psychology

Studies have shown that a healthful and conscientious diet may predict feelings of efficacy, but not many studies attend to the possibility of a healthful and conscientious diet being related to college success. Those who experience college success may be

influenced by multiple life factors such as motivation to be healthy, attitudes about health and food, attitudes of self and self-eating behavior, perceived stress, and adjustment to college amongst others. This study will ask 200 college students about their experiences with college and personal attitudes and behaviors associated with eating and health. The aim of this study is to observe whether factors associated with college success may predict current and potential future health behaviors. Particular differences in diet may be associated with possible differences between student perceptions and behaviors related to success. Implications of this study include the possibility of further understanding eating patterns among college students including the ability to better predict negative eating patterns. This may be useful in designing interventions related to healthful eating behavior as well as ways to promote school adjustment in college students.

Presentation Type and Session: Poster V

The Relationship between Personality and Empathy

Jennifer Milbouer, Psychology and Amanda Gon, Psychology
Faculty Mentor: Professor Howard Reid, Psychology

Showing empathy is a basic human characteristic. However, the relationship between empathy and personality dimensions is not well known. In order to clarify the relationship between personality and empathy, a 102-item questionnaire consisting of demographic questions as well as the Multidimensional Emotional Empathy Scale, the 18-item Short Form of Hartmann's Boundary Questionnaire, and the Big Five Personality Inventory has been constructed. We anticipate that surveys will be collected from approximately 150 SUNY Buffalo State students enrolled in a variety of courses during the spring 2015 semester. Further, we anticipate the findings will indicate that those students who score highest on the emotional empathy scale will tend to be women. We also expect high scores to be associated with those who exhibit thin personality boundaries as well as rating high on agreeableness, and openness, holding liberal political views, being from a lower socioeconomic status, and majoring in arts, humanities or education. Variables such as age, grade point average, study habits, and year in college are not expected to be linked with empathy.

Presentation Type and Session: Poster VIII

The Secret of the Ooze: Revelations of Bog Bodies

Dianna Urbanski, ANT 499: Mummies of the World
Faculty Mentor: Professor Lisa Anselmi, Anthropology

When people hear the word mummy their first thought is usually of the mummies that come from Egypt or the bandaged wrapped mummies that can be seen in pop culture, but in actuality there are other kinds of mummies. One of these forms of natural mummies is commonly referred to as bog bodies because they are usually found

in peat bogs. This study investigated the research conducted on bog bodies that have been found throughout Europe using data collected from journal articles and books. The cases that were investigated are Tollund Man, Grauballe Man, and Lindow Man. All three sets of remains were discovered in Northern European countries. Both Tollund Man and Grauballe Man were discovered in Denmark, and Lindow Man was discovered in England. According to my results, researchers used a range of scientific techniques, including but not limited to Carbon 14 dating, CT scanning, and autopsies, to determine the physical characteristics of an individual and the type of life that the individual lived before they died. Some of the characteristics that were determined were height, build, and age. In some cases, researchers were also able to determine what kind of environment the individual lived in and even what their last meal consisted of.

Presentation Type and Session: Poster VIII

Seeing Mental Illness: Altering Perceptions and Addressing the Stigma of Persons Living with Psychiatric Disorders

Marissa Szprygada, HON 400: Muriel A. Howard Honors Colloquium

Faculty Mentors: Professor Katherine Bertel, E.H. Butler Library and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

This exhibit presents bipolar disorder, depression, and schizophrenia reimagined as their physical equivalent. After collecting retrospective narratives of those suffering and analyzing for commonalities, I combine body forms with creative elements inspired by metaphors of how each illness manifests in the sufferers body. In doing so, I aim to confront the disparity in the societal reaction and accommodation of mental illness as opposed to physical illness. Nearly one-fifth of the adult population in the United States suffers from mental illness, yet those who suffer are not met with sympathy but rather fear, pity, and condescension. Projection of harmful attitudes often leads to mistreatment hinged on an inability to separate the illness from the individual. Based on my research, I strive to promote understanding that these afflictions do not define the person, but exist as medical conditions imposed upon capable beings.

Presentation Type and Session: Library Mezzanine Level, Friday, May 1 during the Opening Reception 5:00 p.m. – 6:30 p.m. and Saturday, 11:30 a.m. – 1:00 p.m.

