8-25-2023

2016 GREAT Day Program

State University of New York at Geneseo

STATE UNIVERSITY OF NEW YORK · COLLEGE AT GENESEO ·

APRIL 19, 2016

Geneseo Recognizing Excellence, Achievement, and Talent

Welcome to SUNY Geneseo's Tenth Annual GREAT Day!

Geneseo Recognizing Excellence, Achievement & Talent Day is a college-wide symposium celebrating the creative and scholarly endeavors of our students. In addition to recognizing the achievements of our students, the purpose of GREAT Day is to help foster academic excellence, encourage professional development, and build connections within the community.

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Graham Drake, English
Susan Salmon, School of Education
Aaron Steinhauer, Physics & Astronomy

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Andrea Klein, Campus Scheduling and Special Events
Gina Suriano, GREAT Day Intern
Samuel Weinstein, Chamber Music Festival Coordinator; Allison Altschiller, Assistant
Samantha Moore, Student Association
Daniel Ross, Milne Library
Patty Hamilton-Rodgers, GREAT Day Coordinator

Thank You for contributions that make GREAT Day possible: Brian Bennett, Joe Dolce, Stephen Dresbach, Karie Frisiras, Nancy Johncox, Minhhang Huynh, Enrico Johnson, Justin Hugg, Chip Matthews, Sean McGrath, Daniel Ross, SA Tech Services, Frances Murray, Ashley Zaleppa, Zarmeen Zahid.

Thanks to GREAT Day Volunteers:
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Special Thank You:

President Denise Battles and **Provost Carol Long** for their support of GREAT Day.
Jack and Carol Kramer for their support of Geneseo and the Keynote address.
Brother Guy Consolmagno for delivering the Keynote address.
Student Association for sponsoring the luncheon.
Campus Auxiliary Services for sponsoring luncheon beverages.
Daniel Ross and the Milne Library Staff for hosting the Coffee Hour and overseeing the proceedings.
Anne Baldwin, Andrea Klein, Tammy Hill and Gina Suriano for their special expertise and many hours devoted to planning this event.

GREAT Day is funded by the Office of the Provost, the Student Association, Campus Auxiliary Services and the Jack '76 and Carol '76 Kramer Endowed Lectureship.

http://www.geneseo.edu/great_day

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Cover design by Joanna Walters '13

Happy Earth Week

Look for the Leaf

In recognition of Earth Week, Sustainability at Geneseo has selected GREAT Day presentations which include topics that promote sustainability and are designated by.

Recycle or Namebadge/Lanyard

If you would like to recycle your namebadge/lanyard you can leave it at the GREAT Day Check-In Desk in the College Union, give it to a GREAT Day Volunteer or drop it off at Erwin 202. The badge holders are also biodegradable.

SCHEDULE

7:30 – 8:20 AM ***Opening Coffee Hour Honoring***
Milne 1st Floor ***10 Year Supporters & 2015 Proceedings***

8:30 – 6:30 PM ***GREAT Battle of the Artists***
CU Kinetic Gallery **Award presentations 6:00 PM**

8:30 – 9:45 AM ***Concurrent Presentations • Session 1***
Bailey, Brodie, Doty, ISC, Milne, Newton, South, Sturges, Welles

9:55 – 11:10 AM ***Concurrent Presentations • Session 2***
Bailey, Doty, ISC, Newton, South, Sturges, Welles

10:20 AM – 11:15 AM ***Chamber Music Festival • Part 1***
College Union Hunt Room

11:15 – 12:45 AM ***Poster Presentations***
Poster Central - College Union: Ballroom, 3rd Floor, Starbucks Stage

12:00 PM ***Buffet Luncheon/Geneseo String Band***
College Union Lobby Sponsor: Geneseo Student Association

12:40 PM ***Sláinte Irish Dance Performance***
College Union Ballroom Stage

1:00 – 2:15 PM ***Keynote: Brother Guy Consolmagno***
The Jack '76 and Carol '76 Kramer Endowed Lectureship
Opening Alma Mater sung by **ALLISON ALTSCHILLER, LOUIS**
Wadsworth Auditorium

2:15 – 3:15 PM ***Chamber Music Festival • Part 2***
College Union Hunt Room

2:25 – 3:40 PM ***Concurrent Presentations • Session 3***
Bailey, Brodie, ISC, Newton, South, Sturges, Welles

3:45 – 4:20 PM ***Chamber Music Festival • Part 3***
College Union Hunt Room

3:50 – 5:05 PM ***Concurrent Presentations • Session 4***
Bailey, Brodie, Doty, Newton, South, Sturges, Welles

5:10 PM ***Geneseo Winter Guard***
College Union Plaza

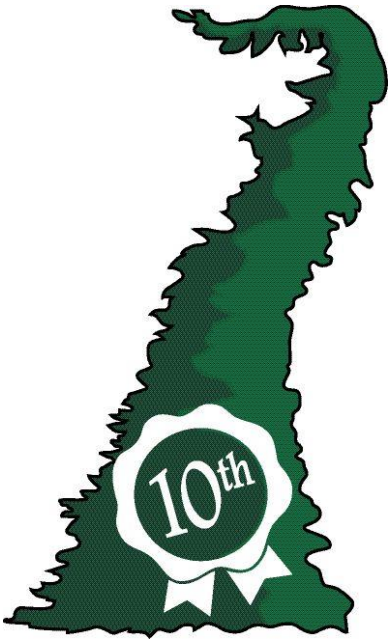
5:15 PM ***Bhangra Dance Performance***
Closing Remarks, Denise Battles President
College Union Lobby

5:15 – 6:30 PM, ***Poster Presentations***
& Reception Keynote Speaker Book Signing
Poster Central - College Union: Ballroom, 3rd Floor, Starbucks Stage
College Union Lobby

6:30 PM reception, 7:00 PM screenings
Wadsworth Auditorium ***Geneseo Insomnia Film Festival***

The GREAT Day Opening Coffee Hour
7:30 – 8:20 am, Milne Library
Honoring

Ten Year Sponsors and Contributors



GREAT Day would not be possible without the dedicated faculty who work with students throughout the year on the projects that are presented annually. As we observe the 10th Annual GREAT Day, we would like to acknowledge the following faculty who have been a faculty sponsor for each of the 10 GREAT Days:

EDUCATION
Doug Mackenzie

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Olympia Nicodemi

GREAT Day is also indebted to the staff who have worked tirelessly to organize, coordinate and support the program for the past ten years:

SPONSORED RESEARCH
Anne Baldwin

CAMPUS EVENTS AND SCHEDULING
Andrea Klein

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Brian Bennett

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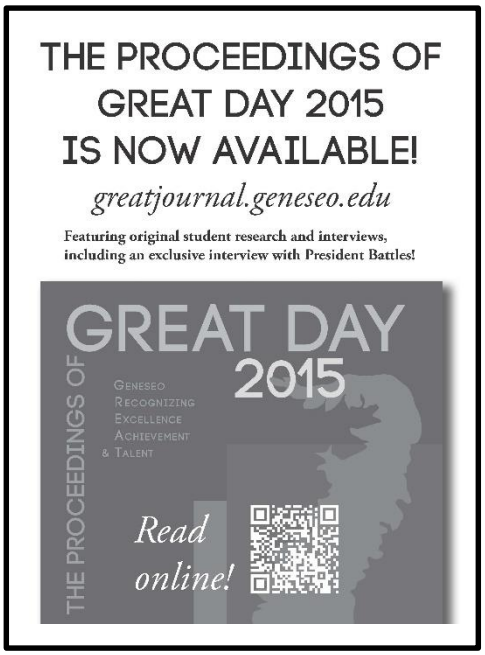
Joe Dolce

THESE STUDENTS AND THEIR FACULTY MENTORS HAVE BEEN PUBLISHED IN THE PROCEEDINGS OF GREAT DAY 2105:



WENDY-MARIE AYLWARD
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GRAHAM DRAKE, ENGLISH

SONGYI PAIK
MANSOKKU LEE, BUSINESS

The Jack '76 and Carol '76 Kramer Endowed Lectureship

KEYNOTE ADDRESS

Wadsworth Auditorium • 1:00 – 2:15 PM

Introduction by Denise Battles, President

Brother Guy Consolmagno – Why Do We Do Science?

"Doing science" can mean efforts ranging from the billion-dollar efforts of Big Science like the recent discovery of gravitational waves, to the much smaller scale science like the measurements of meteorite properties that Br. Guy does in his small lab at the Vatican Observatory. People often question the monetary cost of these efforts: why does the federal government spend billions looking for something as esoteric as gravitational waves? Why does the Vatican support an astronomical observatory? But these questions mask a deeper question: why do individuals choose to spend their lives in pursuit of pure knowledge? How are these choices made? The motivation behind our choices, both as individuals and as a society, affects the sorts of science that gets done; the kinds of answers that are found to be satisfying; and ultimately, the way in which we think of ourselves.

About Brother Guy Consolmagno SJ, Astronomer and President of the Vatican Observatory Foundation

A native of Detroit, Michigan, Brother Guy earned undergraduate and masters' degrees from MIT, and a Ph. D. in Planetary Science from the University of Arizona; he was a postdoctoral research fellow at Harvard and MIT, served in the US Peace Corps (Kenya), and taught university physics at Lafayette College before entering the Jesuits in 1989.

At the Vatican Observatory since 1993, his research explores connections between meteorites, asteroids, and the evolution of small solar system bodies, observing Kuiper Belt comets with the Vatican's 1.8 meter telescope in Arizona, and applying his measure of meteorite physical properties to understanding asteroid origins and structure. Along with more than 200 scientific publications, he is the author of a number of popular books including *Turn Left at Orion* (with Dan Davis), and most recently *Would You Baptize an Extraterrestial*? (with Paul Mueller). He also has hosted science programs for BBC Radio 4, been interviewed in numerous documentary films, appeared on *The Colbert Report*, and for ten years he has written a monthly science column for the British Catholic magazine, *The Tablet*.

Dr. Consolmagno's work has taken him to every continent on Earth; for example, in 1996 he spent six weeks collecting meteorites with a NASA team on the blue ice regions of East Antarctica. He has served on the governing boards of the Meteoritical Society; the American Astronomical Society Division for Planetary Sciences (of which he was chair in 2006-2007); and IAU Commission 16 (Planets and Satellites). In 2000, the small bodies nomenclature committee of the IAU named an asteroid, 4597 Consolmagno, in recognition of his work. In 2014 he received the Carl Sagan Medal from the American Astronomical Society Division for Planetary Sciences for excellence in public communication in planetary sciences.

There will be a book signing and reception in conjunction with the poster session in the College Union Ballroom at 5:15 pm. The bookstore will have copies of *Would You Baptize an Extraterrestrial* and *Turn Left at Orion*.

All are welcome.

CONCURRENT PRESENTATIONS MORNING QUICK VIEW GUIDE

SESSION 1 CONCURRENT PRESENTATIONS
8:30 – 9:45 AM

1A • HISTORY STURGES 109
A Question of Autonomy: China and its Problem Borderlands

1B • CENTER FOR INQUIRY, DISCOVERY AND DEVELOPMENT
Ambassadors 1 DOTY 302E

1C • ART HISTORY & MUSIC BAILEY 103

1D • BIOLOGY 1 ISC 131

1E • BUSINESS SOUTH 338

1F • POLITICAL SCIENCE & INTERNATIONAL RELATIONS
Contemporary Global Issues I WELLES 24

1G • THEATRE/DANCE BRODIE 152 DANCE STUDIO
Dance Composition: Senior Choreographic Projects

1H • EDGAR FELLOWS MISCELLANY 1 WELLES 119
Education, English, Mathematics

1I • EDGAR FELLOWS MISCELLANY 2 WELLES 121
Biology, Mathematics,

1J • EDGAR FELLOWS MISCELLANY 3 WELLES 123
Anthropology, Mathematics, Philosophy

1K • HISTORY: *Empowered Women: Jiang Qing* STURGES 112

1L • HISTORY 1 STURGES 114

1M • HISTORY OF MATHEMATICS I SOUTH 328

1O • PSYCHOLOGY BAILEY 102
How to Be A Happier Person

1P • LANGUAGES AND LITERATURES WELLES 115

1Q • MATHEMATICS NEWTON 201
Algebra: Applications and Research

1R • HISTORY: *Methods, Media, and Me I* STURGES 108

1S • POT POURRIE*: Business, English* BAILEY 104

1T • PHYSICS & ASTRONOMY 1 ISC 115

1U • ENGLISH MILNE 105
The Wife of Bath's Prologue (Chaucer) in Middle English

1V • ENGLISH WELLES 128
Themes in and Discussion on James Joyce's Ulysses

1W • ENGLISH WELLES 134
Video Games in HUM I: What would Aristotle do?

1X • PSYCHOLOGY (MOVED FROM 4T) BAILEY 105
College Adjustment & Retention of Racial/Ethnic/Sexual Minorities

SESSION 2 CONCURRENT PRESENTATIONS
9:55 – 11:10 AM

2A • MATHEMATICS NEWTON 201
Mathematical Games, Magic, and Paradoxes

2B • CENTER FOR INQUIRY, DISCOVERY AND DEVELOPMENT
Ambassadors 2 DOTY 302E

2C • ENGLISH WELLES 128
Ancient Leadership and Its Reverberations

2D • BIOLOGY 2 ISC 131

2E • BIOLOGY 3 ISC 136

2F • POLITICAL SCIENCE & INTERNATIONAL RELATIONS
Contemporary Global Issues II WELLES 24

2G • ANTHROPOLOGY BAILEY 103
Debates, Dialogues and Dialects: Insights from Linguistics

2H • EDGAR FELLOWS MISCELLANY 4 WELLES 123
Sociology, Political Science & International Relations

2I • EDGAR FELLOWS MISCELLANY 5 WELLES 121
Biology, Chemistry

2J • *EDGAR FELLOWS MISCELLANY 6* WELLES 119
Residence Life, English

2K • ENGLISH BAILEY 102
International Linguistic and Cultural Exchange

2L • GEOLOGICAL SCIENCES: *Geophysics* ISC 115

2M • GOLD 1 WELLES 26

2N • HISTORY OF MATHEMATICS II SOUTH 328

2O • EDUCATION - ***LIVES PROGRAM PRESENTS...*** NEWTON 204

2P • HISTORY: *Methods, Media, and Me II* STURGES 108

2Q • HISTORY: *Morality, Religion and Politics* STURGES 104

2R • MATHEMATICS SOUTH 340
Real World Applications of Mathematics

2S • HISTORY BAILEY 104
Sport in the PRC: Cultural, Political, and Economic Dynamics

2T • ENGLISH DOTY TOWER ROOM
The Geneseo Almanacs

2U • BUSINESS SOUTH 338
The Fed Challenge Team

2V • MUSIC – VOCAL AND INSTRUMENTAL DOTY RECITAL HALL

2W • STUDY ABROAD: *Haiti Service Learning Trip* WELLES 115

CONCURRENT PRESENTATIONS 1 • 8:30 - 9:45AM

1A • HISTORY STURGES 109

A Question of Autonomy: China and its Problem Borderlands

FACULTY SPONSOR: TZE-KI HON, HISTORY
SESSION CHAIR: **THOMAS GREENO**

Taiwan: A Look at Two Chinas

THOMAS GREENO, GINO BUSCEMI, JOHN KILLEGREW, JONATHON SABATINO

This presentation will be looking at the history of Taiwan as it diverged from the Communist path. How has the PRC dealt with this split and how does it continue into today?

Free Tibet: The Sovereignty of a People

JOHN KILLEGREW

An examination of the land dispute, religious conflict, and human rights violations that has persisted since the early 1700's in this torn region.

Xinjiang Uyghar: A Seperate People

GINO BUSCEMI

A examination of the separatist movements of those in China that yearn for autonomy, based on ethnic, religious, and political differences between those living in the autonomous region and the Chinese government.

Macau: Portuguese China Before and After 1999

JONATHAN SABATINO

After centuries of Portuguese rule, Macau has transformed from a small colony into Asia's Las Vegas, and has changed significantly culturally and economically while transitioning to life under the Communist Party of China.

1B • AMBASSADORS 1 DOTY 302E

SESSION CHAIR: CYNTHIA OSWALD, CENTER FOR INQUIRY, DISCOVERY AND DEVELOPMENT

In Defense of Normative Justice in the Era of Positive Law: Improving Public Defense in New York State

HARRISON HARTSOUGH

FACULTY SPONSORS: JAMES MOOR, POLITICAL SCIENCE & INTERNATIONAL RELATIONS
CYNTHIA OSWALD CENTER FOR INQUIRY, DISCOVERY, AND DEVELOPMENT

The growth of the Black Lives Matter movement indicates a growing consensus that police practices must be examined in light of tragedies such as that of Ferguson, Missouri. I propose that not only police practices but the practices of how we defend the rights of the indigent accused, those who are too poor to afford an attorney, demand examination. Beginning by understanding our courts, where pursuing justice is forced to compete with the question of what is practical, I discuss this "judicial-practical" question at length to show that justice must be separated from practical concerns (monetary cost, e.g.). By examining the Supreme Court's history with this questions as it pertains to the Sixth Amendment's right to counsel clause, it is clear that over time we have identified new rights that were either present or ancillary to developments in our legal system. The Court's decision in Gideon v. Wainwright provides one such unmitigated standard of justice: legal representation for all regardless of wealth. Using a Student Ambassadorship, I provide an analysis of how New York State has not met the standard set forth in Gideon. I conclude that justice is a natural right that must be attached to a normative framework.

Ambassadorship Project - StandUp Leadership

BRANDON GAYLORD

FACULTY SPONSORS: CYNTHIA OSWALD, CENTER FOR INQUIRY, DISCOVERY AND DEVELOPMENT
THOMAS MATTHEWS CENTER FOR COMMUNITY

My ambassadorship was a leadership day I wanted to host for under-served high-school students. Calling the event StandUp Leadership, we hosted, at SUNY Geneseo, 130 high-school students on December 4th, 2015 for a day of leadership workshops (modeled on the GOLD program) as well as networking opportunities with admissions representatives and local businesses. This presentation will discuss, in detail, what was done, how, why, and the future of this event.

1C • ART HISTORY & MUSIC BAILEY 103

SESSION CHAIR: BETSY COLON, GRANTS MANGEMENT

The Armenian Genocide and the Music It Inspired

MEL YANAR

FACULTY SPONSOR: JAMES KIMBALL, MUSIC

This month marks the 101st anniversary of the beginning of the Armenian Genocide in which an estimated 1.5 million Armenians died. Others, including the presenter's great-grandparents and grandfather, managed to flee. Since then, both Armenians and Armenian-Americans have written music inspired by the Genocide but in very different ways. Armenians created anti-war music to recount how they remained peaceful and to reinforce that their belief in God was unwavering. The Armenian-American music focuses more on wanting revenge and demanding governmental recognition. This presentation will serve to provide historical context for the Genocide, share the family story, and illustrate the sharp distinction between the perspectives of the two cultures. Songs written, composed, and performed by Arthur Meschian, Arsen Safaryan, Charles Aznavour, George Garvarentz, Daniel Decker, Ara Gevorgyan, Hyper Soul, R-Mean, and System of a Down will be referred to. The presentation will include related visual and audio examples.

Toulouse-Lautrec and the Female Form

EMILY ERCOLANO

FACULTY SPONSOR: ALLA MYZELEV, ART HISTORY

The objectification of the female body has been a common feature throughout the history of western art, a tradition that persisted into the 19th century and was exasperated by the growth of the advertisement industry. Though much has been written about Henri de Toulouse Lautrec and his use of the traditional male gaze within his posters and advertisements, particularly for the Moulin Rouge, there is much less critical discourse about his paintings which often center on depictions of marginalized women. My paper seeks to help fill this gap within criticism by examining his paintings as a reflection of Lautrec's private, more culturally subversive view of women as equally realized and complex human beings. Lautrec's advertisements featuring the famed Moulin Rouge dancer, Jane Avril, are a continuation of the male gaze for mass, public consumption by a patriarchal society. In comparison to his more private paintings, *In the Salon in Rue des Moulins* (1894) and *The Two Friends* (1895), display a markedly different conception of women and their relationships with one another, particularly those amongst sex workers and homosexuals. In contrast to his misogynistic posters of showgirls, Toulouse-Lautrec's paintings are proto-feminist in their more human and sympathetic portrayals of women.

1D • Biology 1 ISC 131

SESSION CHAIR: HAROLD HOOPS, BIOLOGY

A Changing Community: How a Virtual Community Reacts to Different Stimuli

LARA BANNISTER

FACULTY SPONSOR: GREGG HARTVIGSEN, BIOLOGY

A virtual fictional Serengeti community was built using R. The community consists of vegetation, herbivores, and predators. The assumptions include one-way interactions (population-based consumption), population-dependent births, random deaths, and no cannibalism. I will define a "normal" stable community. From there, I determine how the community reacts to different situations, such as simulated natural disasters, the removal of species, the removal of keystone species, and the effects of sudden population increases or decreases of different species and record the resulting effects over a period of time.

The Colonial Green Alga *Astrephomene gubernaculifera* Performs Chemotaxis by an Extracellular Calcium-dependent Temporal Sensing Mechanism

GRANT KUSICK

FACULTY SPONSOR: HAROLD HOOPS, BIOLOGY

One challenge in the early evolution of multicellularity is the performance of collective behaviors. This transition is drastic within the volvocine algae: multi-celled members of the Volvocales exhibit many of the same behaviors as their unicellular relatives, but the mechanisms involved must be distinct. *Astrephomene gubernaculifera* is the only multi-celled volvocine alga that has been shown to perform chemotaxis: navigation along a chemical gradient. Since the discovery of this behavior, the signaling pathway involved and the physical means by which the alga changes its movement to navigate toward higher concentrations of its food source, acetate, have been obscure. I report that extracellular calcium is required for chemotaxis independent of general motility and at a different concentration than is required for phototaxis. This suggests that there is an influx of calcium during the chemoresponse separate from the photosensory pathway. I also find that increasing the viscosity of the medium abrogates effective phototaxis but not chemotaxis. This implies that chemotactic sensing and response occur over time rather than instantaneously, as is the case in phototaxis. I propose a mechanism of chemotactic navigation in which *Astrephomene* reverses direction when it experiences a local decrease in acetate concentration.

Treatment with the Corticosteroid Clobetasol on Subclones of Vulvar Carcinoma Cell Line UMSCV-6 Causes Alterations in Gene Expression Related to Epithelial to Mesenchymal Transition (EMT)

CHIAMAKA OKORIE

FACULTY SPONSOR: JANI LEWIS, BIOLOGY

Cadherins are calcium dependent proteins that play an important role in cell-cell adhesion. Cadherin expression changes during the course of development to promote migration of cells to their correct tissue layer. The predominant cadherin in epithelial tissue is E (Epithelial) -cadherin. E-cadherin is characterized as a tumor suppressor gene since loss of its expression is often associated with metastasis. Vulvar cancer is a rare and aggressive disease that can be masked by vulvar rash known as Lichen sclerosis (LS). LS is often treated with ultrapotent corticosteroids however, our lab has shown that prolonged use of the ultrapotent corticosteroid, clobetasol promotes loss of E-cadherin expression in two vulvar carcinoma cell lines, UMSCV- 6 and A431. We have isolated subclones of UMSCV-6 that display characteristics of epithelial to mesenchymal transition (EMT). Using immunofluorescence, western blotting, MTT and senescence assays we have focused our studies on understanding the full impact of clobetasol treatment of the UMSCV-6 subclones. The work discussed here presents the results of reverse transcription PCR that was done to understand the genes that are linked to the down regulation of E- cadherin.

1E • BUSINESS SOUTH 338

SESSION CHAIR: LEONIE STONE, BUSINESS

Impact of Leader Courage on Organizational Effectiveness

RYAN MICHAELSEN, JASON STICH

FACULTY SPONSOR: AVAN JASSAWALLA, BUSINESS

Our paper presentation will share findings from our literature review of leader courage and its impact on organizational effectiveness. We will explain key competencies that courageous leaders have and how they affect the organization as a whole. Specifically, we will discuss how being ethical, visionary, and charismatic as well as implementing effective communication skills can change the productivity and effectiveness of the organization as a whole. Finally, we will provide suggestions for leaders of organizations on how to improve in these areas.

Human Resource Management—Impact of Employee Engagement Programs on Retention

SARAH FRADKIN, SHAYNA WINBERRY

FACULTY SPONSOR: AVAN JASSAWALLA, BUSINESS

This presentation highlights the importance of Employee Engagement Programs in the workplace given their positive effect on retention. More specifically, we will look at what makes an Employee Engagement Program effective, how companies can successfully implement these programs and the factors within the program that directly lead to higher retention levels.

The Impact of Participative/Empowering Leadership on Employee Creativity

RYAN OCKENDEN, KRISTEN SEAMAN

FACULTY SPONSOR: AVAN JASSAWALLA, BUSINESS

The impact of participative/empowering leadership on employee creativity is worth studying due to the far-reaching benefits it has on employees and organizations as a whole. This leadership style, designed to foster creativity, not only provides managers and organizations with the competitive edge of new and innovative ideas, but also benefits managers, employees and the organization on a day-to-day basis in terms of employee motivation, productivity, and efficiency. Before coming to this conclusion we first wanted to find how employee creativity impacts the overall success of an organization. Next, we wanted to know how participative leadership impacts employee creativity. And finally, we asked how managers could become empowering leaders to foster creativity. Through studying the impact of participative/empowering leadership on employee creativity, we not only found an increase in motivation, productivity and efficiency, but the actions required to foster this needed creativity. In conclusion, the impact of participative/empowering leadership on employee creativity should be studied because it provides managers, in an ever-advancing business world, the know-how to spark creativity while simultaneously increasing employee motivation, productivity, and efficiency.

International Trade: A Buffer Against Economic Recessions?

JIMMY HATEM

FACULTY SPONSOR: LEONIE STONE, BUSINESS

This paper examines U.S. international trade data from the 2008 recession, and asks if international trade activity can insulate a region from economic downturns. Specifically, we apply econometric analysis to U.S. States and Metropolitan Statistical Areas. Our method includes categorizing similar states and metro-areas by economic size, population and geographical location in order to isolate international trade variation between similar regions.

1F • POLITICAL SCIENCE & INTERNATIONAL RELATIONS

WELLES 24

Contemporary Global Issues I

FACULTY SPONSOR: ROBERT GOECKEL, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

SESSION CHAIR: ANAND RAO, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

Political Economic Causes and Implications of the Greek Debt Crisis

KRISTIAN TIALIOS

The European debt crisis in 2009 sent many European economies in desperate recessions and threatened the continuity of the European Union itself. The crisis in Greece was particularly more troublesome, and continues to ravage the battered Greek economy. The causes of the crisis do not simply originate in 2009; rather, the crisis was the product of decades of public policy failure, faulty taxing and auditing practices, and made worse by an insufficient response by both the European Union, the International Monetary Fund, and Greek policymakers. This presentation also delves into the political, social and economic effects of the Crisis as well as possible solutions, i.e. a "Grexit" (Greek Exit of Eurozone) or continued austerity packages. The implications of a "Grexit" would be disastrous for the people of Greece and would undermine the core goal of the European Union, unfortunately, austerity under the current conditions are strangling the Greek populace.