Self-Exploration and the Benefits of Intrapersonal Skill Development

Naomi Skarupinski, Individualized Studies

Faculty Mentor: Professor Jo Yudess, Creative Studies

Getting to know yourself before you work with others is the basic idea behind intrapersonal skill development. At the collegiate and even high school level, students are at the point of their lives in which

they are truly figuring out who they are and who they want to be. A secure sense of self, and knowing personal strengths and weaknesses, leads to a more stable path to success. Analyzing how students' function in certain situations allows for changes in the direction of quick thinking, creative problem solving, and confidence. I explain student intrapersonal growth and how individuals can learn and practice some of the most important intrapersonal skills such as working with values, self-regulation, and stress management. Through practice, this allows for reflection about requisite changes for the improvement of personal experiences and leadership.

Presentation Type and Session: Oral – Psychology and Social Sciences

Silo Sessions: Transformation Through Music and Space

Samantha Kittinger, ANT 499: FieldWork-Silo Sessions
Faculty Mentor: Professor Kimberly Hart, Anthropology

Buffalo, New York has a long-standing reputation for crime, violence, and poverty. However, in recent years Buffalo has been transitioning into a new place of social and economic revival. The memories of a booming, industrial, and successful city no longer seem so distant. Within the context of this social and economic revival, lies a community built upon art, culture, and agency. This community has new ideas, businesses, and projects drawn from the remnants of Buffalo's past. My poster is a result of two semesters of ethnographic research on the positive use of abandoned space in downtown Buffalo. In particular, I am considering how the use of space has benefited the current cultural resurgence of Buffalo. Silo Sessions is a webseries created by Kevin Cain, in which local and national musicians are recorded inside an empty grain elevator along the Buffalo River. Silo Sessions exemplifies three major points of my research: Buffalo's agency; Silo Sessions is a strong example of the current UpCycle and DIY culture particularly popular among the young; and the Sessions embodies a concept of "life among ghosts" that is living in a space where history is still a large component of daily life. Silo Sessions is an idea and use of space that builds on the past bringing it into present. These grain elevators represent a unique architecture and history of Buffalo, but also serve as a symbol of a strong standing, tight-knit community. My research is aimed at the ways in which people interact with space and how these interactions have helped lead to Buffalo's present.

Presentation Type and Session: Poster VIII

Stereotypes and Memory Recall

Nicole Deci, HON 400: Muriel A. Howard Honors Colloquium
Faculty Mentors: Professor Stephani Foraker, Psychology and Professor Andrea Guiati, Director, Muriel A. Howard Honors Program

This study will examine the effect of stereotypes on memory recall. More specifically, this study will examine whether preexisting

racial stereotypes will have an impact on what participants can recall from memory after seeing robberies that were caught on a surveillance camera. Previous research has found that there are certain stereotypes that are associated with specific crimes, which create perceptions of a crime as stereotypically black or stereotypically white. These perceptions, in turn, have been found to affect the witness's memory of the criminal (Osborne & Davies, 2012). This study will look instead at stereotypes involving the criminal rather than stereotypes surrounding the crime. I will test for existing stereotypes in participants by using an Implicit Association Test (IAT) and a questionnaire testing for explicit stereotypes. I will manipulate the robber's race by using two separate videos to see whether the race of the criminal will impact what the participant remembers about the event. I will then ask participants what they remember of the event, first through free recall, then by prompted questions that are intended to cue specific details of the event and robber themselves. I expect to find that the race of the robber will affect what the participant remembers about the event. That is, I expect that participants that have strong stereotypes about a particular race will be better able to recall details specific to the robber than details about the event itself. I will present my results in a poster presentation highlighting any significant correlations and discussing general trends that I find.

Presentation Type and Session: Poster VIII

Stress, Academic Burnout, and Student Debt

Brendan Roman and **Vyktorika Staufenberger**, PSY 496: Independent Study
Faculty Mentor: Professor Dwight Hennessy, Psychology

Past research has indicated that higher stress levels negatively correlate with academic success in college students. In accordance with Lin and Huang (2014), stress levels may stem from academic stress, emotional stress, interpersonal stress, family stress, future development stress, and self-identity stress. Another study by Ross, Cleland & Macleod (2006) identified that among a sample of undergraduate medical students, there was not a relationship between debt owed and academic performance as measured by class ranking, rather than by GPA (grade point average). Few studies in the past have addressed the impact of financial debt and financial stress as they relate to academic success. This study aims to identify relationships between student loan debt, future development stress, academic burnout, and academic performance as indicated by student GPA. Additionally, this study will aim to examine perceived financial stress as it relates to academic performance. Furthermore, it is hypothesized that academic burnout and future development stress negatively correlate with academic performance, but will expand on past research by evaluating student loan debt as a potential moderator of those variables in predicting academic performance. College students often have stress stemming from

sources other than schoolwork alone. For this reason, this study will control for allocation of a student's time during a given week. This study will evaluate such constructs via a self-report questionnaire comprised of questions regarding student debt, demographic information, weekly time delegation, the Maslach Burnout Inventory – Student Survey (MBI-SS) (Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002), the Contemplation of Future Consequences questionnaire (Strathman, Gleicher, Boninger, & Edwards), the Survey of Recent Life Experiences (Kohn & MacDonald, 1982), and the Perceived Stress Scale (Cohen et. al, 1983).

Presentation Type and Session: Poster VII

Student Opinions of First Dates and Rape

Marisol Gomez, Allyson Lindell, Lauren Marinelli, Ashley Wetzel, and Samantha Zak, PSY 488: Internship

Faculty Mentor: Professor Howard Reid, Psychology

Recently the issue of sexual assault on campuses has gained prominence in the popular news. However, little research has examined students' perceptions of rape, or what constitutes a successful first date. In order to examine these issues, we conducted a questionnaire study. Specifically, a total of 60 participants have completed an 83-item questionnaire designed to identify gender differences in opinions concerning success of first dates as well as what constitutes a rape. The subjects were all undergraduate psychology majors at SUNY Buffalo State. The factors included in the questionnaire were dominance, empathy, intellect, recklessness, and relationship insecurity. We anticipate that women will be more likely than men to view a somewhat ambiguous situation as constituting rape, however we do not expect to see a similar gender difference for view of a first date. We will also be examining which of the factors included in the study will interact with gender and views of rape and first date.

Presentation Type and Session: Poster VII

Tracking Erie County Public Health: Impact of Substance Abuse Prevention Activities

Iecha Bermudez, Criminal Justice, **Brian Morris**, Economics, **Yasmine Payton**, Public Communications, **Tiffany Perez**, Biology, **Je'Tyra Perry**, Business, **Racquel Praino**, Dietetics, **Kayla Tanksley**, Individualized Studies, and **Bianca Williams**, Psychology

Faculty Mentors: Professor Kelly Marczyński, Center for Health and Social Research, Professor Joelle DelMonte, Center for Health and Social Research, and Professor Robert Skutnik, Center for Health and Social Research

The Prevention System Impact Study is designed to track the public health impact of substance abuse prevention activities in Erie County, NY. The Erie County Department of Mental Health (ECDMH) Comprehensive Prevention Plan identifies subarea data on public health outcomes as key measures of program impact. Current prevention impact data lacks information on substance

use, problems, and mental health issues directly from adolescents, the main target of current prevention services. This survey provides population-level data on actual behaviors of over 600 adolescents aged 14-20, the gold standard for assessing prevention impact. The survey topics include key measures of mental health and substance abuse, including alcohol/illicit drug/prescription drug use initiation (age of first use), current use, perception of harm, parental interaction/rules, and various demographic information. A parallel survey was conducted with an adult population of over 500 participants 21 years of age and older. Those results will accompany the adolescent data in order to provide an integrated data-driven perspective for prevention agencies to consider when developing their programs so as to make them more successful. Surveying the two populations results in inclusion of the entire population, which is critically important because of the increased utilization of environmental prevention approaches (e.g., enforcement, social norms changes), which target the entire population. The survey will be conducted using a multi-method approach, including postal mailings, telephone calls, and electronic mailings. The adolescents can respond anonymously over the telephone using an audio computer-assisted-self-interviewing (A-CASI) system or via the internet to a web-based survey.

Presentation Type and Session: Poster I

Trait Negative Urgency and Sensation Seeking Behaviors: Predictive Factors of Aggression

Emma O'Connor, PSY 499: Honors Thesis

Faculty Mentors: Professor Dwight Hennessy, Psychology, Professor Jennifer Hunt, Psychology, and Professor Jurgis Karuza, Psychology