Dostoevsky and Diplomacy: Russian Soft Power Foreign Policy

MARIA GERSHUNI

The Russian Federation's revisionist foreign policy agenda has required creativity. While Russia's hard power policy is well publicized, the Kremlin has invested in strong soft power institutions centered on language, religion, and culture. The state funded organization "Russkiy Mir" was created to spread Russian language to "compatriots" around the world. The organization, though cultural, is inherently political, since it targets the Russian diaspora, students, and Russian speakers in the near abroad nations and brands them as Russian "compatriots". The Russian Orthodox Church is

Promotes sustainability

also a powerful soft power foreign policy tool for the nations of Eastern Europe with large Orthodox populations. The Church, in partnership with the Kremlin, hopes to invoke Orthodox history and gain allies through the creation of the "Holy Rus" in Eastern Europe and turning Orthodox believers against the liberal, "immoral" West. Finally, the state sponsored television network RT, which targets young, educated, and disillusioned English speakers in the West, seeks to create a positive image of Russia by breeding skepticism and mistrust of Western governments. These soft power tactics can be countered by an open, investigative media and acceptance of cultural differences in both native Slavic populations and the diaspora communities.

Comparative Study of the Impact of Female Political Representation on Economic and Reproductive Rights in Mexico, Rwanda, the United Kingdom and the United States

JANE SKINNER

Many feminist theorists argue female political representation will improve the status of women through legal protections and governmental initiatives. To assess the validity of these arguments, the following case study examines if female political representation results in laws protecting equal economic and reproductive rights, and if those rights impact the overall wellbeing of women. The countries examined were Mexico, Rwanda, the United Kingdom, and the United States. The study found Mexico and Rwanda have higher rates of female political representation, but all four states have comparable laws protecting economic and reproductive rights. Contrary to the aforementioned theories, the status of women appears to be lower in the countries with the higher percentages of female representation. While this could be explained by the forced inclusion of females through quota laws, the theories are again discredited by the little impact similar legal protections appear to have. This study concludes that having females in government does not necessarily result in legal protections and that formal equality does not guarantee an improved status. On the other hand, the varying degree of respect for the rule of law and differences in its application in the four separate countries help to explain this outcome.

A Comparative Study of the Radicalization Process of Mass Shooters, Lone Wolves, and Organized Terrorists

ERIC BUCHANAN

Radical international terrorist organizations have become the focus of the United States' national security agenda. However, counterterrorist agencies must not neglect the threat posed by lone wolf terrorists and mass shooters. These two types of attackers are perhaps an even greater threat to security due to their mostly solitary nature. Although these radical individuals differ from each other and from radicals that join organized terrorist organizations, there is a commonality between all three typologies. All three of these individuals go through what is known as a radicalization process, the process through which an individual adopts radical ideology that rejects that status quo of society. Although there are differences within the process of each of these types of individuals, this paper will focus on the similarities in order to develop an effective counterterrorist strategy for all three. The similarities include the feeling of alienation from a specific group of people or from society as a whole, the targeting of civilians, and the act of planning out an attack. Through analysis of these similarities it seems that deterrence strategies are the most effective methods to countering all three of these types of radicalized attacks. This paper will also analyzes these methods.

1G • THEATRE/DANCE

BRODIE 152 DANCE STUDIO

Dance Composition: Senior Choreographic Projects

FACULTY SPONSOR AND SESSION CHAIR: MARK BROOMFIELD, THEATRE/DANCE

From the Beginning

KRISTEN CZERWINSKI

"From the Beginning" is a modern dance work envisioning what it might have been like when humans began to evolve beyond primordial drives. The piece explores how individuals advance past their animalistic instincts to gain the capacity for compassion, knowledge, and understanding. Rooted in Humphrey-Weidman technique, this dance has a strong focus on breath rhythm and many movements into and out of the floor.

Lotus

ANTONIA MARIC

In A Lotus Grows in the Mud, Goldie Hawn claims, "The lotus is the most beautiful flower, whose petals open one by one. But it will only grow in the mud. In order to grow and gain wisdom, first you must have the mud." My piece expresses this concept of transforming life struggle into strength and positivity. While as individuals we all experience different journeys, the movement of the piece also demonstrates the common ground humans find in both sorrow and personal growth.

Serendipity

NICOLE BERGAMO

Serendipity is defined as the chance occurrence of events in a beneficial way. Certain people come into your life and change it in ways you didn't know you needed. This piece portrays the joys of finding unexpected friendships in new situations. I chose bright, fast-paced jazz music to embody the theme of the dance. The syncopated rhythms within the intricate melodies inspired much of the choreography. Serendipity is a celebration of friendships and a culmination of my personal experience coming to college.

Tai Chi in a College Setting: Educating and Benefitting Undergraduate Students

SIERRA BOUCHARD, EMILY ELLMANN, ALEX SHERRY

Tai Chi Chuan is a Chinese martial art that is practiced throughout the world, including at SUNY Geneseo, the only SUNY school that offers Tai Chi as a course to its undergraduate students. Through ethnographic fieldwork, we set out to find how the Chinese culture is emulated in the movement quality and technique of Tai Chi, and how Tai Chi practice influences the lives of participants. As dance minor students, we further examine the differences and similarities between martial arts and dance forms, such as Horton modern technique. We hope that through our research, others may become informed about both Chinese culture, and an accessible method for relieving the stresses of college.

1H • EDGAR FELLOWS MISCELLANY

WELLES 119

SESSION CHAIR: MELANIE BLOOD, ENGLISH

Dismembering Martin McDonagh: Exploring the Troubled History Behind *The Lieutnenant of Inishmore*

DENNIS CAUGHLIN

FACULTY SPONSOR: TOM GREENFIELD, ENGLISH
RANDY KAPLAN THEATRE/DANCE

This research looks at the sectarian conflict in Northern Ireland known as 'the troubles' as it pertains to the Martin McDonagh's 1994 play, *The Lieutenant of Inishmore*. McDonagh questions the ethics of Irish republicanism and suggests that violence has become not a means but an end. The mounting death toll of innocent civilians pushed McDonagh to write an excessively bloody farce that draws attention to the senseless killing of the day. This research explores the conflict that informed the play and assesses the shortcomings of the republican movement. In order to direct such a play on an American college campus, one must find a way to relay the context of the period through the dialogue alone. The goal has been to provide a theatrical experience that both educates and entertains its audience. The play itself uses a great deal of shock value to convey the extreme nature of the republican movement, but that shock lacks impact if the audience knows nothing of the actual events that inspired the work. An informed production of this play demands a close examination of that history as well as an appreciation for the subtle details within McDonagh's dialogue.

Images and Words: Creating a Children's Picture Book

KELSEY COLBERG

FACULTY SPONSOR: BRIAN MORGAN, EDUCATION

When most people think of children's literature they automatically think of picture books. Picture books are the most common form of children's literature because of their accessibility and the

pleasure that viewing images provides. Pictures attract attention and excite interest. By reviewing past book's illustration styles and story themes I have created and illustrated my own picture book. I have taken into account the relationship between images and words as well as style, medium, and format. Looking at past successful picture books and current cultural trends has resulted in me creating a visually appealing, fun book that can be enjoyed by children and parents alike.

Science on Stage

MEGHAN BARRETT
FACULTY SPONSOR: MELANIE BLOOD, ENGLISH

Science plays are a unique medium in which to explore some of science's most difficult issues; the human element of the actors combined with the ability to narrowly focus on one particular issue in a fictionalized context, provide an urgency and complexity uniquely possible in drama. Two issues in particular seems to captivate most playwrights engaging with scientific material. The first is the interaction between faith and science; the second is the powerful danger that comes with knowledge. Theater scholar Glynne Wickham wrote that despite all the knowledge science has given to the world, "...few scientists today have any knowledge of how to prevent the fruits of specifically scientific discoveries being used to plunge mankind into an unparalleled chaos of suffering, destruction, and new-barbarism." From the earliest conceptualization of the science play, Christopher Marlowe's *Doctor Faustus*, to more modern plays like Tony Harrison's *Square Rounds* and Shelagh Stephenson's *An Experiment with an Air Pump*, playwrights continue to explore these fundamental issues.

1I • EDGAR FELLOWS MISCELLANY 2

WELLES 121

SESSION CHAIR: OLYMPIA NICODEMI, MATHEMATICS

DNA Cytosine Methyltransferase Increases Stationary Phase Fitness under Temperature Stress in *Escherichia coli*

REBECCA HUSS
FACULTY SPONSOR: KEVIN MILITELLO, BIOLOGY

Our laboratory studies extra DNA bases beyond the four standard bases, specifically 5-methylcytosine. Little is understood about the biological role of 5-methylcytosine in bacteria. In *Escherichia coli*, a methyl group is attached to a cytosine by a protein termed DNA methyltransferase (*dcm*). Past research has shown that many genes' expression levels are affected in *dcm*-knockout cells during early stationary phase, indicating that the gene has an impact on stationary phase biology in *E. coli*. Two strains of *E. coli*, one with a *dcm* containing plasmid, named T7E/pDcm and one with a plasmid lacking *dcm*, termed T7E/pET-28a+ were constructed. The two strains were forced to compete at two temperatures, 20° C and 37° C during stationary phase. The surviving cells in the cultures were identified via colony PCRs. Over the course of long-term stationary phase, the cells with the *dcm* gene were outcompeted by the cells without *dcm* at 37° C. However, at 20° C, the cells containing *dcm* outcompeted the cells lacking this gene. This indicates there is some advantage to having the *dcm* gene under cold-stress conditions during stationary phase. We aim to determine the molecular mechanism for this advantage in future studies.

Elliptic Curve Cryptography

MARCUS ELIA
FACULTY SPONSOR: GARY TOWSLEY, MATHEMATICS

Mathematical cryptography is the study of using mathematics to encrypt and send information securely. It has been stated by many, including the National Security Agency, that Elliptic Curve Cryptosystems are safer than traditional cryptosystems. Evidence will be presented in favor of this thesis, in addition to explanations of the fundamental principles of cryptography. Further, an overview of the recent history of the National Security Agency's interactions with Elliptic Curve Cryptography will be discussed.

Micro-Computed Tomography Optimization

RAYANNE LUKE
FACULTY SPONSOR: CAROLINE HADDAD, MATHEMATICS

One branch of medical image analysis studies the effects of cancer drugs and treatments on rodents. Micro-computed tomography (CT) scans use ionizing radiation in the form of x-rays to detect cancerous tissue or bone. This radiation has the potential to modify molecules of the body making them cancerous. Thus, reducing the exposure time of CT scans is an important goal. The trade-off to reducing scan time is that the output image quality is lowered. A hypothesized set of scan settings that optimize image quality while allowing for low-exposure scans is tested. To do so, various filtration techniques and settings are used in MATLAB to process the raw images in terms of artifact reduction and contrast improvement. Volumetric analyses of the rodents' lungs across different scan settings are conducted and compared quantitatively to those of high-exposure scans, which are used as the "gold standard" since longer scan times mean improved image quality. Preliminary results support the hypothesis that the set of scan parameters identified successfully reduces exposure time while maintaining image quality.

1J • EDGAR FELLOWS MISCELLANY 3

WELLES 123

SESSION CHAIR: DAVID LEVY, PHILOSOPHY

Embracing Gaea: Human Flourishing in the Biotic Community

JUSTINE TALBOT
FACULTY SPONSOR: DAVID LEVY, PHILOSOPHY

This project began as a quest for a philosophical link between Randian self-interest and environmental activism. Instead, I discovered more links between disparate holistic ideals, including atmospheric scientist James Lovelock's Gaia hypothesis and Aristotle's ethical concepts of virtue and human flourishing. By discussing the work of Thomas E. Hill, William Kittredge, Peter Wenz and Arne Naess as well as Lovelock and Rand, I will argue for a strengthened and expanded, ecologically conscious version of eudaimonia. The key takeaways from these thinkers are that virtue can be synergistic, uniting anthropocentric (or self-centered) and nonanthropocentric motivations, but it must ultimately reflect generosity and humility with respect to the Gaean, or earthly, whole. True flourishing necessitates consideration of the biotic community far beyond Aristotle's human-centered polis, though it remains an ideal of personal happiness attained through the cultivation of virtue.

EXTREME Statistics: A Tour of Volatility in a Disaster Filled World

NICK LAVIGNE
FACULTY SPONSOR: YUSUF BILGIC, MATHEMATICS

Probability and statistics are important to more than just scientific claims. When making decisions in domains where risk and uncertainty are involved, special attention must be given to extreme events, good and bad. Theoretically, this corresponds to estimating the tails of probability distributions instead of their centers, e.g. the upper and lower quantiles instead of the mean. Problems occur because most often the relevant quantiles to estimate fall outside the range of data. Consequently, the tools and methods used in conventional data analysis are no longer useful when considering extreme events. Some results in extreme value theory will be discussed with application to a data set on environmental and industrial disasters in the United States. The general philosophical approach and practical implications will be stressed.

Testing the Feasibility of 3D Scanning Technology for Conservation and Research Purposes in Archaeology on Pre-Columbian Canid Remains

JENNIFER AMICO
FACULTY SPONSOR: PAUL PACHECO, ANTHROPOLOGY

There has been a rapid improvement in 3D scanning technology in recent years. This technology has applications in academic settings like archaeology because of its potential to aid with the conservation of archaeological materials, opening up these discoveries to wider audiences and promoting the study of samples that were previously inaccessible to many researchers. The purpose of this project was twofold. First, it aims to test the feasibility of the technology by digitizing and recreating two complete 1700 year old Pre-Columbian canids with Geneseo's NextEngine 3D Laser Scanner. These canid remains are curated in the North American Archaeology Lab, located in the SUNY Geneseo Department of Anthropology. Second, it also aims to develop a base of knowledge about proper scanning protocol, while documenting the limitations of the 3D scanning technology for similar projects in the future. The

Promotes sustainability

samples for this project, which were recovered from two Ohio Hopewell culture domestic habitations sites, Brown's Bottom #1 and Site 40, located in central Ohio, were chosen because of their degree of completeness and because human co-habitation with dogs directly affects the human experience. Therefore, studying their remains can illuminate elements of culture, which complement our current knowledge of the Ohio Hopewell people.

1K • HISTORY STURGES 112

Empowered Women: Jiang Qing

FACULTY SPONSOR: TZE-KI HON, HISTORY
SESSION CHAIR: **COLLEEN CUMMINGS**

The Male Gaze

STELLA ODURO

An exploration of how the male gaze affected women in Chinese society, especially from the May 4th Movement and during the Cultural Revolution.

Jiang Qing and the Gang of Four

COLLEEN CUMMINGS

Jiang Qing and the Gang of Four gained political prominence during the Cultural Revolution but after Mao Zedong's death they were blamed for a lot of the destruction that occurred during the Revolution. We will examine the good and bad of Jiang Qing and the Gang of Four to determine whether this blame was truly deserved.

Jiang Qing and Theater Politics

PHUONG NGUYEN

During the Cultural Revolution, Jiang Qing utilized the power of theater to gain political power. She condemned old-style Chinese opera and replaced it with themes of revolutionary struggle and class war. With Eight model plays and the "superstructure," Jiang Qing proved that theater could be used as the weapon of politics to project the proletariat cultural revolution.

1L • HISTORY 1 STURGES 114

SESSION CHAIR: KATHLEEN MAPES, HISTORY

The Social Impact of the One-Child Policy in China

CHRISTOPHER JONES

FACULTY SPONSOR: TZE-KI HON, HISTORY

The one-child policy in China was an effort by the Chinese government to alleviate social, economic, and environmental problems in China by attempting to reduce the population. The policy has had many social implications including things such as male preference of children destabilizing the gender ratio. The impacts have not been solely negative, but it is likely that the few positives outweigh the negative impacts of the policy. Some problems have arose such as unequal enforcement, potential human rights violations, unregistered children, and the increase of infanticide. Some people in China tried different ways of bypassing the policy through loopholes such as twin births and birth tourism; having a second child born outside of China. These factors and others have led the one-child policy to have a massive impact on Chinese society.

G-Men and Teamster Gangsters: The 1941 Smith Act Trial of SWP Members and Militant Unionists

JOSHUA DEJOY

FACULTY SPONSOR: KATHLEEN MAPES, HISTORY

This paper focuses on the 1941 Smith Act prosecution of members of the Socialist Workers Party and Teamsters Local 544. The defendants, who were all Trotskyists, militant unionists, or both, were charged under the Smith Act, which criminalized mere advocacy of revolution. The paper analyzes the multiple factors leading up to the prosecution, including intra-union conflicts between Teamsters bureaucrats and thugs on the one hand and militant unionists on the other, the SWP's revolutionary socialist opposition to World War II, and the Stalinist American Communist Party's opposition to Trotskyism. It also examines the outcome of the trial, including the crippling of the SWP during World War II and the precedent established for the prosecution of the Communist Party. My main sources are historian Brian Palmer's book Revolutionary Teamsters: The Minneapolis Truckers' Strike of 1934, newspaper articles from the time of the trial and its aftermath, and SWP National Secretary James P. Cannon's speeches and trial testimony. My conclusions are that the 1941 trial and its aftermath demonstrate the common wartime interests of the Stalinists, Democrats, and union bureaucracy in opposing a socialist anti-war program, and that this provides important lessons for students of history and workers alike.

The Three Unifiers of Japan; Who Were They,What Did The Do and How Are They Remembered in Japanese Pop Culture

KEVIN HUSTED

FACULTY SPONSOR: TZE-KI HON, HISTORY

This presentation discusses who the three unifiers of Japan are. It will also discuss what they did in the warring states period of Japan and how are they remembered in Japan's pop culture, such as in the form of video games and Anime.

1M • MATHEMATICS SOUTH 328

History of Mathematics I

FACULTY SPONSOR AND SESSION CHAIR: JEFF JOHANNES, MATHEMATICS

The Origin of Polar Coordinates

SEUNG MIN CHUNG

Since the Greek astronomer Hipparchus first charted the positions of the stars in the sky, the polar coordinates have been used throughout history in many practical applications. Since then, this system has been used in various applications such as navigation and position charting. That is on top of its uses in the natural sciences such as work with gravitational fields and how waves travel from point sources. This talk will explore how exactly the polar coordinates were discovered and used and how the system slowly evolved through history. We will learn how using this coordinate system is advantageous to using other systems and how its effectiveness impacted history.

Radians Through Time

SHELLY LIAN

In this presentation I will discuss the earliest uses of radians and why they were necessary at the time of their discovery. I will analyze Roger Cotes' exploration of the concept of a radian, origin of the name "radian," and the development of notations for radians.

Exploring the History of Cramer's Rule

GRACE O'BRIEN

Cramer's rule is a method of solving a system of linear equations that has a unique solution. It uses determinants to solve for each variable in the system individually. While the name of the method suggests that Gabriel Cramer was the first to discover it, Colin Maclaurin was the first to publish the idea. This paper will explore how and why each of these mathematicians discovered the method.

Fermat's Little Theorem

YAOVI ADJEGAN

Pierre de Fermat is a French mathematician of the 17th century who many consider to be the best mathematician of his era. He made many contributions to calculus, the law of refraction, and number theory. I will focus on one of his theorems in number theory known as Fermat's Little Theorem. The theorem states that if p is a prime number, then for any integer a, the number <a^p - a> is an integer multiple of a. We can easily verify the validity of the theorem by checking it with numbers, however in mathematics it is important to provide a proof to any theorem. Fermat did not give a formal proof for most of his results, including the Little Theorem. He stated the theorem in a letter to a friend Bernard Frénicle de Bessy on 18 October 1640. He claimed he had a proof for the theorem, but he chose not to include it in the letter because it was "too long." It was not until 1740 that Euler provided a proof. I will discuss the details of the proof of the theorem and also provide some insights into how Fermat was able to derive the little theorem.

1O • PSYCHOLOGY BAILEY 102

How to be a Happier Person

FACULTY SPONSOR: JIM ALLEN, PSYCHOLOGY
SESSION CHAIR: **JESSICA GOLDSTEIN**

CHRISTOPHER WEBER

Using a workshop technique we will help students learn activities which will help them increase their long term happiness and their overall happiness as students.

1P • LANGUAGES AND LITERATURES WELLES 115

SESSION CHAIR: LORI BERNARD, LANGUAGES AND LITERATURES

Algeria, Morocco & Tunisia: The Ambivalent Status of the French Language in Muslim North Africa

NATHALIE KALUMBWE
FACULTY SPONSOR: NADJET SARRAB-BEKRI, LANGUAGES AND LITERATURES

The history and implications of the implantation of French in Algeria, Morocco and Tunisia has been a subject of varying discourse since their independence from France in the 1950-60s. Collectively known as Maghreb, the countries had French as their administrative language during France's imperial occupation. After independence, as part of the decolonization process, they sought to Arabize in all domains. Thus, (classical) Arabic is the constitutional official language of Maghreb while French remains the de facto preferred second language, though without official recognition. Despite this, the influence of French is anything but receding thanks to influences of the media and the Diaspora who serve as important vectors for its propagation. Ironically, while classical Arabic is the official language, it isn't the inhabitants' first language; a rather diverse variety of dialectal Arabic and Tamazight (Berber) are. Hence, across the Maghreb, the appropriation of French has been coupled with its use as a lingua franca. Seen as the language of unification, modernity and exchange, French is increasingly being borrowed from to fill the lexical gaps of dialectal Arabic to describe new realities. The result is an evolution of a unique linguistic landscape whose footprints will be explored through a chronological lens.

Sages-Femmes of Dakar, Senegal, West Africa through Firsthand Experience: An Unparalleled Health Profession in the United States

MARIA SUAREZ
FACULTY SPONSOR: KODJO ADABRA, LANGUAGES AND LITERATURES

The societal role of a midwife in the United States has steadily dropped since the rise of modern medicine. The vast majority of American midwives are certified nurse-midwives who attend less than 12% of U.S. births. In the West African country of Senegal, however, the profession of a midwife, or sage-femme, has an unparalleled role in birthing and women's health. But according to the National Association of Sage-Femmes of Senegal, the current coverage ratio in the capital city of Dakar is one sage-femme for 2,000 women of reproductive status while the World Health Organization recommends one per every 500. Interviews with current sage-femme school administrators, instructors, and students in Dakar, conducted during the summer of 2015, and substantial literary research sustain findings about this struggling yet vital profession in Senegal. This presentation aims to first establish the prominence of sages-femmes within the Senegalese framework, then attempt not only to summarize their pivotal role, but also critically examine practical issues they face. The comparative analysis of the current state of the sage-femme's relevance in contemporary Senegal and the United States will be discussed. Possible and sustainable culturally-sensitive solutions for coping with the high demand for sages-femmes will be presented.

More Than Just Dolls: A Cross-Cultural Study of Vodou

MEGHAN SAELI
FACULTY SPONSOR: KODJO ADABRA, LANGUAGES AND LITERATURES

In many people's minds, the word Vodou evokes images of black magic, Vodou dolls, and zombies. The common belief that many people in the west hold is that Vodou is used to harm or bring bad luck to others and has created a misunderstood religion. The actual beliefs and practices of Vodou in Haiti for instance originated from practices created and maintained by the Haitians during times of hardship and suffering brought on by enslavement and its consequences. Based however in Western Africa: mainly Benin, Togo, and Nigeria, and crossing the ocean to Haiti during the slave trade, Vodou is thus a religion with rich traditions and a long history. As Dr. Patrick Bellegarde-Smith has stated, "Vodou is far more than [a religion]. It's a spiritual system. It includes philosophy, technology, science, and everything else". In my paper, I intend to share well-researched critical information in an attempt to challenge the single story widely spread about the actual Vodou religion by: 1) investigating the origins of Vodou, 2) unveiling the beliefs and practices in Vodou from the Haitian and African perspectives, and 3) contrasting the implications of these differences in our modern world.

1Q • MATHEMATICS NEWTON 201
Algebra: Applications and Research

FACULTY SPONSOR AND SESSION CHAIR: PATRICK RAULT, MATHEMATICS

Breaking the Code

MICHELLE EAMES, SERENA AMOS

Created in 1978, RSA cryptography was born into the world of mathematics. Using the lock and key model, we will show how information is encrypted and decrypted. Secret information we hold is kept secure using these locks and keys. We will provide information behind the mathematics of RSA cryptography as well as information on how to further secure files. Due to the complex mathematics behind this cryptosystem, the code is very difficult to break. RSA cryptography is the most widely used public key cryptographic algorithm. For example, this cryptosystem is used to secure connections with social media websites. Co-requisite: Math 230

Zero-Divisor Graphs of Matrices Over Finite Fields

AYANA IKEDO

In an abstract algebra class we learn that there is an interesting number system where we can find two nonzero elements x, y such that xy= 0. The zero-divisor graph of a commutative ring R is a graph with one vertex per element of R; if xy= 0, then we connect the vertex x to the vertex y. For example, consider R to be the ring of integers modulo 6. Then [2] connects with [3] and [3] connects with [4]. Historically, zero-divisor graphs were introduced by I. Beck in 1988. We will discuss the graphs associated with matrices, which have only been studied since the 2000s. We will define the basics of canonical forms and conjugacy classes to simplify our discussion. Our goal is to study the zero-divisor graphs of conjugacy classes in matrix rings. I will provide a classification of zero-divisor graphs of 2-by-2 matrices. This research is joint work with Dr. Janathan Brown at SUNY Oneonta. Co-requisite: MATH 233.

1R • HISTORY STURGES 108
Methods, Media, and Me: Explorations into Media and Self for the Study of History

FACULTY SPONSOR: TODD GOEHLE, HISTORY
SESSION CHAIR: CYNTHIA KLIMA, LANGUAGES AND LITERATURES

Life Without Social Media (Really!): How Local News and History Foster Individuality

SAMANTHA MISA

Online media platforms such as Facebook and Twitter has become inexorably linked with communication as well as socialization, to the point where many cannot imagine life without them. However, drawing on my own personal experiences and background, I argue that despite the vast amount of news and socialization opportunities available, individuals can still retain autonomy in choosing what sources to listen to and utilize. Local and small town newspapers offer a filter that provides only the closest and most relevant topics to readers, much like the communication systems of the 17th century. In this era, local events were preferred in favor of global, as the former was more likely to have a direct effect on the individual. While online communication has evolved greatly from the first humble offering of MySpace, the downfalls of online networking are still apparent, and the identity formed by their usage is does not have as broad of an appeal as might be imagined.