The purpose of the present study is to explore if those who score high in negative urgency, sensation seeking, or both are more likely to display aggression when instigated. Previous research has supported the notion that trait negative urgency can be predictive of the development of maladaptive behaviors, as well as aggression, and that sensation seeking behaviors are predictive of aggression as well. Recruited participants were asked to complete a series of self-report questionnaires that aimed to measure negative urgency, sensation seeking behaviors, aggression, and rumination. Additional questions regarding demographic information were also included. Participants also took part in an experiment conducted in a laboratory setting. The participants were randomly assigned to one of two groups (a control or experimental group). The purpose of the experiment was to instigate aggression using unsolvable puzzles as task frustration. Upon completing the puzzles, each participant were also required to fill out a ratings form, in which they were required to rate the researcher in a variety of items, as well as provide them with the letter grade they felt the researcher to be deserving of. They were informed that the researcher's grade would be determined based on their feedback. This tool was included as another means to measure

symbolic aggression, using person frustration. The present study will attempt to generate further support for the findings in previous research. Additionally, the present study predicts that those who score high in both negative urgency and sensation seeking behaviors will display the greatest instance of aggression when instigated.

Presentation Type and Session: Poster IV

Urban Growth and Education: Can the Implementation of Universities Stimulate Growth in Cities?

Sara Dzielski, PSC 470: Senior Seminar

Faculty Mentor: Professor Peter Yacobucci, Political Science

The United States constantly sees change; whether it is in cultural trends, economics, technology, or even knowledge. However what ideally must stay consistent is the ability to adapt to change in order to maintain stability, especially in cities. In light of this, there are still cities that remain in decrepit states, demonstrating an inability to keep up with its changing surroundings. In particular, the city of Niagara Falls is barely staying afloat. Sitting on the border between the United States and Canada, the city of Niagara Falls may be one of the most abysmal failures of Western New York to date. All it would take is one short drive through the abandoned, poorly maintained city to lead a visitor to ask one simple question: What is missing? According to urban studies theorist Richard Florida, there are many reasons why people cluster to certain areas: jobs, economy, amenities, and even lifestyles. However, the most important reason claimed is to maximize potential, innovation, and to draw off of each other's skills and talents (Florida, 2006). Naturally, at the center of these regions of growth are colleges and universities. These institutions create jobs, invest in research and technology, increase productivity, and most importantly, attract talent (Florida, 2006). The attraction, or even creation of talent is what Florida believes is the beginning of the manifestation of the "creative class", or a group of educated, innovative people who cluster and live in a particular area (Florida, 2006). However, the first step is the implementation of these institutions. This paper sets out to prove the connections between universities and urban economic growth through a multiple regression analysis measuring the effects that university presence would have on job availability, occupational status, home vacancies, pollution, and the amount of people staying in the area. Current research and data predicts a positive correlation between the listed variables and university presence, and ultimately the results from this study would be applied to the City of Niagara Falls.

Presentation Type and Session: Poster V

Varying Effects of the 1918 Influenza Pandemic on Buffalo, New York

Nikkia Spencer, ANT 418: Seminar in Physical Anthropology

Faculty Mentor: Professor Julie Wieczkowski, Anthropology

According to the Department of Health's Annual Report of 1918 in Buffalo, NY, mortality from the 1918-1919 influenza pandemic

varied greatly among different age groups. Twenty- to forty-years old were responsible for 66% of all flu deaths. Taubenberger and Morens (2006) found that age-specific death rates exhibited a "W-shaped" curve, with peaks in the very young, young adult, and very old. More men than women died. At Forest Lawn Cemetery's Margaret L. Wendt Archive Center, I collected data on 100 people from the original set of death records, "G", from years 1914-1928 who had a reported death of influenza. Over half of the people who died from influenza were between the ages of 20 and 40. These results were consistent to the 1918 Annual Report. The peak ages were between 15 and 44 with minimal deaths in the very young and the very old, inconsistent with Taubenberger and Morens 1918 "W-curve". Fifty-five percent of the people who died were males, while 43% of the people who died from influenza were women. This was consistent with both the Department of Health Annual Report in 1918 (Buck, 1918) and national pattern (Bucki, 1996).