Oscar the Grouch Isn't the Only One Who Lives In Garbage: Online Personas are Reality

PAIGE CIEZKI

Many influences affect how we present ourselves on social media, such as who views your media. People will often alter their behaviors to conform to societal norms. Because of my interest in supernatural teenage television programs and my status as "internet trash," I have created multiple blogs to express different interests, and, using Michel Foucault's idea of modern Panopticon, to save myself from potential judgment. Although I have created these blogs to explore my different interests, the question remained as to why I felt I needed separate spaces to express myself. I applied two communication theories to better understand my media usage. Similar to Jean Braudrillard's notions of simulation, the Matrixist theory claims the separation between media and those who use it, as media represents a

representation, which asserts that I exist as a separate entity from my blogs. The McLuhan theory, which emphasizes the medium over content, combines with the themes of the film Videodrome to support a stronger interpretation, as it supports the interconnection between humans, and technology, which means that my blogs are not a representation of me, but an extension of myself. As I will assert in my presentation, social media serves an expansion of ourselves.

Pesus: By Pesus. The Transformation of the Message through the Medium

PETER BENSON

From birth, we are bombarded with seemingly infinite amounts of media. Therefore it is impossible to objectively obtain a complete understanding of the countless ways others use media to control and manipulate our world. My solution to this issue is by using media that I personally created to analyze its impact on both my surroundings and myself. I created the image of Pesus, a combination of Peter and Jesus, on September 6th, 2013 at Noyes Memorial Hospital. While Pesus originated as a simple Snapchat message, he grew into a pseudo-celebrity and amateur rap artists through popular social media outlets. In this paper, I will use Pesus as a discursive agent to argue that a singular message can evolve and achieve a variety of effects based on the mediums, namely Snapchat, Facebook, and SoundCloud, used to convey it. This singular idea evolved from a photo, into a live journal, into a voice; all of which were capable of achieving different levels and types of effects on our reality.

1S • POT POURRIE BAILEY 104

Business, English

SESSION CHAIR:

A Study of Property Crime Rates Using Economic Analysis

DANIEL MAGGIO

FACULTY SPONSOR: MANSOKKU LEE, BUSINESS

For my project, I plan to run a multivariable linear regression that attempts to explain a majority of variation in non- violent crime rates throughout U.S. states. For my regression, I will use a sample of the 50 U.S. states. My independent variables for this regression will be: unemployment rate, population density, per capita income, average temperature, percentage of population under the poverty level, per capita income. These are only preliminary variables and may change in order to increase the expiatory power of the model. I will report and analyze metrics such as: correlation coefficient, variance, f-statistics, t-statistics, and standard errors. My data for this model will come from the department of justice, FBI, and the United State Census Database.

The Just Soul

ALYSSA INDELICATO

FACULTY SPONSOR: GRAHAM DRAKE, ENGLISH

In Plato's *The Republic*, Plato defines the guardian class as the rulers of his kallipolis. He argues a guardian can only be someone whose soul is completely just. In order to have a just soul, it must be ruled by the love of truth and desire to seek understanding. In Shakespeare's *Hamlet*, the Prince of Denmark embodies several qualities that would make up the soul of a Guardian as opposed to the souls from the auxiliary or producing classes. He often time tries reasoning and understanding concept of life as seen in his "To be, or not to be" soliloquy. Hamlet exemplifies several qualities that would make up the soul of a Guardian as opposed to one from the auxiliary or producing class. He demonstrates this when he sees the ghost of his father, in deciding to put on a play for Claudius and Gertrude, with conversations with Ophelia, and when he observes situations around him. Hamlet may not be a perfect fit for Plato's ideal guardian, but his love of truth and desire to achieve higher understanding show his capacity for a just soul of a guardian.

1T • PHYSICS & ASTRONOMY 1 ISC 115

SESSION CHAIR: ANNE PELLERIN

Improved Charging Efficiency of a Solar Powered Club Car (eCart)

BRANDON MARK, ZACHARY HALLENBECK

FACULTY SPONSOR: STEPHEN PADALINO, PHYSICS & ASTRONOMY

A 45W photovoltaic panel was mounted on an electric club car (eCart) such that its solar charging efficiency could be maximized. This was accomplished by designing and constructing a support system that allows for the adjustment of the panel's azimuthal inclination and compass heading relative to the sun's location in the sky. A data acquisition system was assembled using an Arduino microcontroller to measure the voltage and current at various points within the electrical system during charging. The rate at which the solar panel charged the cart's batteries was measured to determine the collection efficiency of the eCart solar panel as a function of compass heading and azimuthal angle. A second set of experiments was performed to collect data on the eCart's energy consumption per unit distance of travel. A variety of parameters were changed during these measurements, such as ground slope and driving speeds. This data was analyzed to determine the most energy efficient path and speed at which to drive the eCart.

The Impact of Galactic Interaction on Globular Cluster Sizes in the Virgo Cluster

LUCA BEALE

FACULTY SPONSOR: ANNE PELLERIN, PHYSICS & ASTRONOMY

I will present a study of the impact of galactic dynamical environment on the size distribution of globular clusters (GCs). Gravitational interactions between galaxies are thought to potentially affect the potential well of star clusters within the interacting galaxies. The tidal effects can stir and increase the orbits of stars within the clusters, and therefore the cluster sizes themselves.Using existing catalogs on GCs in galaxies in the Virgo Galaxy Cluster where galaxy interactions are more frequent, I will present an analysis of the GC sizes as a function of various physical parameters related to recent past galactic interactions. I will compare the results to those for GCs in the Milky Way, M31, and M33, three galaxies known to have a more quiescent past.

1U • ENGLISH MILNE 105

The Wife of Bath's Prologue (Chaucer) in Middle English

FACULTY SPONSOR AND SESSION CHAIR: JESS FENN, ENGLISH

KATIE BOCKINO, AMANDA WENTWORTH

The Wife of Bath's Prologue is one of the most famous texts of the Middle Ages. The Wife of Bath, one of the pilgrims in Chaucer's *Canterbury Tales*, delivers a rip-roaring account of her life story, including her marriages to five--count them, five--husbands. This session is a rare opportunity to hear excerpts from the prologue read aloud in Middle English, which is close enough to modern English to be understood but different enough to sound quite interesting. Followed by questions about the performance and the text.

1V • ENGLISH WELLES 128

Themes in and Discussion on James Joyce's *Ulysses*

FACULTY SPONSOR: ROBERT DOGGETT, ENGLISH

SESSION CHAIR: **ARIANA DIPRETA**

Halcyon Days: Sexual Significance, Nostalgia and Remembrance in *Ulysses*

THOMAS MCCARTHY

This paper establishes a framework to interpret sexuality and sexual behavior in *Ulysses* and explain why this is necessary. I will then argue that significant moments or revelations in the novel are bound up with simultaneous memory and sexuality in radical ways. Looking specifically at Gerty and Leopold Bloom, I challenge the standard negative responses to their somewhat anonymous sexual encounter at Sandymount Strand. The novel is notorious for candid representations of taboo topics like this. Keeping this in mind, I use an example of an in-class rift as a microcosm of larger cultural and academic debates about sexual behavior -- even within feminist discourse -- and our often polarized and heated response to it. After outlining various difficulties of interpreting sexuality --namely the inability for our culture or classrooms to embrace Gayle Rubin's concept of "benign sexual variation" -- I argue significant moments and revelations in the novel are bound up with simultaneous memory and sexuality in radical ways. Although the 20th century text is quite displaced in time from contemporary culture, this novel is still an active site of controversy as well as insight that revels much about James Joyce's take on his culture as well as our own.

Temporality in *Ulysses*: Diachronic Narration and Postcolonial Ireland

ZACHARY MUHLBAUER

My argument concerns how, through the James Joyce manipulates the constructs of time in his novel *Ulysses* in order to illustrate how postcolonial narratives, such as nationalism and Catholicism, restrict Irish consciousness. Bearing in mind the structural parallel between the final episode of part one and part three, I juxtapose how the internal monologue of Stephen and Molly, both key characters in the text, respectively exemplify and devolve conventions of diachronic narration. As a central formal feature of Ulysses, the inclusion of diachronic narration indicates in the reader notions of temporal progression. The implications of temporal construction indexes similar historical and narrative constructions like Catholicism and nationalism, both of which pervade Stephen's understanding of Ireland and self. Unable to escape his extendedness from time, Stephen's interior monologue correspondingly functions according to strict temporal limitations, manifest in the diachronic manner in which he thinks. Conversely, Molly operates without external temporal interruptions, so her interior monologue runs free and unhampered as a result. Furthermore, I primarily illustrate these structural conclusions regarding diachronic narration by concentrating on the major grammatical, contextual, and symbolic disparities in how either character thinks and behaves. ***Selected for presentation at SUNY Undergraduate Research Conference, SUNY Cobelskill.***

Mighty Cheese: Consumption and Resistance in Joyce's Dublin

EVAN GOLDSTEIN

Joyce's *Ulysses*, in many aspects, is a book about navigating and subverting some of the dominant forces of modernity: nationalism, religion, and empire. In the episode Lestrygonians, Joyce places Leopold Bloom, the protagonist, in the heart of Dublin's commercial center, and has him swallowed, chewed, and digested, by the forces of modernity. This paper traces Leopold Bloom's passage through the allegorical digestive tract of modern Dublin. It asks not only how does Joyce go to sho modernity as a process of consumption of the individual, and the individual's relation to society, but why Joyce might be showing this consumption. The paper uses examples from the episode, as well as texts on memory and political readings of hunger and advertising in the episode, in order to conclude that that this famous chapter of *Ulysses* provides powerful examples of resistance to nationalism, imperialism, and capitalism, allowing memory and sexuality to transcend the oppressive, consuming power of the modern nation and empire.

Subversion of Bourgeois Masculinity in James Joyce's *Ulysses*

ARIANA DIPRETA

Attitudes towards sexuality, specifically British attitudes during the late nineteenth and early twentieth centuries, reflected the colonial and patriarchal constructions that created repressive sexual codes. The gender and sexuality norms are constructed and reinforced by the bourgeois society as the result of a patriarchal society that supports monogamous marriages and creates a binary dichotomy between masculinity and femininity. James Joyce utilizes this notion and creates a sexually ambivalent character, Leopold Bloom. Bloom is presented as neither masculine nor feminine, but rather a person who shuttles between the two, deconstructing strict postcolonial bourgeois modes of sexual normalcy. Joyce dismantles the influences of imperial codes of dualistic sexuality through Bloom and his relationship with Molly. In doing so, Joyce mocks the system of gendered symbols within which people and his characters operate.

1W • ENGLISH WELLES 134

Video Games in HUM I: What Would Aristotle do?

FACULTY SPONSOR: JULIA WALKER, ENGLISH
SESSION CHAIR: **MAURA CUPICHA**

Play Video Games in HUM I? CIVILIZATION v the Canon

DILLON FEDERICI, SAM HTUN

A short dramatic presentation illustrating the seeming clash between opponents of game-playing in HUM and students who have participated in class.

Reviewing the Scholarship on In-class Game-playing

CATHERINE BLASZAK

-a scholarly review of the current literature on game-playing in the college classroom.

How Many Rules Does a Civilization Need?

RANDI FINEBERG, MADISON BUSSMANN

Two students argue for a CIV assignment with autonomy for the players versus a more rigidly structured assignment.

Really Playing/Playing Real

DANIEL WOUGHTER, SAM HTUN, RANDI FINEBERG, JACOB TROST

Students give demonstrations of playing CIV 5 as an element of HUM I.

1X • PSYCHOLOGY BAILEY 102

(moved from 4T)

The Role of Institutional Factors and Perceived Support in the College Adjustment and Retention of Racial/Ethnic and Sexual Minorities

FACULTY SPONSORS AND SESSION CHAIR:
MONICA SCHNEIDER, PSYCHOLOGY
FACULTY SPONSOR:AIDEN CROPSEY, CENTER FOR COMMUNITY

The Role of Institutional Factors and Perceived Support in the College Adjustment and Retention of LGBTQ Students

YVETTE WILLIAMS, MELISSA MINAYA

We conducted a study designed to examine the role of perceived social support in the emotional well-being, college adjustment, and intentions to graduate of Geneseo students. This study also assessed the institutional factors that contribute to students' perceptions of faculty, staff, institutional, and peer support, both across and within groups. In this part of our presentation, we will discuss the results of our study for LGBTQ students. This data have implications for providing coordinated resources, support, and programming for LGBTQ students in a manner that addresses the needs of students who come from different backgrounds and circumstances. Recommendations for how this data could be used for advancing diversity, equity, and inclusion initiatives related to sexual and gender identity on campus will be addressed.

The Role of Institutional Factors and Perceived Support in the College Adjustment and Retention of Students from Underrepresented Racial/Ethnic Groups

GAVIN RAFFLOER, JONELLE WILLIAMS

This part of our presentation will discuss the results of our study as they pertain to students from underrepresented racial/ethnic groups. Specifically, we will address the role of perceived social support in students' emotional well-being, college adjustment, and intentions to graduate. In addition, we discuss the institutional factors that contribute to students' perceptions of faculty, staff, institutional, and peer support, both across and within groups. This data have implications for providing coordinated resources, support, and programming for racial/ethnic minority students in a manner that addresses the needs of students who come from different backgrounds and circumstances. Recommendations for how this data could be used for advancing diversity, equity, and inclusion initiatives related to racial/ethnic identity on campus will be addressed.

CONCURRENT PRESENTATIONS 2 • 9:55 AM – 11:10 AM

2A • MATHEMATICS NEWTON 201

Mathematical Games, Magic, and Paradoxes

FACULTY SPONSOR AND SESSION CHAIR: PATRICK RAULT, MATHEMATICS

Revealing Math in Magic

VANESSA RIGGI, GRACE POLOSKY

Since magicians never reveals their secrets, we will do it for them. At first thought, we assume magic tricks are some sort of illusion where our eyes cannot move as fast as the illusionist's hands and our minds cannot process quickly enough what is happening right before our eyes. However, the underlying fundamentals of many magic tricks are based upon mathematics. Using basic objects, we will demonstrate how mathematics influences these tricks and explore the probability and algebra behind them.

Never Tell Me the Odds

BRANDON KEIM

Have you ever had an experience that went completely different than you anticipated? At this talk, we'll discuss the mathematics behind Parrondo's Paradox. Flipping a weighted coin is an example of a game with losing odds. For two such losing games A and B, the intuitive conclusion is that that playing A, then B, A, B, etc. would also produce a losing outcome. However, things aren't always what they seem. With a mathematical sleight of hand, we'll demonstrate how it's possible that you can play both losing games and still win overall, and we will also use Markov Chains to explain why this phenomenon occurs. Recommended prerequisite: a working knowledge of basic probability and modular arithmetic.

Conquering Catan: A Guide to Do More than Just Settle

AARON WOODS, COREY SANSOLA

The board game Settlers of Catan was invented in 1995 and won the prestigious Spiel Des Jahres, a German game of the year award, upon its release. It is an interesting game involving strategy, cunning, and luck--or as mathematicians like to call it: probability. We will analyze whether a strategy can be developed that will offer a player a higher chance of winning from the start of the game. Dice rolls determine a large part of the game, therefore probability involving two dice will be an integral point. Specifically, we will discuss whether there are locations on the board which are more favorable regardless of the random spread of game resources. In this way, we will develop a system to improve the chances of victory based on initial placements of settlements and roads using probability as a measure. Throughout our reasoning we will use the tools of probability, expected value, and strategic gameplay. Co-requisites: basic statistics and/or probability.

A Quantum Leap into Game Theory

ROBERT LEONARD III, ADAM TAYLOR

The use of quantum algorithms has been increasing in popularity and has found new applications over the last few years. These algorithms are based on the theories of quantum mechanics and include utilizing the ideas of entanglement, superposition, and other quantum phenomena. Using these algorithms has helped computers become faster and more efficient, in turn creating new ways to tackle problems. In game theory, probabilities are computed based on the outcomes that can physically occur. When utilizing quantum algorithms, the probability of the outcomes change when quantum entanglement is involved. XOR Games are two-player games in which one of two questions are asked. We will examine one example of an XOR game, the CHSH game (created by Clauser, Horne, Shimony, and Holt), where quantum information theory can be used to improve the probability of winning compared to non-quantum strategies. We hope to shine some light onto quantum game theory, a relatively new field of mathematics. Co-requisites: Math 233 (Linear Algebra 1) and basic knowledge of probability.

2B • AMBASSADORS 2 DOTY 302E

SESSION CHAIR: CYNTHIA OSWALD, CENTER FOR INQUIRY, DISCOVERY AND DEVELOPMENT

Five North: Chocolate You Feel Good About Eating

BENJAMIN CONARD

FACULTY SPONSOR: CYNTHIA OSWALD, CENTER FOR INQUIRY, DISCOVERY AND DEVELOPMENT

Benjamin Conard, named one of the Top 10 Biggest Fairtrade Fans in the World and #1 in the United States, is taking his advocacy in the fair trade movement to a new level - starting his own company. Combining the proven business model of fair trade, antioxidant rich dark chocolate, and healthy superfoods, Five North will create the most delicious way to empower and be empowered. Our company is committed to the well-being of our customers and the livelihood of our producers. West Africa is the two million square miles positioned above five degrees north latitude and is responsible for producing two-thirds of the world's cocoa. Unfortunately, big chocolate businesses have marginalized their cocoa farmers who now make less than 50 cents a day. In addition, consumers are trying to be healthier than ever before. Market trends show dark chocolate demand is on the rise, but many dark chocolate snacks contain more than half sugar! Indulging in our favorite chocolate treats has become as unhealthy as it is unethical. The market has been challenged to provide an all-encompassing socially and health conscious chocolate treat for the new-age consumer. Five North will do just that.

Memory and Memory Cards: The Making of the Path Between Us

ABBY GOLFO

FACULTY SPONSOR: CYNTHIA OSWALD, CENTER FOR INQUIRY, DISCOVERY AND DEVELOPMENT

My 2015-2016 James Houston '80 Ambassador of Innovation project is a documentary entitled, "The Path Between Us." This presentation will display how I made the documentary and my findings, with special emphasis on the footage I have. However, the documentary will not be complete by this time, so the videos will include a trailer and other clips from my experience filming in the Philippines, my house, Livingston County, and Rochester. "The Path Between Us" explores the treatment and perception of dementia from a cross-cultural perspective. The documentary focuses on my grandma, who has had Alzheimer's disease for the past eight to ten years, and the differences in treatment in the United States and the Philippines (where my family is from). The making of the documentary was highly emotional and faced many obstacles. This presentation will also go over film and design in the storytelling process.

Ambassadorship in Student Affairs: Developing Geneseo's LGBTQ Support Systems

THOMAS MCCARTHY

FACULTY SPONSOR: ALICE RUTKOWSKI, ENGLISH

What is the state of Geneseo's climate for LGBTQ+ Students? Since my sophomore year, I have formally and informally examined this. I have examined methods and specific changes to advocate from larger structural and administrative issues to direct student issues. I will briefly examine a timeline of support services since I arrived on campus in 2013, and then see what has been developed. I will talk about the various organizations and groups that advocate for LGBTQ+ students as well to map a coherent strategy of how to affect change. I will discuss specifically what was accomplished with my Ambassadorship, but also briefly examine relevant or continued advocacy outside the scope of the grant. Lastly, I will examine what Geneseo can still improve upon and how this may be accomplished.

Blackberries

BRITINA CHENG

FACULTY SPONSOR: CYNTHIA OSWALD, CENTER FOR INQUIRY, DISCOVERY AND DEVELOPMENT

A screening of a short film depicting two women whose friendship falls apart after one allegedly sleeps with the other's boyfriend. A story about female friendship and love, colorism, and misogynoir.

2C • ENGLISH WELLES 128

Promotes sustainability

Ancient Leadership and Its Reverberations

FACULTY SPONSOR: GRAHAM DRAKE, ENGLISH
SESSION CHAIR: **MAXWELL GARNAAT**

The Effects of Extensive Travel: The Leadership and Religious Reliance of Paul and Aeneas

EMILY BUCKLEY-CRIST

Because of their extensive travel, both Aeneas and Paul are compelled to take on greater leadership roles in their communities, in addition to becoming more reliant on their respective religions. Aeneas becomes the leader of the Trojans after the fall of Troy, during which most of the Trojan nobility die. A prophecy from Apollo, telling him to rebuild Troy in another land, confirms his leadership. Paul's rise to leadership is less expected, as he is born a Pharisee, but he proves his ability throughout his travels as he captivates crowds and attracts many to the word of Jesus. Their faith in their deities guides Aeneas and Paul through their journeys. The prophecy of rebuilding Troy serves as Aeneas' motivation through much of his travels and trials. Paul, who comes to his religion later than Aeneas, is chosen by Jesus to spread his gospel and, as with Aeneas, his devotion to his god supports him through the obstacles he faces on his journey. The similarities in the changes to the characters of Aeneas and Paul due to extensive travel, though under vastly different circumstances, suggests a universality to far-reaching journeys.

Prince or Philosopher-King? Shakespeare's *Hamlet* and Plato's *Republic*

MEGHAN PRUSINOWSKI

Plato, in his *Republic*, designed his perfectly just kallipolis to be ruled by guardians, also known as philosopher-kings. These individuals were to be the best minds that the city could produce - virtuous, just and dedicated. The guardians would have trained their entire lives to rule - yet they were not meant to relish that power. Could Prince Hamlet have met the requirements to be one of these guardians? This paper analyzes the similarities and distinctions between Hamlet and Plato's guardians, including their education and values. By examining Hamlet's flaws and preoccupation with revenge, this paper shows Hamlet to be an ineffective ruler, and suggests that he would not have met the standards set by Plato for the guardians of the kallipolis.

Is Plato's Government Hierarchy a Realistic Model for the Modern World?

DYLAN PASCOE

The paper examines Plato's systems of governments from *The Republic* and compares it to modern governments in an attempt to show that Plato's ideas are too simple to work in a modern setting, as they ignore complex realities. The focus remains on the recent historical Burmese elections, having been written pre-election, and shows that Plato's system of governments is inapplicable in such a scenario.

2D • BIOLOGY 2 ISC 131

SESSION CHAIR: ISIDRO BOSCH, BIOLOGY

Effects of an Emerald Ash Borer Invasion at Nations Road Preserve

MEGHAN BARRETT

FACULTY SPONSOR: REGINA CLINTON, BIOLOGY

The Emerald Ash Borer is an invasive species that is causing environmental destruction in the United States. The EAB has already killed millions of ash trees since its invasion in 2002; this rapid spread is especially concerning as 47 of the 48 lower states all contain the preferred host plant of the EAB, *Fraxinus* spp. The white ash tree is common to the North American Hardwood Forest region, and can be found in the Nations Road Preserve in Geneseo, NY. The loss of ash trees will undoubtedly have impacts on the ecosystem. With many of these trees dying, forest cover will be reduced. Dead ash trees will cause further damage to nearby trees and increase canopy loss. This detrimental exposure to wind and light will result in increased soil temperatures and light penetration. All of these effects could significantly change the forest community, allowing other native or non-native plant species to gain importance in the forest. The Forest Vegetation Simulator will be used to model the effects of a potential EAB invasion. Controlling the spread of infestation is critical for mitigating damage to ecosystems. This study could help us monitor the preserve more effectively for signs of EAB invasion.

Analysis of Cyanobacterial Blooms and Potential Onset Factors in Loon Lake in Wayland, NY

JANELLE GOEKE

FACULTY SPONSOR: ISIDRO BOSCH, BIOLOGY

Loon Lake is a private lake located in Wayland, New York, 30 miles from Geneseo. In recent years the health of Loon Lake has declined, as evidenced by increased water turbidity and cyanobacterial bloom frequency. Cyanobacteria, or blue-green algae, are photosynthetic bacteria that occur in many bodies of water, and can produce toxins that if ingested can be harmful to humans. This study examined Loon Lake during late summer and fall 2015 to determine what factors might be triggering the onset of cyanobacterial blooms. Species identification and quantitative analysis of cyanobacteria abundance were done from skim samples. Samples were also tested for toxin production using an enzyme-linked immunoassay technique (ELISA). Measurements of lake water quality parameters were taken using a Hydrolab profiling unit. Chlorophyll levels, phycocyanin levels, and turbidity were measured at depths of 1m, 3m, and 6m. The study found that two cyanobacterial blooms dominated by *Anabaena* sp. occurred late in the fall, however neither of these blooms produced toxins on a level high enough to harm humans. Evidence shows that high wind events may have caused partial mixing of the water column and phosphorus upwelling prior to the bloom, although further analysis is required to confirm this connection.

2E • BIOLOGY 3 ISC 136

SESSION CHAIR: SUSAN BANDONI-MUENCH, BIOLOGY

Limiting the Spread of Waterborne Neglected Tropical Disease in Peri-urban and Rural Ghana

NICHOLAS WHITTEL, AOIFE FORDE

FACULTY SPONSOR: SUSAN BANDONI-MUENCH, BIOLOGY

A presentation on the hypothetical strategies that can be used in targeting the spread of water-related Neglected Tropical Diseases, such as schistosomiasis and Buruli ulcer. Observations and research were obtained during the summer 2015 trip to Ghana with Dr. Bandoni Muench, focused on global health issues in developing countries. This presentation will examine the biological, sociological, and economic risk factors of waterborne infection in both periurban and rural communities, and will be supplemented with student photography. Issues of economic sustainability, ecological impact, and social feasibility of proposed solutions.

Multidisciplinary Approach to Understanding Trematode Transmission

STEPHANIE SCHECHTER

FACULTY SPONSOR: SUSAN BANDONI-MUENCH, BIOLOGY

Trematode infection disproportionately affects certain populations worldwide. Trematodes, or parasitic flatworms, infect areas of the body specific to the type of fluke and cause a range of symptoms such as dermatitis, dysentery, pulmonary complications, and abdominal pain. Humans become definitive hosts in the trematode lifecycle by ingesting infected organisms or coming into contact with fluke-infested bodies of water. Poor health often results from biological susceptibility and lack of agency rather than individual neglect. This study uses a combined biological and anthropological approach to examine the intersection between biology, cultural behaviors, social norms, and economic conditions to identify how one's context influences vulnerability to infection. A full examination of related literature may serve to improve the success of public health campaigns and broaden the present understanding of susceptibility, particularly to trematode infection.

2F • POLITICAL SCIENCE & INTERNATIONAL RELATIONS

WELLES 24

Contemporary Global Issues II

FACULTY SPONSOR AND SESSION CHAIR: JEREMY GRACE, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

Promotes sustainability

Climate Change and Conflict in East Africa: Pathways to Violence and State Weakness

JULIA MIZUTANI

Conflict literature typically focuses on economic, social and political factors that cause state failure. I posit that environmental degradation is also an important causal mechanism behind state weakness. The physical characteristics of a society's surrounding environment contribute to social behaviors and adaptive capacities and responses. To ignore the environment overlooks how social behaviors have adapted to physical change and therefore misunderstand how failure to adapt may lead to conflict. There is no consensus on a direct link between conflict and environmental change; however, using rainfall fluctuation as a proxy for climate change, East Africa provides of different pathways between the environment, society and conflict. Pathways between climate change, social stability and violent conflict can be studied temporally and spatially using GIS. Case-studies where environmental change led to conflict will be compared to case studies where climate variability did not lead to conflict in order to discover how certain societies were better adapted to respond and adjust to change. Given the increasing frequency and magnitude of rainfall variation due to climate change, all of these possible causal pathways working together can contribute to overall state fragility and trigger a cascade of events that can lead to conflict.

Post-Conflict Societies and the Promise of Consociational Democracy

AMANDA WAGNER

Post-conflict societies face a number of difficulties when it comes to the implementation of democracy. Internal conflict can cause societies to splinter, diminishing national ideologies and reinforcing alternative, separate identities. Subsequently, these intensified social cleavages place additional strain on any democratic system leading to increased volatility. The theory of consociational democracy attempts to address these social divides to allow for the creation of a stable national government that does not require citizens to entirely reject these alternative identities. This paper will explore the necessary conditions for the implementation of the consociational model as well as look at broader criticisms of the theory. In order to assess the potential promise of consociationalism in providing stability, the paper will evaluate the success of consociationalism within an Africa context, focusing on South Africa, Nigeria, Rwanda, and Burundi, in order to identify whether consociationalism poses a significant solution to the difficulties experienced by post-conflict plural societies and if certain conditions may increase this level of success.

Challenges in the South China Sea: U.S. Foreign Policy Recommendations in the Face of Rising Chinese Expansionism

WILLIAM WILLOWS

In an ever-globalizing international system, recent events in the Asia-Pacific region have turned the South China Sea into a hotspot for potential conflict. Current and ongoing territorial aggressions by the People's Republic of China have raised tensions amongst the involved states and put U.S. regional interests in jeopardy. This report seeks to explain the roots of the conflict in the South China Sea and examine the current situation in terms of actual political and military power. Ultimately, the report endeavors to provide recommendations to relevant U.S. policy makers that will allow the United States to counter China's rising influence while promoting its goals for the region as a whole.

Globalization in Latin America: Authoritative Corporatism and Multinational Corporations

ARIANA LIPPI

This research examines the relationship between political structure and culture of authoritative corporatism in Latin America, and Multinational corporations (MNCs). Latin America's current governmental regimes can be explained through its past economic and political models. Although states have adopted a democratic model they are still corporate by culture and by practice. This paper examines how MNCs have perpetuated and sustained current functioning corporate governmental systems since the 1960s. It examines how corporatism and failure to meet democratic potential in Latin America is reinforced by the interests of MNCs perpetuating undemocratic and at times, authoritarian regimes. By demonstrating this, this research draws a causal relationship between corporatism Latin American countries fueled by international economic interests and economic inequality and vulnerability of their populations. This research draws upon analytical literature of foreign investment and democracy in Latin America, and economic analysis from a variety of Latin American countries. These analyses are applied to case studies from Mexico, Peru, Ecuador, Argentina, and Brazil.

2G • ANTHROPOLOGY BAILEY 103

Debates, Dialogues and Dialects: Insights from Linguistics

FACULTY SPONSOR: JENNIFER GUZMAN, ANTHROPOLOGY

SESSION CHAIR: CHRISTINA AGOSTINELLI-FUCILE, LANGUAGES AND LITERATURES

Hidden Patterns in the 2016 Democratic Debates: Findings from Computational Analysis

ALEX MCGRATH

There are hundreds of thousands of words spoken in debates during an election year. Through this mess of argument and rhetoric it can sometimes be difficult to see the big-picture patterns - who is doing the most talking, and on which issues? What are the most frequently discussed topics? Who is the most positive and who is the most negative candidate? Which candidate uses the biggest words? To answer these questions, I constructed a corpus of digitized debate transcripts from 2015 and 2016 (sourced from the Washington Post and the New York Times) and subjected them to quantitative and qualitative analysis using a variety of software packages in the R programming language.In this talk, I will present findings from these computational analyses of the Democratic presidential primary debates. I argue that these methods could be extended to work with any dialogue-based digital corpus, making these results potentially useful for research that involves large bodies of text, particularly research in the humanities and the social sciences.

Let's Talk: Interpreting Jane Austen's *Emma* across Novel, Television, and Film

KIMBERLY OWEN

How do the conversations in Jane Austen's *Emma* characterize the title character through her interactions with other characters? How do film adaptations change conversations to suit the medium and the time period? How do these adapted conversations reflect the culture they are told in? In this presentation I will present dialogues from Jane Austen's novel *Emma*, the 2009 miniseries of the same name, and the 1995 film adaptation *Clueless*. I use comparative discourse analysis to study how conversations change from the original to the two adaptations and how the conversations characterize the title character, Emma. Preliminary findings indicate that adaptations modernize Emma's language and interactional style but maintain the personality of Austen's original character.

It's All Spanish to Me: Is One Dialect Better or Do they All Sound the Same?

TAYLOR POWERS

The Spanish language is spoken in many countries on several continents, and for this reason a wide variety of dialects exist. As such, students do not have a single model to base their pronunciation on. So, with so many choices, what do students of Spanish want to sound like in their second language? Which dialect do they want to model their own pronunciation after? Do variables such as age of acquisition, length of study, exposure to native-speakers of particular dialects, and motivational factors affect dialectal preferences? This study had participants rate recordings of native and non-native Spanish speakers for their authenticity. We hypothesize that the dialects with the highest ratings will be the ones that differ the most from "standard" Spanish, and will be the ones that students ultimately choose as models for their pronunciation. Following an examination of how these factors affect students' dialectal preferences, we will discuss implications for language teaching.

2H • EDGAR FELLOWS MISCELLANY 4 WELLES 123

SESSION CHAIR: LISA MEYER, SOCIOLOGY

Ethnic Prejudice in Dutch Counterterrorism: Exploring the Histories of and Interactions Between Immigration Policy, Security Strategy, and Xenophobia

YAELA COLLINS

FACULTY SPONSOR: LISA MEYER, SOCIOLOGY

In the new millennium, the Islamist terrorism threat in the Netherlands has grown substantially from a limited classification, to a permanent exogenous and endogenous risk. Post 9/11, the first key moment in Dutch thought and action, with respect to the terrorist threat, occurred in 2002 when two Dutch Muslims travelled to Kashmir to participate in jihad, and died during a violent confrontation with the army. Combined with the 2004 murder of cinematographer Theo Van Gogh by an Islamic fundamentalist, these events served to heighten awareness of radicalization processes within Dutch borders. The result has been the incitement of a new era of Dutch counterterrorism policy focused in substantive and criminal law, intent on defending liberal democracy against terrorist attacks. Enhanced security measures and preventative policy employing methods like racial profiling, have led an increased consciousness of the "Other." An analysis of security threats in the Netherlands, jihadist terrorism, and failed immigration policies serve to explain this resurgence of xenophobia, previously popular in the World War II era. The consincreasing securitization of Dutch society has had a negative impact on minority communities, leading to their marginalization and the reduction of their civil liberties

Progress & Backlash: Feminism and Patriarchy in the United States

ANNA WINTERS

FACULTY SPONSOR: JOANNA KIRK, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

This paper explores the nature of patriarchy in order to determine how it has enforced women's oppression and suppressed women's movements in the past, with the aim of discovering how feminist movements can be more successful in the future. Each of the four waves of American feminism have been met with patriarchal backlash, through claims that feminism directly attacks social values, women are biologically or intellectually inferior, equality has already been achieved and society is now "post-feminist," and feminism is ruining both women's and men's lives. Other tactics have included the commodification of feminists' personalities in the media and even direct violence and threats. Such backlash is problematic as it reinforces women's exploitation, marginalization, internalization of inferiority, and fragmentation. By exploring the tactics and outcomes of past feminist movements, it is possible to ascertain how feminism must proceed in the future to succeed. Particularly, inclusion of men in the movement, the promotion of bonds between women, increased inclusiveness and intersectionality, revealing and addressing internalized misogyny, and a multi-pronged approach targeting political, cultural, and economic change are necessary for patriarchy to be overcome.

2I • EDGAR FELLOWS MISCELLANY 5

WELLES 121

SESSION CHAIR: SHUO CHEN, BUSINESS

Iterative Game Theory: A Spatial Model of the Success of Different Behaviors

PHILLIP KOSSOVER

FACULTY SPONSOR: GREGG HARTVIGSEN, BIOLOGY

Game theory seeks to model the interactions of rational, self-interested, decision-makers by creating games where the players, or actors, have a set number of moves. Each player knows of all the possible moves, and seeks to make the most beneficial move while accounting for other player's actions. The two-actor game Prisoner's Dilemma is studied here because the expected solution is at a globally inferior situation—both players could benefit from switching their strategy, if only they had a guarantee the other would also switch. When the game is played iteratively with a knowledge of past decisions, it becomes possible for actors to punish and reward their neighbors. Using the programming language R, I created a toroidal lattice of players. In my model, they play the Prisoner's Dilemma game with a specific rule, or behavior, governing their actions. Each round, actors play with their immediate neighbors and receive points based on the payout matrix. I found that when the distribution of behaviors is random, the highest scoring behaviors are ones which defect. These behaviors take advantage of neighbors that are predisposed to cooperate and do not punish for defections. Importantly however, when two defectors are neighbors, neither accumulate many points.

Modeling Self-Organization in Harvester Ants

NICOLE RIGGIO

FACULTY SPONSOR: GREGG HARTVIGSEN, BIOLOGY

At first glance, insect colonies may appear to be comprised of a series of disconnected individuals when in reality this is often not the case. Social insects form incredibly complex biological systems and have the ability to organize themselves and develop behavioral patterns that help to ensure the survival of the colony. Harvester ants, specifically *Pogonomyrmex barbatus*, function as central place foragers who always return to a single location after they are able to locate a food source. Each ant forages using a specific strategy that operates much like a computer algorithm, enabling them to interact with their environment. Collectively, the behavior of the ants in a colony was modelled in order to analyze how the ability of harvester ants to successfully forage and return to their colony with food varies with respect to changes in food location, food concentration, and pheromone diffusion rate.

Modeling Protein Structural Stability

JACK JENKINS

FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

Amyloidogenic proteins, acting in assembly, are responsible for age-onset neurodegenerative diseases such as Alzheimer's disease. The formation of oligomers—relatively few protein molecules bound together—is a critical step towards the formation of yet larger fibrous structures associated with the critical onset of disease. The surface potential from gold nanoparticles in solution can be used as a diagnostic tool to encourage the formation of oligomers, allowing experimenters, including students at SUNY Geneseo, to study protein folding mechanisms. The purpose of this study is to gain physical intuition about the aggregation of protein molecules through mathematical modeling.

2J • EDGAR FELLOWS MISCELLANY 6

WELLES 119

SESSION CHAIR: JUSTIN BEHREND, HISTORY

The Pedagogy of Proximity: Residential Learning at SUNY Geneseo

SAMUEL WEINSTEIN

FACULTY SPONSOR: CELIA EASTON, RESIDENCE LIFE

Learning on a college campus extends beyond the classroom and the current faculty-student model. Residential college houses remind students, faculty, and staff to challenge thatmodel through applied learning by providing opportunities for interdisciplinaryexperiences. This study evaluates residential learning at SUNY Geneseo through two focusgroup sessions of students living in Dante House, a first year residential college housein Wayne Hall, as well as a survey of student experiences in three Geneseo residencehalls—Dante House/Wayne Hall; Onondaga Hall, a First Year Experience residence hall; and Monroe Hall, which is home to Tesla House, a Physics, Biology, and Writing Living Learning Community. These residence halls represent a range of residential communities available tostudents at Geneseo, allowing for the assessment of the existing culture of residentiallearning at Geneseo. Using these evaluations as well as analysis of residential learningprograms available at various other undergraduate institutions described in the literatureand discussed in informational interviews with coordinators of these programs, this study proposes methods for improved utilization of the learning community in Dante House.

On Assumed Illness: Proust and Woolf

MICHAEL LAMONTAGNE

FACULTY SPONSOR: KEN ASHER, ENGLISH

Virginia Woolf wrote that, "When we surface in the dentist's armchair and confuse his 'Rinse the

mouth--rinse the mouth' with the greeting of the Deity stooping from the floor of Heaven to welcome us... it becomes strange indeed that illness has not taken its place with love and battle among the prime themes of literature." By investigating the texts, letters, and biographical accounts of contemporaries, this presentation demonstrates that illness has not been neglected by literature, and that it is a central theme in the works of Virginia Woolf and Marcel Proust.

Removal of Fruits by Birds from Native vs. Invasive Shrubs in Western New York

GINA SCANDAGLIA
FACULTY SPONSOR: JENNIFER APPLE, BIOLOGY

The goal of this study is to determine the use of fruits from native vs. invasive shrubs by birds in the Arboretum. Previous research has found that fruits of invasive shrubs are typically less nutritious than fruits of native shrubs. The consumption of four fruits from four different shrubs was compared: a native shrub (Gray Dogwood) and three invasive shrubs (Amur Honeysuckle, Common Buckthorn and Autumn Olive). To quantify use of fruits, we monitored fruit loss from pairs of branches of each species, one enclosed with a thin mesh and the other unenclosed and accessible to birds. Also, branches of different species were artificially presented together to assess bird choice. Furthermore, fruit scars on marked Amur Honeysuckle branches were surveyed to assess feeding rate. Lastly, ten transects were evaluated for presence of shrub species. Comparison of mean consumption indices showed species consumed most to least were: Autumn Olive, Gray Dogwood and Amur Honeysuckle. Based on fruit scar counts, the removal rate of Amur Honeysuckle was about 10%. Transect data indicate that relative abundances of Gray Dogwood and Amur Honeysuckle were higher than the other two species. These results contribute to our understanding of the potential impacts of invasive species. ***Selected for presentation at Northeast Natural History Conference, Springfield, MA.***

2K • ENGLISH BAILEY 102

International Linguistic and Cultural Exchange

FACULTY SPONSOR AND SESSION CHAIR: IRENE BELYAKOV-GOODMAN, ENGLISH

Introducing Japanese Culture by Comparing Disney and Ghibli Movies

MAI HASHIMOTO, MIZUNA INOUE, SHU KAWABE, RYO KATAYAMA

Utilizing PowerPoint, this presentation will be conducted in order to provide information to understand more psychological aspects of Japanese culture, not only the nation's facts. This presentation aims to introduce an abstract aspect of Japanese culture by looking at the differences between two of the most successful animated movie companies in America and Japan; Disney and Studio Ghibli. These two production companies are chosen for this study, because both of the companies have are known for its large number of audiences, and thus they can be assumed to have enormous influence on its audiences. In general, moves are an assemble of its culture, and that is why movies can be a primitive source when understanding a culture. Although the movies of these two companies seem to share a lot of commonalities, there definitely are many differences. These differences are one of the most important key to understand Japanese culture, because these animated movies are the collections of its culture; customs, beliefs, and family structures. Such animated movies not only reflect its culture, but it also influences its audiences on forming their perspective to interpret the surrounding world.

Teaching English Abroad

ALEXANDRE BONETTO, JUAN PABLO

Juan and I are going to present different language teaching methods. We will do some research on how English in particular is being taught in both our countries -- France and Argentina -- and we will compare them by proficiency. We will also talk about how English proficiency is assessed by school standards in our countries, in order to understand how ESOL professors in the United States can modify their teaching styles according to other countries' methods. Finally, we will try to identify common keys in English teaching that are found in all three countries, to highlight the importance of what it is that an English teacher can not avoid in his or her lesson planning.

English as a Lingua Franca in International Context: An Approach to the Linguistic Identity in ESL Speakers

JAVIER FERNÁNDEZ AGÜERA

"Would you rather speak 'perfect English' or keep your foreign accent?" That was the initial question that entails this paper. As it is universally acknowledged, the aim of every foreign-language learner is to become proficient in a certain language, both speaking and writing. The more one becomes like a native speaker in language comprehension and pronunciation, the easier it is for him or her to get integrated in a certain linguistic community. Nevertheless, what do people understand by native-English proficiency? Is there any "perfect accent" in any language? What about the identity of that non-English native speaker? Is that person rejecting his/her original accent, and therefore, his/her cultural background? Is it a conscious choice? Is there any sociolinguistic reason for preferring one accent to another? With the help of a self-made survey of both international and American students, the presentation will provide the answers to these and other questions with regards to the issue of English as a Lingua Franca (ELF) and the linguistic identity.

Use of Calligraphy in Japan, Korea and China

MINJUNG JUN, AYANO MIKI, YUKA KURITA

Japan, Korea and China share the East Asian tradition of Calligraphy: an art form that originated in China. In East Asian Cultures, calligraphy is not a mere exercise of handwriting, but an act of disciplining and training one's mind. "Use of Calligraphy in Japan, Korea and China" will discuss the history of calligraphy in each country, as well as similarities and differences.

Sushi Shows Japan

MANAMI ENDO

Sushi, a world renowned food, originated in Japan. Usually, sushi comes with raw fish and some vegetables placed on top of the cooked vinegar containing rice. Sushi rolled with avocado and topped with spicy sauce, however, is only a contemporary American style sushi. That sushi can misrepresent Japanese culture because even though the Japanese style sushi itself looks simple, much effort, knowledge, and techniques are used by sushi chefs in one sushi dish. In my presentation, I will discuss the main implications of the difference between American and Japanese sushi, focusing on how authentic sushi expresses Japanese culture as well as its unique geographical island features. I plan to talk about the history of sushi, where its ingredients come from, and the numerous cooking styles pertaining to Japan.

2L • GEOPHYSICS ISC 115

SESSION CHAIR: SCOTT GIORGIS, GEOLOGICAL SCIENCES

Magnetic Evolution of Copper Ridge, Mount Ellen, Utah

MICHAEL BRAUNAGEL
FACULTY SPONSOR: SCOTT GIORGIS, GEOLOGICAL SCIENCES

Igneous intrusions throughout the world display clear evidence of emplacement through multiple pulses of magma, though the timing between these pulses often is difficult to constrain. In the Henry Mountains of southeastern Utah, the evidence for magmatic pulses is more cryptic than the textural or petrologic variations we can observe in other intrusions. Copper Ridge, for example, displays variable magnetic susceptibility through the two major 100-200m thick sills that form it, but no visible indication of internal contacts between pulses. In an effort to constrain the rate of emplacement both Copper Ridge sills were sampled in evenly spaced intervals through a vertical cross section to measure the remanent magnetism recorded by the intrusions. The upper sill was found to record 66° of magnetic polar wander and the lower sill recorded 139°. Results from a one-dimensional thermal model suggest that the duration of cooling between the outer and the center of intrusions takes a very short time period (<10 years). Comparison of the thermal model results to Holocene rates of polar wander indicate Copper Ridge must therefore have been emplaced via multiple pulses of magma over a minimum of time period >100 years.

Magnetic Susceptibility of the New Albany Shale, Upper Devonian, in the Illinois Basin

JENELLE WALLACE

FACULTY SPONSOR: JEFFREY OVER, GEOLOGICAL SCIENCES

Magnetic susceptibility (MS) measures paramagnetic substances, which in sedimentary is dominated by ferromagnetic minerals that vary in concentration in response to global climate and sea level change. Samples were collected from the New Albany Shale in western Kentucky, a unit of black to dark grey shale with pyrite nodules and rare carbonate beds that were deposited in an epicontinental sea which filled the rifted Paleozoic Illinois Basin. The Upper Devonian is preserved within the New Albany Shale, including the Frasnian-Famennian (F-F) boundary, which records a major mass extinction event and could be the result of a climate shift. Five major trends in magnetic susceptibility in the 55.78 meter section are most likely due to gradual shifts in sea level. Shorter duration shifts in MS within the major trends support records of processional cyclicity. Microfossils and conodont zonation defined marker beds throughout the New Albany Shale provided controls in cross-basinal comparisons to Oklahoma and global correlations in France. Similar trends support a global climate shift due to a fluctuation in sea level rather than a regionalized climate change.

2M • GOLD 1 WELLES 26

SESSION CHAIR: THOMAS MATTHEWS, CENTER FOR COMMUNITY

Home Away From Home Respite Program

NICOLE RALBOVSKY

FACULTY SPONSOR: THOMAS MATTHEWS, GOLD

In my short presentation, I will be discussing the service event that I conducted with the Americorps/VISTA Alyssa Penn from the Center for Community. I will be talking about the work that I conducted to help establish the "Home Away From Home" respite program that now occurs on campus at the Interfaith Center on Mondays and Thursdays. I will detail the work I did to help set the program up and also the work I am putting in to establish a Cognitive Disorders Awareness Week on campus in April.

Community Health Alliance—Leadership in Community Engagement and Social Justice

GINA VILLAZHINAY

FACULTY SPONSOR: THOMAS MATTHEWS, GOLD

Geneseo has worked extensively to improve its efforts to increase cultural and diversity awareness around campus. Cultural Harmony Week is a tradition in our college that has helped students and the administration practice the sentiments expressed in its mission and value statements. Throughout the week there were workshops, speakers, and films shown that explored issues of race, ethnicity and culture. The multicultural program Director, Ms. Fatima Rodriguez and other professors have helped provide programming that addressed a wide variety of community and diversity issues that we see in our college or relates to us. Participation by students in a few of the week's programs has most definitely made a notable impact. According to the survey results it has encouraged intellectual engagement and personal growth through this week's events and programs.

Awareness of the Elderly and DIsabled

DAVID POLLOCK

FACULTY SPONSOR: THOMAS MATTHEWS, GOLD

This presentation is part of the GOLD Diamond Certificate requirement. The presentation will go through my personal experience of taking care of members of my family. Each experience has instilled my passion to engage in this Diamond Certificate Project. It will discuss the challenges facing our society today when handling the elderly and the disabled. Focusing on the stress families and caretakers have when taking care of family members and patients who are elderly and disabled. There will be certain ideas recommended in order to display how we address all issues on the relevant subject and project. Each idea will be dedicated to instill action and promotion of the subject.

Diamond Project Report: Engaging a Global Village

AMY LIANG

FACULTY SPONSOR: THOMAS MATTHEWS, GOLD

Civic engagement is an integral part of global development. After going on a service learning trip to Haiti, I became International Projects Coordinator of The Community Health Alliance. I worked with the organization, and various students and faculty members on campus to plan a week of events that would engage and educate the campus about global health issues and global development.

2N • MATHEMATICS SOUTH 328

History of Mathematics II

FACULTY SPONSOR AND SESSION CHAIR: JEFF JOHANNES, MATHEMATICS

Origin of Probability Theory: The Problem of Points

KUN HEE KIM

The Problem of Points is a question related to games of chance and gambling that arose during the 15th century. This classical problem had many variants, and the modern version was solved during the 17th century by Blaise Pascal. The Problem of Points involves a game of chance with two players with equal chances of winning each round. The first player to win a certain number of rounds wins the entire prize pool. However, the game is interrupted and cannot be continued. The problem is to decide who gets the prize and how the prize is to be divided fairly. After many failed attempts, it was not until Blaise Pascal and Pierre de Fermat that this problem was solved. Using early examples of expected values and the arithmetic triangle for calculations, Pascal managed to find the solution, which is a staple in Probability Theory today.

The History of Conditional Probability

ANNA SCHULTZ

This paper examines the history of conditional probability. Conditional probability is the probability of an event occurring, given that another event has already occurred. Many probability puzzles, and mathematical paradoxes have their origins in conditional probability. This paper analyzes the history of this tricky concept, where conditional probabillity originated, and its early developments.

The Poisson Distribution: The History Behind the Function

CODY SHANK

The Poisson distribution plays an important role in probability. This discrete probability function was discovered by Siméon Denis Poisson. The distribution is used to find the probability of a given number of independent events happening over a span of time or space. The history behind this function shows how it was developed and how Siméon Denis Poisson's findings not only gave us this distribution, but also influenced the world of mathematics.

The Method of Undetermined Coefficients: A Historical Perspective

WITHDRAWN

KELSEY GRAMLICH

Have you ever wondered why the method of undetermined coefficients is such a commonly accepted method to solve a nonhomogeneous differential equation? In this presentation, you will learn of where the method of undetermined coefficients came from and how it is useful in the advancement of mathematical history. This talk will reveal important mathematicians who applied the method of undetermined coefficients in their studies and show how they further developed the method. This talk will provide a better understanding of the method of undetermined coefficients and its advancement throughout history.

2O • EDUCATION NEWTON 204

LIVES Program Presents...

FACULTY SPONSOR AND SESSION CHAIR: ELIZABETH HALL, EDUCATION

Our Strengths and Struggles--Similarities and Differences Between College Students With and Without Disabilities

JULIE JOHNSON, ELIZA COX, GINNY ELEY, JORDON MCKINSEY, MARK MENSINGER, JAMES SNYDER, IAN KANE, THOMAS COBURN, KALEB KENNEY

The first year students in the LIVES Program surveyed Geneseo college students regarding their strengths and struggles. The LIVES students then compared and contrasted the survey answers with their own strengths and struggles. The survey results revealed that both groups of college students shared similar strengths and struggles,

Promotes sustainability

demonstrating that all college students have similar experiences, regardless of ability.

A Road Map: Where We Are and Where We Are Going

RICHARD JOHANES, JENNIFER PEARL

The sophomores will be presenting their personal road map. Their road map will include where they began, where they are currently, and where they hope to go because of the LIVES Program.

Skills We Have Learned to be Successful

AMANDA CROSS, JESSE CLAUD

This presentation will focus on an exploration of skills they have learned to be successful in college and on the job. They will be showcasing their internships and audit class experiences.

The LIVES Program: How it Prepared Me for Life After College

TYLER BUSH, ROBERT MAPLESDEN, MATTHEW KLEIN, JOHATHAN KEE

This presentation will summarize the students four years in the SUNY Geneseo LIVESProgram. Each student will present the skills he has learned in the LIVES Program, audit classes, internships, and social activities and demonstrate how they have grown from freshmen year to senior year.

2P • HISTORY STURGES 108

Methods, Media, and Me II: Explorations into Media and Self for the Study of History

FACULTY SPONSOR AND SESSION CHAIR: TODD GOEHLE, HISTORY

The Paintbrush and the Computer Mouse: The Use of Digital Media for Artistic Expression

JANNA NUNZIATO

In 2012, my work "Tension and the Release of Tension" hung on a stark white wall at an art showing. Albeit it being specifically a digital photography show, "Tension and the Release of Tension" was the only piece in the show that made use of "traditional artistic media" -- all methods of artistic expression not utilizing digital media or technology, namely the computer, in any fashion during the creation process. One image of the diptych used exclusively digital media to create an immaculate digital print (the confined tension), and one used traditional artistic media to escape the imprisonment of the digital print (the release of tension). Just as the paintbrush is seen to be an extension of man and his imagination, the same can be said about the computer mouse and digital media. Therefore, is using digital media to manipulate my artwork and express my creative skill an extension of myself? Is this new digital media "flesh" authentically mine, and the pieces that I am creating truly art? Thus, as a result of my exposure to digital media, I argue that the flawless digital photograph stands in my mind as the new standard for art -- even when using traditional artistic media.