Presentation Type and Session: Poster V

Walkability and Neighborhood Change in Buffalo, NY

Paula Jones, GEG 430, Senior Thesis

Faculty Mentor: Professor Jason Knight, Geography and Planning

Health and social science research has shown that living in a walkable neighborhood is associated with various health, social, and economic benefits compared to living in an auto-centric community. Highly walkable neighborhoods are concentrated on the West Side of Buffalo, an area that is home to a large low-income and minority population, including many newly arrived immigrants. Many of these low-income residents do not have access to private automobiles and rely on walkable access to various daily amenities. In recent years, the area has been undergoing change due to increased investment from wealthier citizens, and increasing demand in the housing market and an influx of private capital is driving up housing values. Rising incomes and housing values in the area indicate that parts of the West Side are at risk of gentrifying, which may lead to the displacement of existing residents who can no longer afford increased rent or property taxes. If low-income residents are pushed out of their walkable neighborhoods, they will be forced to relocate to other neighborhoods that are affordable to them, namely the low quality, less walkable neighborhoods on the East Side of the city. This research utilizes statistical methods in geographic information systems (GIS) software to analyze the spatial and temporal patterns of walkability, changes in housing values, and socioeconomic characteristics in Buffalo neighborhoods to assess whether low-income and minority households are benefiting from living in walkable neighborhoods. The analysis will also help determine if these neighborhoods are at risk of gentrifying. Results from the statistical analysis and a discussion of the consequences of population displacement will be shared in the poster presentation.

Presentation Type and Session: Poster VIII

Welfare and Higher Education: Breaking the Cycle of Poverty

Courtney Slisz, PSC 470: Senior Seminar

Faculty Mentor: Professor Peter Yacobucci, Political Science

I argue welfare is a cycle of dependency and that the only effective way to end this cycle is to provide aid to older youth to help them pursue higher education to gain a career and become financially independent. The availability of funding to children of the welfare system to pursue higher education will increase the number of degrees to children raised on welfare and lower welfare recidivism and dependency. Research has shown when a child is raised on welfare that child will likely be welfare dependent as an adult. In addition, if your parent is dependent on welfare it is very unlikely that you will pursue higher education. Research suggests when financial aid is provided an increase in college attendance followed suite (Dynarski, 1999). Dynarski's research along with (Nidiffer, 1996) found that when positive factors (mentoring, aid, college prep) are offered to poor children the results were positive in both their enrollment in higher education and their achievement within university. My research will utilize the General Social Survey (GSS) to show a strong causal link between the provision of financial aid to welfare dependent children and their future educational and employment success. Other potential factors will be considered to isolate this important factor.

Presentation Type and Session: Poster II

What Your Texting Content and Style Say About Your Personality

Deborah Butler, Psychology, **Sara Cappellino**, Psychology, **Adam Milton**, Psychology, **Carly Pershyn**, Psychology, and **Dylan Vlaovich**, Psychology

Faculty Mentor: Professor Howard Reid, Psychology

Texting has become a popular form of social communication among college students yet relatively little is known about the relationships between participants' personality and the content or style of the texting engaged in. The current study was, therefore, designed to find if there are correlations between personality characteristics and sexting. In addition, the study examines two styles of texting, response time with a person of interest, and controlling of the conversation, to determine how they are related to the sender's personality. More specifically, the study is examining seven personality dimensions consisting of self-consciousness, relationship insecurity, mistrust, domineering, morality, emotional detachment, and anxiousness, and their relationship to texting. Information will be gathered from questionnaires that will be distributed during the Spring 2015 semester to approximately 200 SUNY Buffalo State students enrolled in a variety of classes. It is expected that the seven personality dimensions will be correlated with sexting as well as the two styles of texting, response time with a person of interest, and controlling of the conversation. In addition the study will examine

the effects of a number of demographic measures including; gender, age, year in college, grade point average, sexual orientation, and relationship status to determine their possible linkage with sexting and/or style of texting.

Presentation Type and Session: Poster VIII

The Woven Way: Indigenous Looms and Textiles of the Americas

Kristin Hatch, ANT 498: Honors Research

Faculty Mentor: Professor Lisa Anselmi, Anthropology

Weaving is an invaluable process to many cultures around the world. Holding special significance in Native cultures, the process and products of weaving are integral parts of Indigenous American cultures. This research presents the various looms utilized by the cultures of North and South America prior to European contact. After European contact, other looms were introduced to Native cultures but these looms are not focused on in this paper. Through academic publications and museum collections, woven textiles (products of the use of these looms) were also investigated. These textiles vary from commonplace garments to ceremonial regalia. Woven textiles are compared cross culturally in order to understand the differences that can arise in products even when similar technology is employed in their creation. The major cultures that are focused on include the Pueblo peoples and Navajo of the Southwest, the Nazca and Inca of Peru, and the Tlingit of the Northwest Coast. The study of looms and woven textiles is not only important to better understand historic culture but also to understand the roots of a tradition that continues in enduring Native communities today.

Presentation Type and Session: Poster V