JULIA LEWIS

The rise of online social media has sparked debate over the reality and authenticity of self-presentation. The self we portray on these platforms is called fake, which implies that somewhere else exists a self that is true. In my presentation, I examine the ways in which the self is constantly curated, both online and off and the blurred space between the two, alongside issues of surveillance and self-regulation.

MALCOLM SIMPSON

The notion that exclusivity defines quality is rampant in what is now a media saturated society. However, the idea also describes widely available media to be lacking quality. This notion is as false as it is dangerous. As society develops more advanced methods to create and consume media, the perspective that content is only good when it is elusive promotes the condemnation of popular media out right. Content can be judged on a variety of merits, but the exclusivity of content as a measure for quality leads to the inflated sense of value in exclusive media and the ignorance of popular media, regardless of quality.

2Q • HISTORY STURGES 104

Morality, Religion and Politics: An Analysis of Western Literary Works from Humanities I

FACULTY SPONSOR AND SESSION CHAIR: TZE-KI HON, HISTORY

Morality, Religion and Politics: An Analysis of the Holy Bible

ELLIE MERTENS, SEE LONG WONG

This presentation will explore the portrayal of morality in The Holy Bible. Although the Old Testament and the New Testament are often read together as one cohesive text, particularly in the Christian tradition, we will treat them as separate texts. We will compare and contrast Yahweh, the deity of the Old Testament, and Jesus of Nazareth, the primary deistic figure of the New Testament. We will also examine the primary moral lessons taught and encouraged in each respective testament. Finally, we will consider how these portrayals had unique political and cultural impacts that can still be observed today.

Morality, Religion and Politics: An Analysis of Realpolitik

RACHEL DAVIS, KATHERINE ZASLAVSKY

This presentation will explore concepts of morality in politics, particularly as it is portrayed in Machiavelli's *The Prince* and Shakespeare's *Hamlet*. We will discuss the relevance of idealistic Christian values as well as the realist values of Realpolitik. We will consider how the specific cultural, societal and political contexts in which each of these texts were written influenced the unique depictions of morality constructed by Machiavelli and Shakespeare respectively. We will also consider the immediate impacts of each of these texts, as well as their long-term effects on conceptions of morality in politics throughout Western history.

2R • MATHEMATICS SOUTH 340

Real World Applications of Mathematics

FACULTY SPONSOR AND SESSION CHAIR: CAROLINE HADDAD, MATHEMATICS

Quantitative Finance and Modeling

ANTONINO BALSANO

Financial mathematics allows us to apply mathematical theory and develop models to create seemingly riskless trading. Using a mixture of popular financial models we will discuss ways to predict where the market may go using probability, stochastic differential equations, and the concept of Brownian motion. Computer programs will allow us to implement these models on a larger scale, and (hopefully) allow us to make better predictions.

Factors Influencing the Ratio of SNAP Participants to Poor People in US Counties

STEPHANIE ALLEN

The Supplemental Nutrition Assistance Program (SNAP) helps millions of people across the United States fight food insecurity and hunger. However, the "ratio of SNAP participants to people in poverty" varies from county to county and, for some counties, this statistic is less than 1.0, which means not all poor people utilize SNAP benefits. There has been research done on the factors behind individual and/or household SNAP participation, which has found state SNAP policies, demographic characteristics, economic conditions, and other variables to be significant in predicting participation. Furthermore, other research has looked at SNAP usage at a spatial level to determine if usage in surrounding areas and if a place's location influence its SNAP usage. Informed by this research, my research utilizes independent variables studied in both the individual and spatial analyses to identify the significant factors influencing counties' ratio of SNAP participants to poor people. This dependent variable is worth studying because it is a spatial variable that focuses directly on the people who should be able to use SNAP. The research employs a multiple linear regression model to analyze the influences of independent variables concerning demographics, unemployment, State SNAP policies, and others on the ratio. In particular, the study would like to discover why the state of California and the upper and middle Mid-West in 2010 reported noticeably lower ratios when compared to the rest of the country.

Wavelet Based De-noising and Peak Detection of Infrared Spectra

MICHAEL RAMSEY

Infrared Spectroscopy is a technique used by chemists to study and identify compounds. While this technique gives ample information to identify the present molecules, it is often not easy to do so simply by spectrum visualization. In my work, I

implement wavelet based de-noising and peak detection algorithms to automate the procedure of molecule identification.

2S • HISTORY BAILEY 104

Sport in the PRC: Cultural, Political, and Economic Dynamics

FACULTY SPONSOR: TZE-KI HON, HISTORY
SESSION CHAIR: **GALEN GIBIAN**

Sport as Spectacle: The Rise of the Chinese Super League

GALEN GIBIAN

From its inception in 1994, the growth of the Chinese Super League has mirrored the trajectory of the nation itself. Emerging from the ashes of state-run teams, professional soccer in China initially struggled with the demons of corruption and cronyism. In recent years, however, the league has become a regional powerhouse, with four of its teams competing annually in the AFC Champions League. This past January, the League's 16 teams outspent the English Premier League and brought in international players in their prime at enormous cost. As the Chinese economy begins to pivot from manufactured production to the export of culture and expertise, will the Super League become an national flag-bearer or fall prey to its own monetary excess?

Hoop Dreams: How China is Changing the Culture and Business of Basketball

EVAN FOSTER

Whether you knew it or not, China has in recent decades become a global force in both the business and culture of basketball. Now the second biggest NBA market in the world by a narrow margin, China's interest in the sport should be considered nothing less than a cultural obsession among the nation's youth. In this presentation I will investigate the causes behind this obsession and reveal the ways in which China's growing interest in basketball (and the NBA's growing interest in China) has affected the sport, culture, and business of basketball.

"The No Longer Sick Man of Asia": A Historical Study of Chinese Nationalistic Pride in International Sports Competitions

THOMAS GARRITY

In the late-nineteenth and early-twentieth centuries, China was widely portrayed by the industrialized Western world as the "sick man of Asia" due to the nation's widespread internal divisions, political instability, and lack of a strong, central government authority. This portrayal further influenced and exacerbated the Chinese "victim narrative," a perspective through which many in the P.R.C. negatively view this period as a "Century of Humiliation" in which they were degraded by more powerful countries. In the effort to prove that the modern nation is no longer "sick" but rather a robust and powerful state, contemporary Chinese take great nationalistic pride in hosting, competing in, and winning international sports competitions. This historical study attempts to identify and further investigate the connection between Chinese nationalism and International sports competitions through analyses of the 2008 Beijing Olympics and P.R.C. President Xi Jingping's current, ambitious plan to host and win a FIFA World Cup.

Fist of Fury vs *Drunken Master*: Masculinity, National Identity, and Modern China

PETER BENSON

Bruce Lee and Jackie Chan are two of the most legendary and influential figures in the history of Chinese cinema. Despite being products of the same historical moment in Chinese culture, Lee and Chan developed two contrasting Kung Fu identities—that of tragedy, and that of comedy—respectively. Lee deployed racial politics in his films through the avocation of a Chinese national identity, and utilized his own body as a focal point to alter existing Chinese and Chinese American stereotypes by reinventing Chinese masculinity as powerful and competitive. While Chairmen Mao attempted to help China confront the pains of the Century of Humiliation through politics and economics, Lee's films served as a catharsis for the culture of the disgraced Chinese people. Just as Mao's death led to the birth of a new China, Lee's death created a void in the genre within which Lee's infamous successor Jackie Chan refused to be molded. By transforming Kung Fu tragedy into Kung Fu comedy, Chan generated a new wave of Kung Fu cinema that challenged Lee's portrayal of toughness. Thus, I contend that Lee's films perpetuate China's victim narrative, while Chan's represent 21st century China's rise to power on the international stage.

2T • ENGLISH DOTY TOWER ROOM

The Geneseo Almanacs: A Reading of Place-Based Creative Nonfiction

FACULTY SPONSOR AND SESSION CHAIR: JESS FENN, ENGLISH

JESSICA GOLDSTEIN, DAVID SABOL, CASEY VINCELETTE, LILY CODERA, NOAH COATES

These creative nonfiction pieces started in walks around the Geneseo area. They evolved into explorations of the memories evoked by these walks—about working in a pizza place, about growing up poor, about coming to Geneseo for the first time. We invite you to come hear stories that originated with the chance sighting of objects you may walk past every day: the arboretum, a fence at the edge of campus, the gazebo--and to see what these places have become through writing.

2U • BUSINESS SOUTH 338

The U.S. Economy 2016 (How Dismal Is It?), with the Fed Challenge Team

FACULTY SPONSOR AND SESSION CHAIR: LEONIE STONE, BUSINESS

The U.S. Economy 2016

SYDNEY LEVINE, THOMAS KOHN, BRENDAN MAHONEY, ALEX STAHNK, PAUL CUMONE, EMMA HOLTZMAN, AMMAN WEAVER, TIFFANY LOO, JIMMY HATEM, THOMAS BROCK, JAMES ANANIA, NELSON SCOTT, EMILY HURLBUTT, JAMIE MCCORMICK, SARAH COMERFORD, MATHEUS FALEIRO, JULIA CHONG, NIYANTA

The Fed Challenge team does its annual macroeconomy presentation, a synopsis of the economic challenges faces the U.S. economy at the moment, with forecasts for the future, followed by panel discussion and Q&A.

2V • MUSIC DOTY RECITAL HALL

Vocal Duets

BRIANNA KELLY, JORDAN BACHMANN, NOAH CHICHESTER, SAMANTHA CLOWES, FRANCESCA DIGIORGIO, SARA GLOVER, HANNAH LOO, SARAH SHARRIN

FACULTY SPONSOR: PAMELA KURAU, MUSIC
There will be at least five duets performed by students from the music department. These will each be introduced to the audience, giving a background of the story line and characters in the duets.

String Quartet

JOSEPH TADROS, EVELYN WELCH, KATIE CORCORAN, HARRISON HARTSOUGH

FACULTY SPONSOR: ANDREW BERGEVIN, MUSIC
Antonin Dvorak: String Quartet in F major, "American" I. Allegro ma non troppo Joseph Tadros, violin I Evelyn Welch, violin II Katie Corcoran, viola Harrison Hartsough, cello.

2W • STUDY ABROAD WELLES 115

Haiti Service Learning Trip

FACULTY SPONSOR AND SESSION CHAIR: WESTON KENNISON, STUDY ABROAD
FACULTY SPONSOR: SUSAN MUENCH, BIOLOGY

DJONI ELKADY, HARPREET AUJLA, JENNIFER BOODY, MATTHEW MCCLURE, SHANNON WALSH, SOPHIA GARBER, MACKENZIE ROSS

The commune of Borgne lies in the mountainous, rural northern part of Haiti. Approximately 80,000 people live in the commune in two major population centers; the town of Borgne situated on the coast and the village of Tibouk, which is more centrally located. The region's economy relies on agriculture and fishing; goods and produce are traded through a network of local and regional markets. The commune's economy is fragile and the community lacks basic infrastructure such as electricity, good roads and running water. The community's isolation and lack of roads contributes to its extreme poverty by limiting participation in the larger economy and access to health care and education. High infant mortality, waterborne illnesses, malaria and HIV/AIDS are some of the many preventable and treatable, but prevalent, health problems faced in Borgne. Each student chose an area of interest to research before the trip and on the ground in Borgne. A variety of research projects were studied such as Soil Transmitted Helminths (STH), sanitation, HIV/AIDS, dental hygiene, agriculture, time, and dance. Along with student-led faculty, community

leaders, and Haiti Outreach Pwoje Espwa (H.O.P.E.), each student was exposed to the different issues in the health care system, education, economic development, and the grassroots of community development work.

CONCURRENT PRESENTATIONS AFTERNOON QUICK VIEW GUIDE

SESSION 3 CONCURRENT PRESENTATIONS
2:25 – 3:40 PM

3A • HISTORY: *American History Honors Theses* STURGES 104

3B • HISTORY STURGES 109
Analysis of Chinese Communist Party Propaganda (1949-1976)

3C • ANTHROPOLOGY BAILEY 104
Anthropological Perspectives on Women Across Cultures

3D • SOCIOLOGY BAILEY 102
Behind the Scenes of The Media Unit Performance

3E • BIOLOGY AND MATHEMATICS 1 NEWTON 203

3F • COMMUNICATION SOUTH 328

3G • ENGLISH WELLES 128
Culture and Criticism in the Digital Age

3I • HISTORY: *European History Honors Theses* STURGES 108

3J • ENGLISH WELLES 133
From the Archives: Marginalized Texts Recovered!

3K • GEOGRAPHY 1 BAILEY 103

3L • GOLD 2 WELLES 26

3M • EDUCATION - *KKIS* WELLES 24

3N • ANTHROPOLOGY BAILEY 105
Linguistic Insights into Health and Healing

3O • ENGLISH WELLES 119
Marxist Milton - is poetry credible work?

3P • MATHEMATICS: *Modelling in Mathematics* NEWTON 201

3Q • HISTORY: *Modern Chinese Foreign Policy* STURGES 114

3R • ENGLISH WELLES 121
NeuWrite/edu: Science Writing at Geneseo

3S • PHYSICS & ASTRONOMY 2 ISC 131

3T • HISTORY STURGES 112
Race, Memory, and Consumerism

3U • POLITICAL SCIENCE & INTERNATIONAL RELATIONS
Research in American Politics and Political Theory WELLES 115

3V • THEATRE/DANCE BRODIE ALICE AUSTIN
Staged Reading Performance

3W • ENGLISH WELLES 123
Women's and Gender Studies Capstone Presentations

3X • ACCESS OPORTUNITY PROGRAM WELLES 134
How Expensive is it to be a Woman in the United States?

SESSION 4 CONCURRENT PRESENTATIONS
3:50 – 5:05 PM

4A • ANTHROPOLOGY BAILEY 104
Anthropology of Contemporary Social Issues

4B • BIOLOGY AND MATHEMATICS 2 NEWTON 203

4C • HISTORY STURGES 112
Defining the Panopticon: Three Perspectives

4D • ENGLISH WELLES 123

4E • POLITICAL SCIENCE & INTERNATIONAL RELATIONS
Enjoy Courtroom Drama at the Mock Trial of the Year MILNE 105

4F • HISTORY STURGES 109
Environmental Problems and Policy in China

4G • THEATRE/DANCE BRODIE 152 DANCE STUDIO
From the Page to the Stage

4H • GEOGRAPHY BAILEY 103
Geographical Perspectives on Social Issues

4I • GOLD 3 WELLES 26

4J • BUSINESS: *Idea2Venture* DOTY TOWER ROOM

4K • LANGUAGES AND LITERATURES WELLES 24
A presentation in Spanish

4L • THEATRE/DANCE STURGES 108
Literature and Film: Hugo and Hepburn

Promotes sustainability

4M • MATHEMATICS SOUTH 328

4N • SOCIOLOGY BAILEY 101
Mystic Experience, Peak Experience and Trancing

4O • HISTORY STURGES 14
Mexican Immigration, Revolution, and the Cold War

4P • POT POURRIE: *Sociology, Anthropology* WELLES 115

4Q • ENGLISH WELLES 128
Geneseo's Strategic Position in the Development of Writing Education

4R • ANTHROPOLOGY STURGES 104
Seeking Professional Development: College Based

4S • ENGLISH & ANTHROPOLOGY BAILEY 105
Session on Haiti

4T • PSYCHOLOGY MOVE TO 1X

4U • ENGLISH WELLES 121
Underground Ecologies of the Genesee Bioregion

4V • HISTORY: *Women's Role in Modern China* STURGES 114

CONCURRENT PRESENTATIONS 3 • 2:25 - 3:40 PM

3A • HISTORY STURGES 104
American History Honors Theses

FACULTY SPONSOR: KATHLEEN MAPES, HISTORY
SESSION CHAIR: JUSTIN BEHREND, HISTORY

Returning to the Faith of Our Fathers: Religion, National Identity, and the Creation of the Russian Orthodox Church in America

ADAM PRIESTLEY

Of the many European ethnic groups arriving in the United States during the latter portion of the 19th century, the Carpatho-Rusyns are among the most overlooked migrant groups, despite the fact that they were proportionally one of the largest ethnic groups to participate in North American immigration. Hailing from the easternmost regions of the Austro-Hungarian Empire, the experiences of this stateless people in North America had profound effects on Carpatho-Rusyns living on both sides of the Atlantic. Here, we will examine how the mass conversions of Carpatho-Rusyns in America from Greek Catholicism to Russian Orthodoxy reshaped their national identity, and how these new identities found in America changed the course of history for Carpatho-Rusyns worldwide. Focusing on the ministry work of Fr. Alexis Toth and using sources such as ethnic newspapers, nationalist pamphlets, church publications, and the memoirs of clergy in both America and Europe, I explore how access to the American free press created trans-Atlantic connections that brought various factions of the Carpatho-Rusyn people to rethink their national identity and cultural history, awakening a new nationalist fervor that the Austro-Hungarian authorities had long sought to suppress, while greatly changing the Eastern European religious community in the United States.

Martin Had More than Just a Dream: Sanitizing the Legacy of Martin Luther King, Jr.

PAIGE CIEZKI

Although Martin Luther King Jr. is one of the few Americans honored with a federal holiday, a majority of the public is unaware the radical aspects of his activism. Focusing on the grass roots movement and passage of the MLK federal holiday, my paper focuses on the avenues of erasure of the character of MLK. This paper uses media from both mainstream white and black publications, from before his death and after. Despite the popular opinion after his anti-Vietnam War speech, the proposal of a federal holiday after his death had support in the black community, while few whites acknowledged the movement. In the early 1980s, momentum gathered for the passage of the holiday, which drew MLK's legacy into the mainstream once again. While the much of the paper focuses on the black community involvement in passing the holiday, the opposition to the bill also provides another lens to analyze his memory. Although the United States has a day set aside each year to celebrate MLK, the fight to for the holiday led to a sanitation of his memory in order to make his achievements more acceptable to the white community.

Romaniote Jews: Historical Memory of a Trans-Atlantic Community

MIKAELA VAN SLYKE

FACULTY SPONSOR: JOSEPH COPE, HISTORY

My paper will focus on a unique group of European Jews present in Greece from Byzantine times. Distinct from Ashkenazi and Sephardic Jews, Romaniotes had their own customs and religious practices centered around their familiarity with Greek culture and use of the Greek language. They represent a little known group of people who experienced some of the largest losses to their communities during the Holocaust.This paper will explore the ways in which Romaniotes have tried to perpetuate their unique culture in the immigrant community of the Lower East Side of Manhattan, including continuing religious practices and maintaining their own synagogue. I will also explore the ways in which the Holocaust shaped the historical memory of this community in the way that it affected their relationships with other members of the global Jewish community.

3B • HISTORY STURGES 109
Analysis of Chinese Communist Party (CCP) Propaganda (1949-1976)

FACULTY SPONSOR AND SESSION CHAIR: TZE-KI HON, HISTORY

ELIZABETH RUS, ALVIN TSE, STEF LAGE VENTERINK

The group's objective is to analyze the many different aspects of Chinese Communist propaganda during Mao's rule. As Mao's views on modernity and the future of China changed, so did the messages in the propaganda produced. Through looking at different forms of propaganda (posters, songs, speeches), we will be able to identify the different stages in Chinese propaganda as it was constantly evolving from 1949-1976.

MARK VASCO, MICHAEL VECCHIO

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3C • ANTHROPOLOGY BAILEY 104
Anthropological Perspectives on Women Across Cultures

SESSION CHAIR: MELANIE MEDEIROS, ANTHROPOLOGY

Not Just for that Kind of Mom: An Ethnographic Analysis of the Perceived Benefits of Childbirth Doulas in Rochester, New York

KAITLYN MORGAN

FACULTY SPONSOR: MELANIE MEDEIROS, ANTHROPOLOGY

Since the origin of childbirth, a female attendant has accompanied a woman in labor. Eventually, these attendants began to receive special training, and became professionally known as doulas. The twentieth century has brought an increasing demand for medicalized birth practices, with hospital births and caesarian sections at an all-time high. The ability of a woman's body to naturally have a baby has been overshadowed by these practices, denying women their rights to an intervention-free birth. This ultimately creates a realm of fear surrounding childbirth in America. Alternative birth practices, such as those where doulas are present, may be able to become more common if increased knowledge of doulas is available. The purpose of this study is to: (1) gain a better understanding of the roles of doulas and their contributions to childbirth; (2) collect personal testimonies from women who have chosen to have doula-attended births regarding why they felt that was the best option; (3) acquire the doula's perspective on factors influencing a woman's decision to use a doula; and (4)

investigate through qualitative and ethnographic methods the perceived benefits of doula-attended births for both women and hospitals, including the ways in which hospitals accommodate for the presence of a doula.

Ethnographic Perspectives on Women Working in Italy

ARIANNA BUTTARAZZI

FACULTY SPONSOR: MELANIE MEDEIROS, ANTHROPOLOGY

This presentation is of the results of a community-based ethnographic study on the topic of Women Working in Italy. Based on results from semi-structured interviews conducted with 9 women and 9 men divided into 3 age categories, I reveal the different perspectives on housewives and working women from both women and men of different generations. Eighteen participants expressed their opinions on women in Italy today based on her having the same job opportunities as men and their availability of choice between becoming a career woman or a housewife. The responses from the semi- structured interviews highlight how financial success and independence are seen as positive accomplishments for a woman in Italian society. Ultimately, it shows how women's rights in Italy, more specifically working rights, created new perspectives on Italian women working. With this, my study supports that today both housewives and women working outside the home in Italy are now respected and admired compared to the past when a woman was valued based on how efficient a housewife she was.

3D • SOCIOLOGY BAILEY 102

Behind the Scenes of The Media Unit Performance

FACULTY SPONSOR AND SESSION CHAIR: ELAINE CLEETON, SOCIOLOGY

FACULTY SPONSOR: FATIMA RODRIGUEZ JOHNSON, CENTER FOR COMMUNITY

JONELLE WILLIAMS, TILAINA YU, ANNA FONG

The Media Unit, a theatre trope from Syracuse, New York, will be performing at Geneseo in the Knight Spot on April 16th, the Saturday before GREAT Day. Their signature play is titled: "From the Back of the Bus" and is an original music theater production. It focuses on teens, racism, and racial healing. Walt Sheppard, an acclaimed journalist, began The Media Unit in 1973. Initially it was based in the south side of Syracuse, New York. This production focuses on the racial tensions between African American and Caucasian teens in American society. A variety of perspectives will be depicted in this production. After the 45-minute performance, a 45-minute diagloue circle will follow where student representatives from cultural organizations on campus participate in a discussion and reflect on the production they just saw. This presentation will focus on the three interns who worked with Dean Johnson and Professor Cleeton: Anna Fong, Jonelle Williams, and Tilaina Yu. They will present their experiences and the three varied and intersecting internships they have had this semester.

3E • BIOLOGY & MATHEMATICS 1 NEWTON 203

FACULTY SPONSOR AND SESSION CHAIR: CHRISTOPHER LEARY, MATHEMATICS

FACULTY SPONSOR: GREGG HARTVIGSEN, BIOLOGY

Modeling the Spread and Theoretical Control of Zika Virus

WILLIAM SCHUTT, KATHLEEN MANEY, KUN HEE KIM, ERMINA BEGOVIC, ANGELICA HADLEY

The Zika virus is an emerging vector-borne disease transmitted primarily by *Aedes aegypti* and can be transmitted sexually between humans. Starting in Brazil, it has reached epidemic levels with widespread outbreaks and is believed to be linked to problems such as microcephaly in newborns. Currently, there is no vaccine to protect against infection. We created a difference equation model with three populations: human males, human females and mosquitoes. The humans have the following states; susceptible, exposed, infectious, and recovered, while the mosquitoes have susceptible, incubated, infectious, and death. Humans remain infectious for up to approximately 12 days before recovering while mosquitoes die with a constant probability. During the infectious period, humans can transmit the virus to others via heterosexual contact as well as to susceptible mosquitoes when bitten. Using our model, we test various control strategies, such as mosquito population control and vaccination to limit the spread of the disease. We determined that a combination of those control strategies most efficiently inhibits propagation of the disease.

Modeling Onchocerciasis Spread in Human and Black Fly Populations and the Effects of Available Treatments

AMBER LIN, KEVIN MADDOCK, ERIC NAIOTI

The disease onchocerciasis, commonly known as “river blindness,” is a neglected tropical disease that impacts as many as 100 million people in Sub-Saharan Africa and South America. Onchocerciasis is caused by the parasitic worm *Onchocerca volvulus*, which is transmitted to humans through the bite of a black fly of the genus *Simulium*. Infected individuals develop severe skin conditions and the symptoms can lead to blindness. A mathematical model was developed to model the spread of onchocerciasis in the nation of Cameroon. This model takes into account the human and black fly populations as well as the contact and transmission rates between them. The birth, death, and infection rates of both populations are found from previous data. Two methods of onchocerciasis treatment were simulated to assess their effectiveness. One method is the administration of a microfilaricidal drug (Ivermectin) that is successful in treating symptoms and lowering transmission rates. The other method, vector control, lowers the general black fly population by the use of pesticides over their inhabited locations. Successful modeling of this disease allow us to determine the necessary combination of these treatments needed to limit the spread of the onchocerciasis effectively.

Modeling Strategies to Limit Incidence of Lyme Disease in a System

ALBERTO ALONSO, ALEXANDER HEWKO, FATIMA UDDIN, ERIN HENRY, LARA BANNISTER

Borrelia burgdorferi is the primary cause of Lyme disease in the United States, infecting an estimated 300,000 people per year. This bacterium is transmitted to humans primarily through the deer tick (*Ixodes scapularis*), a vector species. *Ixodes scapularis*' main hosts include the white-footed mouse (*Peromyscus leucopus*) and the white- tailed deer (*Odocoileus virginianus*). *Peromyscus leucopus* is a crucial biological reservoir for *B. burgdorferi* and host for larval and nymphal *I. scapularis*, while *O. virginianus* is a key host in the reproductive stage of *I. scapularis*. A combination of a vector-based SIR model and a Lotka-Volterra model was used to demonstrate the prevalence of *B. burgdorferi* throughout the system. Our model suggests that decreasing the populations of *O. virginianus* and/or *P. leucopus* limits the incidence of the disease in humans. By identifying the points at which the prevalence of *B. burgdorferi* may be effectively limited, we have determined strategies for limiting the disease risk to humans.

Modeling Influenza Spread with Deterministic and Stochastic Cellular Automata

AIDAN MURPHY, WALTER GERYCH, SAM EVANS, NICHOLAS BARTHOLOMEW

The influenza virus has affected the human population since it first arose about 6000 years ago. Since the human strain of the virus was isolated by Wilson Smith and his team in 1933, the World Health Organizations (WHO) and the Center for Disease Control (CDC) have worked together in order to study the dynamics of the influenza virus and determine the best preventive measures. We developed two cellular automata models, one deterministic and one stochastic, that simulate the spread of a single strain of flu. We parametrize our cellular automata models using data from the WHO and the CDC. We find the stochastic cellular automata approach to be better at reproducing historical data.

3F • COMMUNICATION SOUTH 328

SESSION CHAIR: ANDREW HERMAN, COMMUNICATION

Kill or Be Killed: Seeing the Middle East as a Threat to the Western World

KATHERINE ZASLAVSKY

FACULTY SPONSOR: ATSUSHI TAJIMA, COMMUNICATION

In the context of Middle Eastern conflict, fear is a powerful tool that can sway Western opinion for or against certain causes. Even outside its overt mention in the media, fear plays a significant role in the frames that cover Middle Eastern conflict, translating hegemonic views to individuals among

the populace. The presence of these frames, and the extent thereof, is indicative of increasingly divisive relations between the West and the Middle East, driven by fear of alien peoples. This research identified, defined, and analyzed the frames used in American broadcast television coverage of the Arab-Israeli conflict and Islamic acts of terrorism. It established the textual makeup of independent frames and expanded this analysis to a quantitative level, allowing for more involved macroanalysis of framing relationships in this and future research. This is key to understanding the media through which individuals learn to understand foreign conflicts and cultures.

Facework Official

ALYCIA LANGWORTHY, WILL GLADSTONE
FACULTY SPONSOR: MEREDITH HARRIGAN, COMMUNICATION

This paper uses the communicative lens of Facework theory to interpret long-distance romantic relationships. In our analysis, we sought to answer the following research question: What, if any, corrective facework strategies do individuals demonstrate during long-distance romantic relationships? From our analysis, we determined corrective facework techniques that are common in romantic long distance relationships. These techniques include: (a) self-disclosure to preserve their positive face, (b) positive comments from both relationship partners as well as outside parties, and (c) physical remediation to convey affection.

Media's Representation of Hair Color Attributing to Personality Traits Affects Female's Views of Themselves and Each Other

KALA WILKINS
FACULTY SPONSOR: ATSUSHI TAJIMA, COMMUNICATION

Hair color is perhaps one of the most accessible and malleable parts of the female body. Hair representation by the media in particular represent specific traits and ideals that lead to preconceived bias and stereotyping toward hair colors. This study argues to explain that females are influenced by the medias' representation of hair color, which in turn affects their opinions of themselves and others. This study examines common hair color stereotypes and the medias' specific representation of them. Further, it questions the reason behind these stereotypes and representations and how they are conformed to and defied.

3G • ENGLISH WELLES 128

Culture and Criticism in the Digital Age

FACULTY SPONSOR AND SESSION CHAIR: GILLIAN PAKU, ENGLISH

Making Criticism Great Again: Thoughts on Culture, Society, Art, and Criticism in the Age of Twitter from Donald Trump to Kanye West

SEAN FISCHER

Given that most of us have become quite comfortable with expressing ourselves in 140 characters or less, it should come as no surprise that the state of aesthetic culture has changed drastically since the year 2000. The rise of digital social networks has coincided with a rise in political and social tribalism, a move that has begun to affect the very way we think about art. The shift towards a tribal view of culture has placed the very concept of the critic in jeopardy and allowed for the act of criticizing to become a manipulative tool. As such, it is absolutely crucial that now, more than ever before, we attempt to reconsider our notions on the relationship between art and society, as well as criticism and society. One way we can do so is through the implementation of digital tools and quantitative methods to establish new conceptual frameworks of the very state of aesthetic culture. These new methods, as we will see, can reorient us towards both art and criticism and maintain a healthy dose of heterogeneity in society.

3I • HISTORY STURGES 108

European History Honors Theses

FACULTY SPONSOR: JAMES WILLIAMS, HISTORY
SESSION CHAIR: JOSEPH COPE, HISTORY

Rise and Fall: The Parallel Destruction of the Roman Empire and the Building of a Christian Europe

MAXWELL GARNAAT

In his seminal 1776 work entitled *The History of the Decline and Fall of the Roman Empire* (Vol. 1) historian Edward Gibbon created one of the best-renowned accounts of a civilization's collapse ever written. At the same time, however, he also made bold claims about the cause of this calamity: notably that the expansion of the Christian religian, in fact, rotted Rome down to annihilation. But is this the case? On contrary, this presentation seeks to demonstrate that this had little if any such effect, and that while the two might have coincided, the collapse of the Roman Empire must be understood as the result of other factors. Closely examining the parallel rise of one civilization with the collapse of the other, this presentation traces Christianity back to its earliest days and Rome down to its last, showing how one managed to triumph, and the other fail.

Independent or Exploited? Agency and Sexuality of Female Domestic Servants in Early Modern England

LAYNA GRAY

Domestic service was a common source of employment for both men and women in early modern England. Rather than a lowly position, it was seen as a stepping-stone towards building an independent household. Popular literature has often portrayed servants as abused by their employers, but many consider female servants especially vulnerable, exploited by their masters or their masters' relations for sex. These women, however, had more power over their lives (both professional and personal) than the modern person may believe. They walked a fine line between controlling their own situation and having it taken away from them at a moment's notice. This paper evaluates the agency that female domestic servants maintained over their lives and their sexuality.

Napoleon's Lasting Legacy in Germany: The Confederation of the Rhine and its Significance for German Nationalism and Unification

ROBERT MATINA

The Confederation of the Rhine is not the most well-known or historically researched topic during the Napoleonic period let alone European history. The goal of this paper will not only to be to assert that the Confederation of the Rhine is significant, but that it is the key first step toward German nationalism and unification. Furthermore, Napoleon Bonaparte, through his actions in the Confederation's creation, governance, and collapse, played a major role in bringing about this nationalism and unification. By looking at the writings and actions of Napoleon and various Germans (statesmen, soldiers, and civilians), one will see that the change and upheaval of the time set the foundation for Germany, which would finally be realized in 1871.

3J • ENGLISH WELLES 133

From the Archives: Marginalized Texts Recovered!

FACULTY SPONSOR AND SESSION CHAIR: CAROLINE WOIDAT, ENGLISH

A Wolf in Sheep's Clothing: The Discovery of an Early Feminist Text in an 1840s Propaganda Magazine

KATIE SNIDER

"Maria Grafton" is the story of a young woman who rebels against her father's orders, leaves her home, and independently gets a job working in a factory. The short story, recovered from a factory magazine published in the 1840s, is empowering and a strong example of early feminist writing. But there is an issue surrounding "Maria Grafton"- the recovered text is from a propaganda magazine. This presentation will be a discussion of the short story, the life of the recovered author, and an attempt to answer the question, "Does the fact that the text is from a propaganda magazine detract from the idea of early feminism?"

Helen of a Thousand Dreams: Selected Poems of Sarah Helen Whitman

NATALIE KELSEY

Sarah Helen Power Whitman (born September 21, 1803) is best known for her short engagement to Edgar Allan Poe. Their relationship, though it lasted less than a year, did inspire Whitman to defend Poe

from his many critics while he was alive and for years after his death. While Whitman's defense of Poe is admirable, it may have stunted the popularity of her own work. Many critics, even those with feminist leanings, believe her work to be derivative of Poe's. Upon closer examination, however, I found that Poe and Whitman were writing at the same time, and both were part of a close-knit literary community that influenced and shaped the writing of all involved in it. For this reason, I chose to examine Whitman's poetry as it appears in Rufus Griswold's anthology, *The Female Poets of America*, and her poetry collection, *Hours of Life: And Other Poems*.

Between Two Worlds: The Life and Work of Rosa Sonneschein

KATHERINE ZITO

In 1897, Rosa Sonneschein, founder and editor of *The American Jewish*, a magazine for Jewish women, published her two-part short story, "Between Two Worlds." Writing was not the only thing Sonneschein accomplished—s+he was also an outspoken feminist and advocate for Jewish issues; stances that were not uncomplicated and that deeply affected each other. In this presentation, I will situate this short story in the context of Sonneschein's other writing and work and her ideas about gender and Jewish identity, as well as exploring it in the larger context of Jewish identity and feminism in the late 1800s. Additionally, I will connect the story to other works of fiction with similar themes and explore the enduring storytelling techniques that have been used to express these themes.

The Woman's View of It: Angela Heywood's Call for Body Autonomy

ALLISON FOX

In the mid-late nineteenth century, women were denied countless personal liberties that were granted to their male counterparts. Public outcry against these inequalities was limited due to the silence and compliance of female sentiment. One of the earliest American feminist writers, Angela Heywood, voiced her opposition to the constraints placed on women. Heywood specialized in reproductive rights. She promoted the prerogative of a woman to obtain an abortion, use contraception, and ultimately make decisions regarding her own body. Between 1872 and 1893 Ezra and Angela Heywood published a monthly journal, *The Word*, in which Heywood challenged oppressive government and patriarchal society, which antagonized and operated against women. Heywood demanded access to contraception and abortifacients and censured the sexual enslavement of women through marriage, sexism and strict law. Fellow scholarship from Wendy McElroy aided in my own textual recovery of "The Woman's View of It," which embodies the strive for women's rights and a fight for body autonomy that persists today.

3K • GEOGRAPHY 1 BAILEY 103

SESSION CHAIR: JENNIFER ROGALSKY, GEOGRAPHY

The Global Diffusion of Slum Tourism and the Issues it Raises

NICHOLAS MINETT

FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

Slum tourism is a growing reality. It began at least in the nineteenth century, when London's rich would literally "slum it." The roots of modern slum tourism in the Developing World were Favela tourism in Rio de Janeiro, although Kenya's Kibera stands as another early precedent. The phenomenon has since spread to as least twenty major cities which combine numerous foreign visitors and extensive squatting by the poor. The former are generally tourists and the tours are promoted online as well as locally, especially in upscale hotels. My survey of slum tour settings suggests that some milieux transcend the appeal of observing "how the other side lives" with additional magnets such as music, history, culture and even aesthetic appeal. Understandably, objections can be leveled at slum tourism because it treats a poor district as what is in effect is a human zoo. However, the firms that offer this service claim that revenue is shared with the slum-dwellers and/or that the tours bring expenditure into the slum districts. They also justify the tours as raising awareness of and concern for the plight of the urban poor. These remain open questions. Meanwhile, the phenomenon of slum tourism continues to grow.

A Chile Reception: Couchsurfing's Diffusion and Context Amidst Geographical Diversity

SOFIA VILLALON

FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

Couchsurfing.com was launched in 2004 and now has over twelve million members in over 200 thousand cities worldwide. Its purpose is to match hosts and their visitors, offering the latter hospitality and simple accommodation at no cost. There are 60 thousand Couchsurfing.com hosts in Chile, spanning the country from the Atacama Desert to the Strait of Magellan. This paper is based on the site's participation rate in 15 Chilean provinces. Detailed biographical data for all hosts is available including age, gender, and occupation. Unsurprisingly, participation is highest in Santiago and Valparaíso, Chile's metro poles, but elsewhere it is relatively even with no evidence of contagious diffusion outward form the two biggest cities to Chile's most remote settings. My paper explores the contextual base of participation reflected in Couchsurfers' profiles, and examines the profiles of visitors in Chile's sharply contrasting destination.

The Impact of Gentrification: Community Resilience in Brooklyn and Rochester, NY

SHANNON CONNOLLY

FACULTY SPONSOR: JENNIFER ROGALSKY, GEOGRAPHY

Gentrification has recently taken center stage in discussions regarding the revitalization of cities. A major issue regarding the scholarship of, and debate over, gentrification, is simply its definition. Past literature contains varying definitions of the process; these definitions are often in conflict. This research intends to critically define gentrification, while examining both the positive and negative effects that the process has on neighborhoods and communities. In particular, past research on the subject has failed to examine the effects gentrification has on neighborhoods with a strong sense of community, and how existing communities can be preserved in the face of gentrification. Using the case studies of Brooklyn and Rochester, New York, this research searches for ways to combat the negative impacts of gentrification on strong communities through soft "caring" policies (Aalbers 2011), and bottom-up strategies as opposed to the top-down strategies that have been used in the past.

3L • GOLD 2 WELLES 26

SESSION CHAIR: THOMAS MATTHEWS, CENTER FOR COMMUNITY

A Week at the Give Kids The World Village

RACHEL MOORE

FACULTY SPONSOR: THOMAS MATTHEWS, GOLD

As a member of the GOLD program, I am working towards completing the Diamond certificate. In order to complete this certificate, I wrote a paper on my experience planning and participating in a service trip to the Give Kids The World Village. Give Kids The World is a nonprofit resort in Kissimmee, FL that provides weeklong vacations to families with a child suffering from a life-threatening illness. After learning about GKTW from fellow Geneseo students, I decided that I wanted to plan a trip there for my Diamond certificate project. Last May, myself along with five other members of the sorority I am a member of spent a week at the Village serving food, operating rides and assisting in weekly events and facilitated guest activities. Having the opportunity to volunteer at GKTW and work with so many wonderful people and families was extremely rewarding and I am excited to share my experience with other students of the GOLD program.

Diamond Paper Presentation

MELISSA CATALDO

FACULTY SPONSOR: THOMAS MATTHEWS, GOLD

A teacher's view on poverty. Come listen to first hand experiences of a student teacher dealing with students of poverty and the opportunities you can take part in that can make a world of difference.

Give Kids the World Alternative Spring Break Trip 2016

BRITTNEY RICHARDSON, ASHLEY BUTTICE, ANNA BIUSO, APAULA ISLAM, SALMATA KABA, RYAN KIRRANE, MARY PANZETTA, STEPHANIE RESILA, ALYSSA SIGNOR, ALICIA SKOWRONSKI, VICTORIA STARR, TRAVIS WHEELER, JIA WEN ZHU

FACULTY SPONSOR: DAVID PARFITT, MILNE LIBRARY

Give Kids the World is a nonprofit village located in Kissimmee, Florida where children with life-threatening illnesses and their families can stay for a weeklong, cost-free vacation. For the several years Dr. David Parfitt has taken a group of 12-13 Geneseo students down to the village to volunteer for a week. Students work one or two shifts a day and help with various activities including serving meals, entertainment, participating in the evening activities, and doing service projects around the village. They help with weekly Village events such as the Winter Wonderland and Halloween party, scoop ice cream, and run the carousel. In this presentation, students will discuss the history of the Village, what it means to volunteer there, and their personal experiences. An emphasis will be placed on how the Village has affected each student and what they have gained from the trip, as well as on how others can be involved and help the cause.

3M • EDUCATION WELLES 24

SESSION CHAIR: BRIAN MORGAN, EDUCATION

KKIS Year 10: Urban Adolescents' Navigation of School

KATE LOMAZZO, ALEX LIONETTI, CAMILLE ARTER

FACULTY SPONSOR: BRIAN MORGAN, EDUCATION

Adolescence is typically characterized as a tumultuous period of physical, social, and emotional change. For many students who live in and attend large urban school districts, the demands of adolescence and daily living are further complicated by neighborhood effects which include concerns about poverty, health, and violence (Berliner, 2009). Consequently, these adolescents are at a higher risk of dropping out of school. In New York, the legal dropout age of 16 falls directly at the end of the period of early adolescence. For this reason, it is imperative that teachers and administrators understand the special considerations for this developmental stage. We present some of the research findings that have informed early adolescent educators about various aspects of their development. Specifically, we review cognitive, social, and emotional factors which address the need to distinguish between the highly different populations of early and later adolescence. This will be followed by the presentation of data from our nine-year longitudinal study which highlights the unique characteristics of early adolescents who successfully navigate an urban school environment.

3N • LANGUAGES AND LITERATURES BAILEY 105

Linguistic Insights into Health and Healing

FACULTY SPONSORS: KYLE MATTHEWS, LANGUAGES AND LITERATURES AND JENNIFER GUZMÁN, ANTHROPOLOGY

SESSION CHAIR: JENNIFER GUZMÁN, ANTHROPOLOGY

Times of Trouble in Rural Chile: Children's Illnesses as Turning Points for Indigenous Families

MARY RUTIGLIANO

This project analyzes the way indigenous Mapuche parents in southern Chile talk about their children's illnesses. For the project I reviewed videorecordings of in-depth family-health interviews that were conducted in Spanish with Mapuche parents of school-age children in rural Chile. I identified the narratives that interviewees recounted about their children's past and present illnesses. Discourse analysis of these narratives revealed insights not only about parents' medical decisions but also about their values, spirituality, and relationships with family members. My presentation will show how these conversational narratives give an intimate portrait of family life at the crossroads of indigenous and western cultures and medicines.

When Doctors Talk About Research

YOSHUA KOHRS

Millions of Americans take dietary supplements on a daily basis. There is strong evidence from clinical trials showing that some supplements, including calcium, iron, and vitamin D, have positive health benefits. But there is much less research supporting the use of many other supplements. When doctors talk to patients about research on dietary supplements, what do they have to say? This project addresses this question by analyzing discussions between doctors and patients about research on dietary supplements. Using a combination of qualitative and computational coding, I searched for these kinds of discussions in a corpus of transcripts from recordings of 600 office visits. The health care providers included in the corpus are physicians, chiropractors, acupuncturists, and naturopathic doctors. To explore how these providers talk about dietary supplement research with their patients, I am using discourse analysis methods. In this presentation, I will report on the findings from this analysis, focusing on similarities and differences across types of providers and different categories of supplements.

Do Legal Regulations Shape What Your Doctor Will Tell You?

MADELYN SAYED

The FDA regulates dietary supplements in the same way they do foods, rather than regulating them like medications. Because supplements are not screened for effectiveness prior to being put on the market, advertisements and labels cannot claim that supplements prevent or treat disease. This study investigates how much these restrictions on advertising and labeling language are reflected in face-to-face talk between healthcare providers and patients when they discuss supplement benefits. To explore this issue, I searched for provider-patient discussions about supplement benefits in the Communication About Dietary Supplements (CADS) corpus, a database of transcripts from 600 medical office visits. The corpus includes CAM providers (i.e. acupuncturists, chiropractors, and naturopaths) and primary care and integrative medicine physicians. Using qualitative discourse analysis, I am analyzing the identified discussions in relation to three specific questions: What are the salient patterns in health care provider talk about supplement utility and efficacy? Do these patterns vary across types of practitioners? How much do patterns of talk about supplement benefits align with supplement marketing and labeling language? My presentation will elaborate on the answers to these questions and will contextualize the findings in light of the differing philosophies of CAM and conventional medical paradigms.

3O • ENGLISH WELLES 119

Marxist Milton - Is Poetry Credible Work?

FACULTY SPONSOR: JULIA WALKER, ENGLISH

SESSION CHAIR: **TYLER HERMAN**

[In]credible Talent or Incredible Greed?

LAUREN FIBICH, EMMA MEDINA

This will be a brief debate: Is Milton's obsession with fame -- however ambiguously constructed -- a spur to greatness or his downfall?

Vegan-Environmentalist-Marxist Milton

MATTHEW VIGLUCCI

The subject of food and the subject of work collide in clash in Milton's poetry -- with an underpinning of Bernie Sanders.

Milton's Superlative Subtle Form

SARA MUNJACK

While generations of critics declared "Lycidas" to be without formal rhyme scheme, the poem does in fact have an intricate rhyme. Does the fact that no one noticed this until 1969 mean that the poet's subtle work generates a failed reading?

Tomorrow to Fresh Woods, and Pastures New: Milton and the Problem of Human Fallibility

MAURA CUPICHA

Pulling from Marx and Milton, the author raises the question of failure in the context of credible work.

3P • MATHEMATICS NEWTON 201

Modeling in Mathematics

FACULTY SPONSOR AND SESSION CHAIR: PATRICK RAULT, MATHEMATICS

The S-Shaped Curve of Tumor Growth

SARA GRAHAM, SEE LONG WONG

Did you know that mathematical models can be applied to determine the prognosis for cancerous tumors? There are various forms of S-shaped curves, known as sigmoidal curves, that simulate the proliferation of tumor cells. In this talk, we will cover the mathematics behind Anna Laird's model for tumor growth that was created in 1964. Her model was the first successful model created to explore the dynamics of tumor size, and her findings are still applicable today. Suggested co-requisite: some calculus.

Promotes sustainability

Re-Growing a Rainforest: Using an SIR Model to Restore Lost Forests

JASON PHILLIPS

Deforestation has become a serious threat to biodiversity and the survival of wildlife in Madagascar's tropical rainforests. The deforestation rate has only continued to rise over the last several decades. The big question is "how long will it take to reforest?" In epidemiology, the spread of disease through a population can be modeled by classifying proportions of the population as Susceptible, Infected, or Recovered; this is known as the SIR model. In this talk, we will take a new look at the SIR model and apply it to the deforestation and reforestation of Madagascar forests. We will study how deforestation and reforestation spread throughout our population and determine what reforestation rate will be great enough to combat the current deforestation rate.

Snow Dynamics in Disney's *Frozen*

KHLOE SIGLER, CHRISTOPHER JONES

Animators need to expl[redacted] principles of physics in gre[redacted] their world believable and realistic. This task can prove difficult when observing snow, which exists in a physical state between ice and water while sharing properties with fluids and solids. We will explore these unique dynamics of snow through computer simulation, looking at various processes applied to the animations used in Disney's film, *Frozen*. We will use the Eulerian/Lagrangian Material Point Method and an Elasto-Plastic simulation to illustrate these properties of snow. Suggested Corequisites: Math 239 (Intro. to Proofs) and 326 (Differential Equations).

WITHDRAWN

Determining Success with Google Analytics

DAYNA MERCER, LORELEI MORROW

In this talk, the overarching idea of Google Analytics will be discussed. In order for a company to drive up "traffic," website metrics must be understood and utilized. It is possible for a company to optimize its website by using different resources, maximizing viewership, and increasing its ranking on Google. One way to minimize costs and maximize profit is through the understanding of the mathematics behind a website's performance. Google Analytics uses an algorithm called PageRank to measure the value of a webpage. Linking Google Analytics to a business is necessary to be successful in today's digital world. We will provide a basic introduction to the deep mathematics of Google's PageRank. Co-requisites: Math 233 (Linear Algebra I)

3Q • HISTORY STURGES 114

Modern Chinese Foreign Policy

FACULTY SPONSOR: TZE-KI HON, HISTORY
SESSION CHAIR: **MOLLY DOWD**

The Changing Relationship Between China and North Korea

MOLLY DOWD

The People's Republic of China has had a close relationship with the Democratic People's Republic of Korea, more commonly known as North Korea, since its formation. However over time the relationship between the two has slowly changed. China has gone from helping North Korea during the Korean War, to openly supporting harsh sanctions against North Korea from the United Nations. I intend to examine the changes in the relationship between these two countries.

The PRC and Vietnam During the Vietnam War

JOSHUA SLATER

Our group is going to be covering the foreign policy of the People's Republic of China in relation to variety of countries. I am going to be focusing specifically on how the PRC interacted with Vietnam in the years surrounding and during Vietnam's war with the United States. I will also cover how the relationship between the PRC and Vietnam affected that of the PRC and the U.S.

Contemporary Chinese and South Korean Relations

MICHAEL KENNY

For this panel I shall be focusing on South Korea's relationship with the People's Republic of China following Park Chung Hee's ascension to the presidency.

China's Impact on East Africa

PRINCE OPOKU

I would be focusing on the relationship China has built over the years on the continent of Africa especially in East Africa and the impact its presences is having on the continent.

3R • ENGLISH WELLES 121

NeuWrite/edu: Science Writing at Geneseo

FACULTY SPONSORS: LYTTON SMITH, ENGLISH AND OLYMPIA NICODEMI, MATHEMATICS
SESSION CHAIR: LYTTON SMITH, ENGLISH

Communicating Science Research to a Wider Audience

MEGHAN BARRETT, CHLOE FORSELL, KENDALL FITZGERALD, DOUGLAS KNOWLES, EVAN GOLDSTEIN, LAUREN SARRANTONIO, MICHELLE GULFO, ALEXANDRA DANANBERG, STEPHANIE ALLEN, ELIZABETH PELLEGRINO, ADAM SCHNEIDER

NeuWrite/edu is an interdisciplinary, year-long collaboration between writers and scientists that seeks out ways to communicate cutting edge undergraduate scientific inquiry and discovery through engaging, informed essays and other written projects. SUNY Geneseo this year launched the first undergraduate chapter of the nationally-recognized NeuWrite organization which has placed science writing in venues such as *Wired*, *The Atlantic*, and the *New York Times* Magazine. In this presentation, students will present science research and creative writing that responds to that research, and discuss the opportunities and challenges of collaborating on science writing.

3S • PHYSICS & ASTRONOMY 2 ISC 131

SESSION CHAIR: CHARLIE FREEMAN, PHYSICS & ASTRONOMY

Radiochromic Film Sensitivity Calibrations Using Ion Beams from a Pelletron Accelerator

JESSICA STEIDLE, RYAN WARD

FACULTY SPONSOR: CHARLES FREEMAN, PHYSICS & ASTRONOMY

Radiochromic film (RCF) is a transparent detector film that permanently changes color following exposure to ionizing radiation. This reaction depends on the composition of the film and the source of the radiation. RCF is used frequently in medical applications, but is also used in a variety of diagnostics in high energy density physics. It is convenient to use because it requires no chemical processing and can be scanned using commercially available document scanners. In this study, the sensitivity of several types of RCF to ions of different energies was measured. Ion beams produced by the SUNY Geneseo particle accelerator were directed into a target chamber where they scattered off of a gold foil. A sample of RCF was exposed to the scattered ions and the energy of the incident particles was measured. From this and the composition of the film, the total energy absorbed per unit mass (absorbed dose) was calculated, as was the optical density from the red color value of the film. Results of these calibrations, and comparisons with calibration curves obtained using x-rays, will be presented. This work was funded in part by a grant from the DOE through the Laboratory for Laser Energetics.

Ion Beam Analysis of Proton Induced Gamma-ray Emission in Air

TIMOTHY FILKINS

FACULTY SPONSOR: CHARLIE FREEMAN, PHYSICS & ASTRONOMY

Perfluorinated compounds (PFCs) are a broad range of chemical compounds that were commonly used in consumer products in the US for their fire retardant and non-stick properties. Recent studies have shown PFCs to have a long lasting environmental impact due to their high bioconcentration factor (BFC) and toxicity to humans. In recent years, US manufacturers have made an effort to stop utilizing PFCs in their products, but sometimes their raw materials are treated before manufacturing. Materials can be tested for these PFCs chemically, but these techniques are costly and time-consuming to run. An alternate technique is being developed using ion beam analysis. In this technique, a proton beam from a particle accelerator is incident on the sample to be studied. The protons initiate nuclear reactions in the sample and high energy gamma rays are emitted. This is called Proton Induced Gamma ray Emission (PIGE). The resulting gamma ray spectrum is then analyzed. If fluorine is present, characteristic peaks will be present at 110 keV, 197 keV, and 6.1 MeV. Footnote: This technique was pioneered by Dr. Graham Peaslee at Hope College.

3T • HISTORY STURGES 112

Race, Memory, and Consumerism: Global Explorations of the "Long" 1960s

FACULTY SPONSOR AND SESSION CHAIR: TODD GOEHLE, HISTORY

La Consommation Et La Colonisation: The Image of the Market Researcher in/as 1950s/1960s France

JANNA NUNZIATO

There is a very unique, yet thin, thread concerning the rise of market research running throughout cultural sources and the work of prominent figures in 1950s/1960s France. In an attempt to strengthen this thread, this paper examines this notable rise in discussion about market research that permeated literature, film, and advertising within the period, and construct the image of the market researcher both in, and as, 1950s/1960s France. In capturing the cultural imagination, the market researcher—as I contend in my paper—emerged as a discursive site or body that touched upon critical issues of space, vision, power, race, and domesticity, especially as France transitioned from Empire and into a consumer-based, late capitalist society. In this respect, the market researcher was an extension of both the post-Imperial French state and of corporate capitalism, and served to effectually facilitate the process of internal colonization; an idea discussed by Kris-tin Ross. Thus, my work explores the manifestation of the market researcher in space: the physical body and the body "in the field" speaking with "targets," while placing an importance on research methodology and its developments as well.

The Gun is a Tool of Liberation: Decolonization, Fanon, and the Black Panther Party

BENAJMIN BURDETT

While the writings of Frantz Fanon have been recently revived in certain areas of the academy, the importance of his work for American black radicals in the 1960s remains remarkably understudied. According to historian Nikhil Pal Singh, "Works about the 1960s that actually mention Fanon often do so in passing, implying that his influence did not extend beyond supplying aphorisms for would-be revolutionaries." However, in truth, many black radicals—including Huey P. Newton, founder of the Black Panther Party—not only heralded Fanon as a hero of the Third World and black communities in the United States but also sought to actively translate his theories into a concrete blueprint for revolution in the 1960s and 1970s. This paper attempts to illustrate how the Black Panther Party came to adopt a revolutionary praxis based on the processes of decolonization outlined and theorized by Fanon. Focusing on issues of urban space, the body, and violence, this paper helps explain why Fanon was appealing for the Black Panthers, and how they sought to turn his theoretical ideas of fighting racism and colonialism into a full-scale revolution from inside America's ghettos.

Gendered Fantoms: Bodies, Fascist Memory, and West Germany's Left - Wing, Urban Guerilla Phenomenon

SARAH ESPOSITO

On May 9, 1976, Ulrike Meinhof, the co-founder of the urban guerrilla outfit the Red Army Faction, was found dead in her Stammheim prison cell, sparking renewed debates about her left-wing militancy. What were her motivations? Had she been insane? Had surgery in her mid-twenties to remove a benign tumor caused brain damage and caused her to become violent? Throughout the West German media and the broader public of the time, commentators speculated as to what had led a prominent media figure to regress into an infamous terrorist. In an unsurprising turn, the focus on Meihnof's mental state overlooked the ways in which Germany's haunting fascist past influenced the actions of Meinhof and her fellow RAF members. Indeed, this presentation takes serious the influence of memory on the motives and strikes of the RAF. As children of the "Auschwitz Generation," Meinhof and others viewed the expansion of the state and the both physical and discursive violence perpetrated against the social activists of the late 1960s as evidence of Germany's failure to overcome its fascist past.

3U • POLITICAL SCIENCE & INTERNATIONAL RELATIONS

WELLES 115

Research in American Politics and Political Theory

FACULTY SPONSOR AND SESSION CHAIR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

Public Opinion Toward Immigrants and Immigration Policy

JILLIAN FRIEDMAN

This presentation will discuss what affects American public opinion on immigration, specifically with a large focus on American's' views towards immigrants from Latin America. Hispanic immigrants have been playing an increasingly large role in today's society and because of this the topic has become salient in American politics and has led to heated debates throughout the public. In efforts to explain what causes such strong opposition for some Americans, I explore past research on various social science theories concerning public opinion. More specifically, many of the theories I look at discuss prejudice and ethnocentrism, relationships between dominant and minority groups, and perceived threats to the American culture and identity. Additionally, the research also looks at factors such as proximity to large populations of immigrant groups, the nationality of the immigrant groups themselves and influences from national rhetoric and the mass media. By combining past research with some of my own, I will determine how big of a role these factors play and determine the applicability of the various theories to American public opinion on immigration.

DNA Exoneration and the Death Penalty in America

KRISTEN DRUSE

This research explores how the introduction of DNA exoneration has shaped media attention and public opinion surrounding the death penalty debate. I first explore the history of DNA exoneration as well as the death penalty in the American criminal justice system. Next, I look at the particular influence of media framing, or focusing attention oncertain events and then placing them within a field of meaning, as a method of shaping public opinion. I further explore the nuances of framing, and which types of media frames are most effective at influencing public opinion surrounding these particular debates. Finally, I explore the influence of such frames within a larger cultural context, and explore the relationship of the death penalty with other issues such as crime rates and race.

The Noble Lie of All Republics: Leo Strauss' Political Realism

HARRISON HARTSOUGH

Leo Strauss, as he examines Niccolo Machiavelli, finds a new kind of political realism steeped in the shift from ancient to modern that Machiavelli embodies: a shift from "what ought to be" to "what is." By exploring the founding of states, specifically, Plato's ostensibly ideal republic imagined in light of Machiavelli's new brand of political thought, we can see that even early philosophers considered the distinction between normative and descriptive. For Plato this means that there are certain ignoble components in his conception of the republic, regardless of whether we determine if the Republic was a Platonic joke, an impossible dream. The Noble Lie comes to mind. I argue that Strauss understood that certain moral supports are necessary to society, even if they exist intension with our modern notion of secularism. Thus even on the practical level, the level of "what is," we must acknowledge such moral supports by giving them credence, regardless of whether they are objectively true. The alternative, as Strauss put it, is that value-free social science will move not toward well-being but towards nihilistic tyranny, or rule of the strong over the weak.

3V • THEATRE/DANCE

BRODIE ALICE AUSTIN

Staged Reading Performance

FACULTY SPONSOR AND SESSION CHAIR: RANDY KAPLAN, THEATRE/DANCE

The Women of Lockerbie

BENJAMIN RANALLI

As part of the Second Season Staged Reading Directing Series through the department of Theatre and Dance, junior Benjamin Ranalli will be presenting a staged reading of Deborah Brevoort's *The Women of Lockerbie*. Set in Lockerbie, Scotland seven years after the bombing of Pan AM flight 103, this one act play is modeled after a greek

tragedy which discusses with how we deal with love, loss, faith, and immeasurable grief. The play stars students Brianna Allison, Allison Altschiller, Lisa Cento, Maria Cento, Casey Churches, Danielle Comerford, William Gfeller, and Amber Ho. Following the reading there will be a talk back with the actors and director to discuss the themes of the play as well as the process of putting together the reading.

3W • SOCIOLOGY WELLES 123

Women's and Gender Studies Capstone Presentations

FACULTY SPONSORS: JOANNA KIRK, SOCIOLOGY AND JENNY KATZ, PSYCHOLOGY
SESSION CHAIR: MELANIE BLOOD, WOMEN

SUNY Geneseo and Sexual Assault: Where Do We Stand?

MARY CICERO

A comprehensive look at state and campus policies regarding sexual assault through the eyes of a survivor. Where are SUNY Geneseo policies succeeding? And what areas are most in need of improvement?

A Finance System Uniting Women of the Caribbean: Susu

NICOLA MOHAN

Women from various social classes are located throughout the Caribbean. Linking these Caribbean women can be done through a financial system called, Susu. Caribbean women from poor communities have been found to self-sustain themselves and engage in informal politics and banking. These banking traditions have been brought from the Caribbean to the United States and this practice has helped the growth of Caribbean communities here. Through the lens of intersectionality the strength of these women can be shown with self-empowerment.

Housing Segregation and Why Black Lives Matter

MICHELLE MATHEW

The United States has had a long history of racist housing policies that has yet to be dealt with. These housing policies allow for spatial segregation and the creation of minority neighborhoods where poverty is heavily concentrated. Creation of these segregated communities is also accompanied by the suburbanization of jobs and a lack of adequate education leaving the members of the community with limited opportunities. These issues have been largely ignored due to our colorblind society where the general consensus believes that an individual's merit determines their destiny and that race is no longer an obstacle when attaining success. However, the reality is that where you live heavily influences your quality of life as it determines important factors such as exposure to environmental pollution, access to public transportation, job opportunity, schooling and interactions with law enforcement. These issues are relevant today as we see what is happening in cities where poverty is concentrated and the majority of the population is African American such as in Flint, Baltimore and Ferguson. The core issue is the disregard of black lives, unless this is realized and seriously addressed this country will remain to be segregated.

3X • ACCESS OPORTUNITY PROGRAM WELLES 134

FACULTY SPONSOR AND SESSION CHAIR: DEIDRE DEBOSE, ACCESS OPORTUNITY PROGRAM

How Expensive Is It to be a Woman in the United States? Cost Differences for Gender-Related Products and Services

SAMIKSHYA THAPALIA, HANNAH GRIFFIN, ASHLEY ELLIOT, COLLEEN CUMMINGS

Women are expected to mold into socially constructed ideals of beauty and behavior. To meet these standards, women in the US spend more money and exert more energy than men due to the differences in costs of products and services. Using quantitative and qualitative data, we explore cost differences between products and services for men and women. Our presentation will highlight the influence that socially constructed ideas of what it means to be a woman force women to buy and spend more than men.

CONCURRENT PRESENTATIONS 4 • 3:50 - 5:05PM

4A • ANTHROPOLOGY OF CONTEMPORARY SOCIAL ISSUES BAILEY 104

FACULTY SPONSOR AND SESSION CHAIR: MELANIE MEDEIROS, ANTHROPOLOGY

Coexistence or Exploitation?: The Socioeconomic Impact of Ecotourism in Brazil's Chapada Diamantina

TIFFANY HENRIKSEN

In addition to the primary conservation goals of ecotourism, scholars argue that the local community should benefit financially and that there should be minimal social, behavioral, and psychological impacts on local peoples (TIES 2015). However, research from Bahia, Brazil suggests that ecotourism in this region is a cause of socioeconomic inequity between locally-born community members and cosmopolitan business owners from Brazil's major cities (Medeiros 2014). The objective of this study is to explore the perspectives of business owners and local community members in Brogodó, Bahia, Brazil. In this paper, I will present ethnographic data on ecotourism in the remote Chapada Diamantina region of Northeast Brazil in the town of Brogodó—a rural Afro-Brazilian community and a gateway town to a national park and tourist destination—where 47% of this town's population live below the poverty line (IBGE 2003). My primary research questions focus on the obstacles to equitable distribution of the socioeconomic benefits of ecotourism and the social responsibility of key stakeholders in the ecotourism industry. I will provide an emic perspective on the reasons that ecotourism prospers while poverty among locally-born community members remains a constant. I will discuss potential ways to alleviate socioeconomic inequity in this region through educational opportunities.

Who am I? A Reflection of Geneseo Students

REBECCA AMUSO

This presentation is a study of how students at Suny Geneseo perceive their identity and the factors that contribute to it.

4B • BIOLOGY & MATHEMATICS 2 NEWTON 203

FACULTY SPONSOR AND SESSION CHAIR: GREGG HARTVIGSEN, BIOLOGY
FACULTY SPONSOR: CHRISTOPHER LEARY, MATHEMATICS

Modeling Secondary Succession in Lowland Michigan

SARAH BOOKER, RYAN COLLING, HEATHER BARCOMB, KATHARINE MARTINSON

When a plot of disturbed land is allowed to recover, species composition will change. The series of changes that occur after disturbance is known as secondary succession. We modeled the long term average basal area for four major tree species (*Thuja occidentalis*, *Picea mariana*, *Abies balsamea*, and *Fraxinus nigra*) in a former logging and burning site in northern Michigan. Data regarding these trees were collected over the span of 43 years (1938-1981). We modeled forest succession using a Markov transition matrix. Our model suggests that the long term relative basal areas are found to be 46.49% *Thuja occidentalis*, 41.60% *Picea mariana*, 11.91% *Abies balsamea*, and 0.0% *Fraxinus nigra*. In addition, a stochastic model was developed to examine the effect of environmental factors on the long term relative basal areas.

Simulating the Immune System Response to Various Pathogens with the Presence of HIV

Promotes sustainability

KIMBERLY GIACALONE, NOAH HORAN, ADAM SCHNEIDER, JULIA WHITTLE

The immune system is simulated using a system of ordinary difference equations, looking at T cell regulation during an HIV infection. In the model, the immune system initially responds by activating T cells, and the virus quickly infects and kills the activated T cells, and the virus's numbers increase. However, once the virus's means of reproduction (infecting the T cells) is destroyed, the virus population decreases. This marks the onset of AIDS. By this stage in the infection, however, the immune system has been compromised, and the body is susceptible to other forms of infection. The preliminary results suggest that there is a non-trivial equilibrium when HIV is the sole invading pathogen in the differential equation model. A secondary infection is introduced at different time steps of this model with different amounts of T cells present to see how the immune system responds to a pathogen while being directly attacked by HIV. The later the pathogen is introduced into the immune system, the less efficiently the immune system can use active T cells to respond to the pathogen.

Modeling the Effect of the Drug Bexarotene on Alzheimer's Disease Patients

WILLIAM JEFFERSON ALVAREZ, SEUNG MIN CHUNG, PAIGE PENDLETON, JULIA WITKOWSKI

In 2015 it was reported that approximately 5.3 million Americans suffered from Alzheimer's disease. As of now there is no cure, and as life expectancy increases, the number of affected people is expected to increase. Alzheimer's disease is caused by the aggregation of amyloid-beta fibrils, which eventually form plaques in the brain, that are produced by the cleavage of amyloid precursor protein. A main goal in the prevention of Alzheimer's disease is to inhibit the assembly of these amyloid-beta plaques. Work by Habchi et. al. (2016) suggests that the anti-cancer drug bexarotene inhibits the primary nucleation step of plaque assembly. We created a differential equation model and a lattice model that simulate the effect of amyloid-beta protein monomers on fibril growth rate. Introduction of bexarotene at increasing concentrations into the model demonstrates decreased fibril growth rate compared to no treatment with the drug. This result is consistent with the work by Habchi et. al.

4C • HISTORY STURGES 112

Defining the Panopticon: Three Perspectives

FACULTY SPONSOR AND SESSION CHAIR: TODD GOEHLE, HISTORY

Anonymity, Yik Yak, and Breaking the Panopticon

MARIA GERSHUNI

Though applications like Yik Yak, which facilitate anonymous communication and discussion, have drawn criticism for their lack of accountability, they are vital to the disseminationof honest information. Social media has been criticized for facilitating an online version of Foucault's Panopticon, where users constantly watch and police each other. But anonymous discourse essentially blindfolds the users, allowing for a free exchange of information without the worry of repercussion. Furthermore, traditional social media platforms focus on who the user is, as evidence by the selfie phenomenon, and not on what they are contributing. Anonymous discussion puts all emphasis on the value of the words and ideas being discussed and not on who is discussing them. By examining my own social media participation, I am far more honest and direct when posting anonymously, where I do not have to self-censor my comments and post.

Remix: The Folk Art of the 21st Century

THOMAS O'HARA

David Cronenberg's Videodrome has often been described as a technological prophecy - predicting many key aspects of the internet age, not least of which is the growing integration of our mechanical devices and our bodies and minds. But being a product of the pre-internet age, the film fails to predict the way in which individuals and mass media are engaged in a dialogue. It fails to anticipate the remix culture—wherein popular media is dissected, analyzed, critiqued, and recombined, resulting in a two way dialogue between a community of enthusiasts and the media it grows up around. Examples of this remix culture include fanfiction, fan art, videogame Let's Play, written analysis, and other forms of fan-produced media. This presentation will highlight some examples of remixed media and the ways in which they are rejections of a unidirectional flow of cultural production.

Tatianna Flores Has Accepted Your Friend Request: A Personal Analysis of Identity Construction through Social Media

TATIANNA FLORES

Inspired by the notions set forth by David Cronenberg's prescient film *Videodrome*, this paper seeks to examine a modern day consuming relationship with social media. As I use social media in my daily life, I develop an online projection of my self. However, the authenticity of this online self is compromised by the panoptic nature of the social media environment. While I construct the online extension of my self, I validate my identity in a constant reflection between my online interactions and my "offline" self. Yet, the more reliant I become on my online profiles for validation of who I am, the less I can distinguish between the online projection and the offline reality. With each passing day, wrapped in the social fabric of social networks like Facebook, and Instagram, the more I become the online version of my self. Much like Max Renn, the anti-hero of *Videodrome*, I am physically becoming the media I consume.

4D • ENGLISH 2 WELLES 123

SESSION CHAIR: SUZANNA RUBRIGHT, SPONSORED RESEARCH

The Genesee Valley Peace Poetry Contest: Youth Empowerment Through Public Poetry

KIAYA ROSE DILSNER-LOPEZ

FACULTY SPONSOR: LYTTON SMITH, ENGLISH

The Genesee Valley Peace Poetry Contest creates a space for the voices of youth within our community. Every year, students from kindergarten to eighth grade are invited to reflect on peace through writing poems. As the world around them changes, the subject matter of their poetry evolves. Submissions range from the beauty of the valley and its melting winters, to the struggles of war, foster-care, police violence, mental health, and many other topics that affect the youth of Genesee Valley schools. Peace Poetry recognizes the social stakes of incorporating public poetry into rural communities, using poetry to empower youth while creating links among Geneseo faculty, students, area teachers, volunteers, and families. The presentation will explore the logistics of building this multi-generational engagement, as well as the importance of supporting youth empowerment by creating opportunities for personal expression.

The Meta-Archipelago: History and the Caribbean

AMELIA ABDELLATIF

FACULTY SPONSOR: MARIA LIMA, ENGLISH

The Caribbean occupies a unique space in literary tradition. It is often characterized as deeply rooted history with the sea, or some other esoteric force that is incomprehensible to all who are not natives of the archipelago. In attempting to contextualize the complexities of Caribbean literature, readers often fall into a syncretism of misunderstanding. For all its geophysical similarities, the Caribbean is a dynamic cluster of islands that encompasses an array of cultures, languages, and traditions. In the wake of the fight for independence and autonomy from colonizing forces, the Caribbean saw the short story emerge as a platform for resonance and reflection, with each country's history deeply embedded between the lines. By analyzing short stories from different linguistic and national traditions, we uncover the language of resistance that permeates Caribbean literature as it attempts to reclaim the hegemonic discourse of its history. We can espouse our goal to better understand a different side of Caribbean history by shedding light on previously silenced voices; with close attention being paid to the historical context of the stories. With authors hailing from all reaches of Caribbean, we can use their works to destabilize the Western obsession of denoting a Caribbean "center."

4E • POLITICAL SCIENCE & INTERNATIONAL RELATIONS MILNE 105

Enjoy Courtroom Drama at the Mock Trial of the Year

FACULTY SPONSOR AND SESSION CHAIR: JOANNA KIRK, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

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Geneseo Mock Trial Presents State v. Bancroft

MAXWELL GARNAAT, SARAH ESPOSITO, DARRELL GETMAN, MICHAELA OMECINSKY, ANTHONY SERIANNI, ERIN LIEBERMAN, HARRISON NEIDISH, MEREDITH CONDREN, PATRICK KANZLER, RACHEL WILCOVE, RACHEL DAVIS, NELLIE BLACK

In a stunning turn of events, the state's most successful casino owner, Avery Bancroft, was caught attempting to bribe a local gambling commissioner, in order to secure a second profitable avenue for his business. Just earlier this year, Bancroft stuffed a briefcase with $250,000 dollars worth of cash and secretly passed it over to his favored official at one of his own blackjack tables—a shocking crime. However, Bancroft contends that it was not truly his fault. Rather, the defense claims that Bancroft was, in fact, forced into committing this crime by none other than an undercover police officer named Mickey Keenan. For an officer of the law to coerce a citizen into crime is an offense of the highest order, and now it is YOU who must decide who walks free! You will hear the testimony of bellhops, FBI agents, beat cops, dealers, and experts galore, as well as the skilled legal counsel of both sides, and then come to a final conclusion: is Avery Bancroft guilty after all? A presentation given by the Geneseo Mock Trial Team, a nationally-recognized group dedicated to the pursuit of legal excellence.

4F • HISTORY STURGES 109

Environmental Problems and Policy in China

FACULTY SPONSOR: TZE-KI HON, HISTORY
SESSION CHAIR: **TIMOTHY BURGER**

Environmental Policy in China

ARNE BUSSLER

This portion will be on the domestic and international policy and laws regarding the environment in China. China is moving quickly but not fast enough in this area and there are many topics that fall within this area. International politics play a major role in how climate issues are addressed and how China works with other powers to address common issues.

Air Pollution and Issues

SARAH ALFONSO

Describing one of the many issues of industrialization and factorization in China. Describes how air pollution is created and affects the country. Also introduces policies and issues involving the high pollution situation.

Deforestation in China

TIMOTHY BURGER

This section of the environmental presentation will focus on the deforestation effects in China.

Renewable Energy in China

CHRISANN CAMPBELL

This presentation will focus on the ways that China has implemented a variety of renewable energy policies like producing the largest amount of wind power .

4G • THEATRE/DANCE

BRODIE 152 DANCE STUDIO

From the Page to the Stage

FACULTY SPONSOR AND SESSION CHAIR: MARK BROOMFIELD, THEATRE/DANCE

From the Page to the Stage

JENNY SOUDACHANH , SKYLER SUSNICK, ELIZABETH BOATENG, SEUNG KIMQ, NANA BOAKYE

First Flame, the new work created by the Spoken Word Guest Artist Mariposa Fernández celebrates new horizons, new directions and new explorations with the interdisciplinary collaboration between the Department of Theatre and Dance and Real World Geneseo—a first venture of its kind for both. This collaboration reveals what is possible at the intersection of spoken word poetry, performance art and social justice. In this presentation, "From the Page to the Stage," the cast of First Flame will share their experiences of the creative process and perform selected vignettes. The presentation will examine the making of the script, written by the cast members, and will explore their performances for the Geneseo Dance Ensemble's 48 Live: New Vistas spring concert. Real World Geneseo--in its 7th year—is the College's first "extreme learning" course, representing a high-impact learning experience. The first of its four components is a three-and-a-half day immersive retreat in Rochester. The students study how socially-influenced categories of difference (such as race, ethnicity, class, religious belief, gender identity, sexual orientation, age and physical/mental ability) are related to power and privilege.

4H • GEOGRAPHY BAILEY 103

Geographical Perspectives on Social Issues

SESSION CHAIR: DARRELL NORRIS, GEOGRAPHY

Anti-Chinese Prejudice in Australia Circa 1900: Content Analysis of Newspaper Articles

JIMMY FENG

FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

This paper examines the history of anti-Chinese prejudice in Australia between the mid-nineteenth century and the early-twentieth century through analysis of news items. Trove, an online database aggregator created by the National Library of Australia, allows for a comprehensive survey of slurs and negative stereotypes characteristic of white Australia's image of the Chinese, their world, and their perceived shortcomings. In particular, jargon, slang and their context reveal the shifting scale, chronology and place-specific dimensions of prejudice between 1850 and 1919. References to fines imposed, gambling, and opium addiction were especially common, as was the label "savagery." Australia's five principal cities were quite similar in their overall incidence of negative references, whereas small towns were even more prejudiced. Anti-Chinese sentiment in print peaked between 1860 and 1889 and had substantially diminished by the second decade of the twentieth century. An element of Australia's rich and complicated history, a revealed narrative of bias against the Chinese surfaces that sheds light on the struggles and circumstances of a mostly impoverished and uneducated minority population looking to establish itself in a land of opportunity.

Obstruction to Obstetrics

MACKENZIE HINTZE

FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

The purpose of this presentation is to examine and attempt to understand why obstetric access in Africa is lacking. The effect of the lack of obstetricians can be felt all over Africa, but varies in impact from region to region. Maternal mortality in Africa as a whole is significantly higher than in the rest of the world. The study will examine the decrease or increase in maternal mortality rate and will try to understand what exactly is causing so many pregnant women to die throughout Africa.

Population Density and Discrimination of Romani People throughout Europe

MILES GOLDBERG

FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

Europe has been a center of disagreement and controversy for centuries. With so many different countries and cultures living in such close proximity, populations fluctuate continuously. The Romani culture is an example of how a population can fluctuate, but still be maintained. Often targets for other groups, they are still able to maintain their cultural identity, despite being so close to prejudice from the peoples and governments around them.

4I • GOLD 3 WELLES 26

SESSION CHAIR: THOMAS MATTHEWS, CENTER FOR COMMUNITY

Voter Registration and Engagement

KATELYN TZAVELIS TZAVELIS, SARAH JANE PHILLIPS

FACULTY SPONSOR: THOMAS MATTHEWS, CENTER FOR COMMUNITY

As part of my Diamond Certificate I decided to get more involved with voter registration and engagement. Voting is by no means the only indicator of civic engagement, but it is essential. There are concerns about a lack of political engagement among young people and in a study by Tufts University, we learned that Geneseo students were registered in high numbers but less than 50% of those registered actually voted in the last presidential election. Creating a task force here at SUNY Geneseo aids us in advancing student involvement in registering and voting in the elections. In collaboration with students, faculty and community members the Task Force for Voter Registration and Engagement focuses on community outreach and events that will give students the education they need to register to vote and vote in the elections.

Pi Kappa Phi and the Arc of Livingston

JORDAN GRIFFEN

FACULTY SPONSOR: THOMAS MATTHEWS, GOLD

As members of Pi Kappa Phi, we are called to create a community, one relationship at a time, where the abilities of all people are recognized and valued. We use shared experiences to support people with disabilities and promote servant leadership. It is important to us to see the person before seeing their disability -- to seek to understand a person's strengths and challenges, but not to feel sorry for them. We encourage service to others for the betterment of our communities. As a new fraternity on campus, we are forming and developing new relationships to help improve the community. One relationship that we have formed is with the Arc of Livingston, an organization that empowers people of all ages to experience the joys and challenges of life with a growing sense of personal dignity and independence.

Diamond Reflection on the Literacy Volunteers of Rochester

MEGHAN BARRETT

FACULTY SPONSOR: THOMAS MATTHEWS, GOLD

DAVID PARFITT GOLD

The Literacy Volunteers of Rochester (LVR) are a critical part of the Rochester community; their work increases adult literacy rates (digital, reading, and math) which stresses the importance of education in a literacy-starved center city community. LVR strives to dismantle the system of privilege that is so striking in Rochester, where geographic racial segregation is rampant and kids in the inner city are subject to a lack of resources, poor management, and more leading to astoundingly low graduation rates. LVR looks to the adults in the community to be leaders in revolutionizing the way the community sees education—as a pathway to better jobs and lifelong success. For several years, Meghan Barrett has worked with LVR to raise much-needed funds to continue their good work and increase Rochester-area literacy; this presentation is a discussion of the work done as part of the GOLD Diamond Certificate.

Livingston County CARES

DANIEL MARTIN

FACULTY SPONSOR: THOMAS MATTHEWS, CENTER FOR COMMUNITY

This Presentation will dive into the rich history of Livingston County CARES. It will touch upon the 35 trips to Biloxi along with the many other trips and projects that the non-profit has created or become a part of. It will take a look at first hand experiences from a student who has been on many of the trips himself, as well as dive into more statistical analysis of the trips to Biloxi, including how many students, faculty, staff, and community members have gone on the trips as well as how many people these trips have helped, financially and personally.

4J • BUSINESS DOTY TOWER ROOM

Idea2Venture: Entrepreneurship Students' Investor Presentations

FACULTY SPONSOR AND SESSION CHAIR: JUDY ALBERS, BUSINESS

Students in Geneseo's VentureWorks entrepreneurship program will be competing this year in the seventh annual New York Business Plan Competition (NYBPC). The competition begins with regional semi-final rounds in each of New York's 10 Regional Economic Development Council zones – Capital Region, Central New York, North Country, Mohawk Valley, Finger Lakes, Western New York, Southern Tier, Mid-Hudson, NYC, and Long Island. These regional competitions are generally held in early April. The top teams from each of the 10 regions will then advance to the final round of the statewide competition, where they will go head-to-head for monetary prizes in Albany on April 29, 2016. Geneseo is in the Finger Lakes region and our student teams will be competing in the semi-final rounds on April 13th. The teams competing are:

Umbellata: **ALEXANDER DRAINVILLE, STEPHANIE SOJDA, JOSEPH SORRENTINO, MEGHAN TSITSUASHVILI**

Phoenix Pioneer Products: **JOE CHAPMAN, JOSEPH POTISCHMAN, TYLER SHORT, BENJAMIN STANLEY**

BallHawk: **JESSICA BOURDAGE, JOSHUA FIEGL, JONATHAN FREEDBERG, RYAN LANTRY**

Bouna Tavola: **TAL ALONI, TAHLIA BRODY, KRISTINE HALE, JAMES MANS**

Floss Family Foods: **JAMIE FLOSS, JORDAN FULCOLY, A GORDON HOLDEN, SARAH MADOR**

Empower Fair Trade Chocolate: **SYDNEY ASPENLEITER, REBECCA CARACCIOLO, SEAN DELLES, KRISTI MELFI**

HyperDry: **ERICA KOSMERL, MARCOS PEREZ, GABRIEL PONCE, BRIAN RYBAK**

4K • LANGUAGES AND LITERATURES WELLES 24

La voz de "las otras": Culturas y letras en interacción. A Presentation in Spanish

FACULTY SPONSOR: ROSE MCEWEN, LANGUAGES AND LITERATURES

SESSION CHAIR: **AMANDA LANGAN**

Grado de aculturación de las inmigrantes hispanoamericanas

GURNAINA CHAWLA

According to the U.S. Census (2010), 17% of the U.S. population is Hispanic—many of them women who came to this country as immigrants. This presentation summarizes this researcher's exploration of this segment of American society and their degree of acculturation, described by Fernando Ortiz and John Berry as the processes by which a person or group adopts characteristics of a host culture and combines them with elements of their own to create a new, syncretic culture.

Intertextualidad entre el Popol Vuh y la Biblia

JESSICA COREY

The influence of Christianity in the Popol Vuh, the Mayan creation story, is described through an exploration of several points of intertextuality with the Christian Bible, including creation myths, God's damnation of Earth due to sin, and the depiction of women.

La Malinche en la clase de español a nivel de secundaria

MORGAN (PAGANO) DICORY

Based on literary and historical approximations to the study of Malinche, the Maya-NáhuatlIndian who served as interpreter for Mexico's Conquistador Hernán Cortés, this presentation illustrates how to design effective lesson plans that address the American Council on the Teaching of Foreign Languages Standards for Foreign Language Learning in the 21st Century.

La posición del adjetivo en la lengua española

MALLORY GANLEY

This presentation discusses the identification, categorization and utilization of adjectives in the Spanish language as well as their accurate position within the sentence.

4L • THEATRE/DANCE STURGES 108

Literature and Film: Hugo and Hepburn

The Living Building and Its Friend: Notre Dame and Its Hunchback

GEORGE GOGA

FACULTY SPONSOR: RICHARD WESP, THEATRE/DANCE

We often think of buildings as no more than static blocks of stone, embedded in the foundation of a city. They receive our glances and selfies and do not protest. Eventually, they fade into our geography. We start devoting little thought to them. But, when they crumble, we are sad. Why do we feel a human emotion over an unhuman edifice? Notre Dame Cathedral, as represented in Victor Hugo's novel, *The Hunchback of Notre Dame*, is one such building. Though it is inanimate stone, it carries immense, animate importance as an icon of nationalism and religiosity. In this talk, we will see how Hugo reanimates the cathedral and gives it life: Notre Dame not only becomes a human, but it also becomes a friend who saves, defends, and cries. We will consider Hugo's literary masterpiece, resulting artwork and film that represent it, and Hugo's deep passion for architecture in framing an argument about the living cathedral.

Out the Window and Grab the Statue: The Cinematography of Audrey Hepburn

GEORGE GOGA

FACULTY SPONSOR: RICHARD WESP, THEATRE/DANCE

For decades, Audrey Hepburn's films have delighted audiences with wit, comedy, and romance. While creating art through film, these films also survey other forms of art through the numerous paintings, statues, and photos that appear in various scenes of the films. Hepburn's

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Roman Holiday and *How to Steal a Million* include numerous scenes of art inside other art: paintings, photos, and sculptures, all appear inside film. This talk explores these meta- artistic moments to see what they achieve aesthetically for the films, and more, how they come to argue that eventually, life imitates art.

4M • MATHEMATICS SOUTH 328

SESSION CHAIR: GARY TOWSLEY, MATHEMATICS

The Best Approaches to Teach Linear Functions in the Eighth Grade

MOVED TO POSTERS

SHANIQUE GRAY

FACULTY SPONSOR: MICHAEL PAWLIKOWSKI, MATHEMATICS

This presentation is about the best approaches to teaching linear functions in the eighth grade. That means I will be covering what I believe to be the best approaches as a middle school math teacher in introducing linear functions to your students based on different kinds of research such as research from peer journals, textbooks, and educational research. So more specifically I will be going over the best approach to teaching how to interpret the equation y = mx + b as a defining a linear function.

Statistical Analysis of Academic Achievement in R

CHASE YAEGER, CONNOR KEENAN, LAURA MATTISON

FACULTY SPONSOR: YUSUF BILGIC, MATHEMATICS

Multivariate methods in statistical data analysis allow data analysts to analyze dependence and interdependence while retaining the whole data structure. A dependence technique, such as discriminant analysis and conjoint analysis, is a technique in which a set of variables is predicted or explained by other sets of variables. The goal of interdependence methods is data reduction, grouping things together or investigating hidden variables or components. PISA is conducted by the Organization for Economic Cooperation and Development (OECD), and its format is a survey given to 15 year olds cross-nationally, including surveys given to parents as well as at the school and system level. The design and goal of the surveys is to ensure educational system comparisons internationally are valid and fair. We aim to apply various multivariate techniques through the PISA data set. This dataset allows for the opportunity to explore perennial issues in education cross-nationally. In particular, we aim to reveal how test scores and academic achievement are affected by different factors, such as gender, socio-economic status, and a variety of school dynamics, with a demographic structure comparing across countries, using multivariate techniques. We analyze how educational outcomes are affected by these factors.

Mathematics and Intercultural Competence in the Middle School

MEGAN BRUNNER

FACULTY SPONSOR: MICHAEL PAWLIKOWSKI, MATHEMATICS

As today's world becomes increasingly more globalized, there is a greater need to develop intercultural competence (ICC) in children through education. In this study we focused on addressing this need through mathematics by drawing on a model of ICC for education developed by Michael Byram. We created lesson plans to be used in mathematics classrooms that incorporate core ideas of different disciplines to help students get a better understanding of the mathematics while also attending to the development of their intercultural competence. In addition, we created two assessment tools - a survey to assess attitudes towards and knowledge of cultures and learning across content areas, and a rubric to assess interactions and reflections. In this presentation we will share the lesson plans and the assessment tools, as well as describe the theories that guided our work. We will also discuss how these ideas can be expanded or modified to incorporate other interdisciplinary topics in mathematics.

Algebraic Structure of Elliptic Curves over Finite Fields of Prime Order

ALEC FRIEDMAN

FACULTY SPONSOR: GARY TOWSLEY, MATHEMATICS

Elliptic curves are inherently algebraic in their structure, which means rational points on these curves form a group. This project attempts to examine groups of points on non-singular elliptic curves of the form y^2=x^3+a over finite fields of prime order. First we will use number theory to prove results about perfect cubes over certain finite fields. This will be taken further to prove claims about the number of points on these specific curves. Then further investigation will take place into the algebraic structure of the above-mentioned groups of points.

4N • SOCIOLOGY BAILEY 101

Mystic Experience, Peak Experience and Trancing

FACULTY SPONSOR AND SESSION CHAIR: STEVE DERNE, SOCIOLOGY

Near-Death Experience and the Mystic Path

FELICIA RYAN

Mukerjee believes that mystical experiences are characterized by feelings of unbounded joy, self-affirmation, self-transcendence, and the mind being free. While these characteristics are not familiar in our society, certain events may trigger these unfamiliar feelings. Mukerjee's review of paths to mystical experiences did not identify an experience such as near-death. Therefore this study examines four specific characteristics of mystical experiences defined by Mukerjee and looks for these characteristics in documentary evidence of people's accounts of near-death experiences. The study found that near-death experiences, like other mystic experiences, are characterized by unbounded joy, self-affirmation, self-transcendence, and the mind being free.

The Use of Alcohol as a Trigger for Mystical Experiences

SOUKEE VAN ORDEN

Greeley (1975) and Mukerjee (1960) explored the characteristics of mystical experiences as well as what might possibly work as a trigger. According to Mukerjee, Narcotic drugs have been classified as a way for individuals to elicit their mystical experiences, by heightening their state of consciousness (p. 12). However, Greeley and Mukerjee each failed to take into consideration that alcohol is a drug that depresses the central nervous system, which could explain a connection to peak experiences. Thus, this study works to specifically focus on the effects of alcohol as a trigger that may elicit peak experiences, comparable to narcotic drugs. This study used eight online, personal accounts of unidentified individuals openly discussing using alcohol as a way to alter their state of mind in order to trigger a mystical experience. As a result, this study found that alcohol couldn't be considered as a direct trigger to eliciting peak experiences; however, alcohol may act as a contributor to one's peak experience by further altering one's state of mind.

The Influence of the Genre of Music on Deep Listening and Trancing

AZARIA DAVIS

Becker discusses the impact that deep listening—being profoundly moved by music—has on the individual. She states that deep listening allows the individual to become one with the music therefore inducing a trancing experience. Although Becker focuses on the importance of music during trancing, she does not discuss the influence that the genre of music can have on the trancing experience. This study examines how the genre of music can impact the trancing experience. In this study, three genres of music were used: 1) Nature Sounds, 2) Gospel and 3) Light Acoustic. Although the sample size was too small to verify a pattern, the study found that a trancing experience is more likely to occur when nature sounds are played during deep listening. In order to better verify a pattern, further studies should be done with a larger sample size to test the reliability of the research.

Students Practicing Siddah Without Their Teacher: Are Feelings of Love and Unity Still Possible?

MEGAN RASQUIN

In the art of Siddah Yoga, students practice under the guidance of their beloved teacher or guru. The students serve as disciples to their guru and learn and practice Siddah in accordance with the lessons their guru teaches. Previous work on Siddah Yoga states that it is possible to have a successful experience with Siddah when the guru is not present. The notion of home seva yoga practices goes against the traditional belief that the guru-disciple relationship is a critical part of the practice. While evidence on home seva does identify the practice as a legitimate form of Siddah, it fails to reveal whether the emotions associated with home seva and guru-led Siddah differ. The current

study focuses on the feelings of love and unity that are associated with the guru-disciple relationship. Accounts of those who practice home seva and guru-led meditation were analyzed and then compared based on whether these Siddah students wrote of feelings of love and unity. The study found that while both groups did describe feelings of love and unity, the guru-led group was more likely to indicate feeling love and unity as a result of their Siddah experience.

4O • HISTORY STURGES 14

New Research on Mexican Immigration, Revolution, and the Cold War

FACULTY SPONSOR AND SESSION CHAIR: RYAN JONES, HISTORY

Cultural Revolutions in Mexico

ERIK LEGENHAUSEN

This paper will engage the broader meaning of the cultural Revolution in Mexico during the 20th century by engaging a series of cultural practices through original research.

The Cold War and Mexico

ANDREW MANOU

Paper will offer new understandings of Mexico and the Cold War era.

Issues in Immigration from Latin America

CHASE NACKENSON

This presentation will engage new research on Mexican and Central American immigration to the United States. The paper and presentation are based in part on oral historical research.

4P • POT POURRIE WELLES 115

SESSION CHAIR: **SAMANTHA MOORE**

Environmental Destruction Debate

HARNEEL AUJLA

FACULTY SPONSOR: LISA MEYER, SOCIOLOGY

Faced with the challenges of climate change, economic development and sustainability, the future of energy and environmental policies in of the world, especially developing countries has been an emerging issue. The division of world opinion on the certainty of climate change adds to the woes of developing countries. Scientists all over the world have been acknowledging a temperature increase of the earth and attribute this aspect of global warming to fossil fuel burning by humans. One school of thought urges “rapid action,” whereas the other advocates the “wait and watch” policy. COP 21 can be considered a decent example of a move for sustainable development. Finally, 196 countries have come to an agreement regarding environment protection and climate change. The developing countries such as, India and China expressed their desire to contribute as much a possible; the amount that will help protect the environment and also not hinder their development progress. Thus, the most promising policy approaches would be those that capitalize on natural synergies between development priorities and climate protection, which simultaneously advance both these efforts.

Data Analysis on Cultural Harmony Week 2015

GINA VILLAZHINAY

FACULTY SPONSOR: FATIMA RODRIGUEZ, SOCIOLOGY

Geneseo has worked extensively to improve its efforts to increase cultural and diversity awareness around campus. Cultural Harmony Week is a tradition in our college that has helped students and the administration practice the sentiments expressed in its mission and value statements. Throughout the week there were workshops, speakers, and films shown that explored issues of race, ethnicity and culture. The multicultural program Director, Ms. Fatima Rodriguez and other professors have helped provide programming that addressed a wide variety of community and diversity issues that we see in our college or relates to us. Participation by students in a few of the week's programs has most definitely made a notable impact. According to the survey results it has encouraged intellectual engagement and personal growth through this week's events and programs.

Food Choice Among Maya Children

ALEXANDRA PERAINO

FACULTY SPONSOR: KRISTI KRUMRINE, ANTHROPOLOGY

Using the extensive research I have completed on children's food preferences as well as my time as a research assistant in Cobà, Mexico, I discuss what influences a child to pick certain foods. 29 children aged 3-7-years old participated in a pile sorting activity that was then compiled to distinguish which foods they liked, disliked, ate everyday, or ate on special occasions. My literature review then addresses how genetic predisposition, parent feeding behaviors, mothers' beliefs and knowledge, and other environmental factors impact children's food choice, including young Maya children. The Maya are a group greatly affected by globalization, including processed and packaged foods, which have changed Cobà greatly. This cohort of children is at the age of a time of high neophobia, or fear of novel foods, and peer and parental influence are high in food decision-making. Thus, I display the foods Maya children prefer and what factors may be influencing these decisions specifically for them.

4Q • ENGLISH WELLES 128

Reflections on Geneseo's Strategic Position in the Development of Writing Education

FACULTY SPONSOR AND SESSION CHAIR: GILLIAN PAKU, ENGLISH

Developing Digital Tools to Mediate the Experience of Writing

SEAN FISCHER

When Geneseo's Writing Learning Center (WLC) performed an internal review two years ago, the tutors identified recurring problems with student writing on campus. In response, we studied the root causes, and formulated potential solutions. The study concluded that writing education could be fundamentally improved if we applied the same educational design used by the Khan Academy. Consequently, we will demonstrate and discuss the workable system we have developed, which Geneseo could deploy to give students and teachers more control over the pace of learning. By incorporating a digital model for understanding and practicing writing, we hope to offer the opportunity for more differentiated learning that helps students who need accommodations to find alternatives and supplements to their classroom experience. At its core, our system emphasizes the skill-based nature of writing and hopes to support the College's emphasis on critical writing skills as a graduation criterion for every major, and as the most centralized general education requirement. We hope, therefore, to generate ideas about maintaining and expanding the project going forward, with the conviction that Geneseo can make a meaningful difference by creating the opportunities for every learner to learn at his or her own speed.

4R • ANTHROPOLOGY STURGES 104

Seeking Professional Development: College Based

FACULTY SPONSOR: PAUL PACHECO, ANTHROPOLOGY

SESSION CHAIR: **ADAM PEASE**

ADAM PEASE, CALEB WEISSMAN, JONATHAN WEINER, BLAIN SHINKLE, NOAH HABER, TANNER KENDALL

The students listed will be talking about their involvement in activities such as internships, TA positions, and certification courses; describing how these opportunities helped develop professional skills needed for after graduation along with building a stronger resume through experience. We will be discussing how students may seek out these positions along with how they will help the students when entering the job market. Some students may also discuss the benefits of pursuing certifications during the summer along with in-session and out of session internships.

4S • SESSION ON HAITI BAILEY 105

SESSION CHAIR: WESTON KENNISON, STUDY ABROAD

Swing Dance as Cultural Mediation

MATTHEW MCCLURE

FACULTY SPONSOR: JENNIFER GUZMAN, ANTHROPOLOGY

Swing Dance is now a global subculture with communities around the world. Swing communities and events bring together dancers from a variety of nationalities and cultures. This presentation will explore the viability of swing dance as a vehicle for cultural mediation. The presenter will draw from a literature review and observational findings, covering topics including history, current dance community culture, dance floor culture, travel culture, and adaptability to larger audiences.

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Haitian Creole Language Crash-Course in Geneseo's Global Service Learning Program

MATTHEW MCCLURE

FACULTY SPONSOR: WESTON KENNISON, ENGLISH

Over the past three years, Geneseo has developed a Haitian Creole crash-course for the Geneseo Global Service Learning Program so students have tools and confidence to engage directly with Haitian partners in the local language. This presentation will outline the development of the course and plans for future development.

4T • PSYCHOLOGY BAILEY 102

The Role of Institutional Factors and Perceived Support in the College Adjustment and Retention of Racial/Ethnic and Sexual Minorities

FACULTY SPONSORS AND SESSION CHAIR: MONICA SCHNEIDER, PSYCHOLOGY

FACULTY SPONSOR:AIDEN CROPSEY, CENTER FOR COMMUNITY

The Role of Institutional Factors and Perceived Support in the College Adjustment and Retention of LGBTQ Students

YVETTE WILLIAMS, MELISSA MINAYA

We conducted a study designed to examine the role of perceived social support in the emotional well-being, college adjustment, and intentions to graduate of Geneseo students. This study also assessed the institutional factors that contribute to students' perceptions of faculty, staff, institutional, and peer support, both across and within groups. In this part of our presentation, we will discuss the results of our study for LGBTQ students. This data have implications for providing coordinated resources, support, and programming for LGBTQ students in a manner that addresses the needs of students who come from different backgrounds and circumstances. Recommendations for how this data could be used for advancing diversity, equity, and inclusion initiatives related to sexual and gender identity on campus will be addressed.

The Role of Institutional Factors and Perceived Support in the College Adjustment and Retention of Students from Underrepresented Racial/Ethnic Groups

GAVIN RAFFLOER, JONELLE WILLIAMS

This part of our presentation will discuss the results of our study as they pertain to students from underrepresented racial/ethnic groups. Specifically, we will address the role of perceived social support in students' emotional well-being, college adjustment, and intentions to graduate. In addition, we discuss the institutional factors that contribute to students' perceptions of faculty, staff, institutional, and peer support, both across and within groups. This data have implications for providing coordinated resources, support, and programming for racial/ethnic minority students in a manner that addresses the needs of students who come from different backgrounds and circumstances. Recommendations for how this data could be used for advancing diversity, equity, and inclusion initiatives related to racial/ethnic identity on campus will be addressed.

4U • ENGLISH WELLES 121

Underground Ecologies of the Genesee Bioregion

FACULTY SPONSOR: KEN COOPER, ENGLISH AND ELIZABETH ARGENTIERI, MILNE LIBRARY

SESSION CHAIR: **MATTHEW VIGLUCCI**

MATTHEW VIGLUCCI, MARY AULD, JEREMY JACKSON, NOAH CHAUVIN

It's easy enough to locate this campus on a map, but inhabiting the Genesee Valley as a place is more complicated because so many people and places have been forgotten--they're invisible to us. Unwilling to settle for what we could see, our session describes an experimental project that used GIS mapping applications to visualize underground ecologies. These entail our connection to the physical environment, like an abandoned salt mine or the soil under our feet, and to lives cognitively not on any map.

4V • HISTORY STURGES 114

Women's Role in Modern China

FACULTY SPONSOR AND SESSION CHAIR: TZE-KI HON, HISTORY

Family is the basic unit of Chinese society and women are pressured to uphold society's values as mothers, wives, and daughters. As China has transitioned from Ancient China, to the Communist revolution to now, women's roles have maintained their consistency. Traditional China was based on strong Confucian philosophies, where males were the sole authority for the family and the rest of the family members fell subordinate to the eldest male. There was also a hierarchy between a husband and his wife—every aspect of Chinese tradition was unequal especially in circumstances pertaining to marriage. Brides' families had to pay dowries, and whereas women were arranged to marry men without prior knowledge or consent. Men were cherished from birth for their contributions to their family and the family name, while women's status was always undermined by only providing happiness through a good marriage and maintaining the household. Although there was a slight shift during revolutionary China as families experienced changes within filial piety, the Communist Revolution sought to destroy the traditional position of women and trying to construct a more equal position for them by creating a place for them in the revolution. During this time the Four Olds of Confucianism (culture, habits, ideas, and customs) were purged through propaganda, which included outlawing harsh practices against women, because the Communist Party wanted to see a "new" China and by sticking to restrictive traditions there was no place for China to move forward. However, there were many contradictions blocking women from advancing—even though they were included in the workforce they were also expected have more children. Also, the Cultural Revolution didn't promote feminism as much as it toned down genders and created a more unisex environment, for example through clothing and uniforms. Even though Mao Zedong tried to mobilize China by assembling a platform that would call attention to women, women were still burdened by the male gaze or conforming to societal developments. Women in modern day China are still expected to uphold their positions as mothers, wives and daughters, and even though it may seem like China has become more progressive, women are still lagging behind.

Focus on Footbinding

JESSICA BAE

May Fourth Movement

KELLY PRESTON

Cultural Revolution

SHEENA KUMRA

Modern Day China

KATHLEEN O'BRIEN

POSTER ABSTRACTS

POSTER CENTRAL IN THE COLLEGE UNION – BALLROOM, 3RD FLOOR, STARBUCKS STAGE

POSTER DIAGRAM ON BACK COVER – 11:15 AM – 12:45 PM, 5:15 PM – 6:15 PM

MILNE LIBRARY

1 • Imaginarium

JESSICA MOKAN

FACULTY SPONSOR: MICHELLE COSTELLO, MILNE LIBRARY

The Imaginarium is a work space in the lower level of Milne Library that is open to all students, but designed for Education students to support their creative needs when completing projects or lesson plans. Materials are offered during my office hours to support students, such as construction paper, glue, magnets, etc. An Ellison machine is also available when Milne Library is open. This poster will explain what the Imaginarium offers to students and what the student intern (myself) does in the space. There will be an example seasonal display that the intern would create in the space in the middle of the poster. Around the example will be flaps with more information about the space underneath. This will include information about materials offered, my office hours and responsibilities, projects I am working on in the space, and information about TERC (teacher resource area). On the table will be flyers promoting the space that students, faculty, and staff can take with them, as well as the intern's and supervisor's contact information.

ENGLISH – STARBUCKS STAGE

2 • National Book Review Month @ SUNY Geneseo

NICOLE SHELDON, MARY AULD, MEGHAN BARRETT, GABRIELLA BASILE, MALACHY DEMPSEY, MARLEY DEROSIA, OLIVER DIAZ, GABRIELLA GARCIA, EVAN GOLDSTEIN, LEANDRA GRIFFITH, WILLIAM HESS, NOAH MAZER, DONGWON OH, NICOLE PERO, LAUREN SARRANTONIO, JULIET WENZEL

FACULTY SPONSOR: LYTTON SMITH, ENGLISH

This poster showcases book reviews written by SUNY Geneseo students as part of the inaugural National Book Review Month, launched February 2016 at SUNY Geneseo. A celebration of must-read writing, these reviews aim to start conversations about books, and make sure wonderful writing gets shared with readers.

ANTHROPOLOGY

3 • Ohio Hopewell in the Hinterlands: Archaeological Investigations at the Balthaser Home Site

CLAIRE JOHNSON

FACULTY SPONSOR: PAUL PACHECO, ANTHROPOLOGY

In 2014 - 2015, SUNY Geneseo, OVAI, and Bloomsburg University took their archaeological research collaborative north to eastern Pickaway County, Ohio. Multi-stage investigations were conducted on the Balthaser farm, which is located in the upper branches of the Little Walnut Creek drainage. While there are a series of Ohio Hopewell locales on the farm, we focused on a portion called the Balthaser Home Site, which was identified by the landowner Donald Balthaser through years of surface collecting. This poster presents the excavation results of two field seasons, which were guided by geophysical survey including magnetometry and magnetic susceptibility. In particular, we present the distributions and results of the feature excavations and analyses of the lithic and ceramic artifacts in the assemblage. Ceramic analyses included typology and identification of the minimum number of vessels included in the collection. Distribution maps were plotted for lithic artifacts and an analysis of the Ohio Hopewell bladelets in the assemblage was conducted. In addition, the poster will show unique artifacts of bone and mica which were recovered from feature contexts. ***Selected for presentation at Ohio Archaeological Council's 3rd Hopewell Conference, Chillicothe, OH.***

4 • Cooking with Rocks the Hopewell Way: Experimenting with Earth Oven Efficiency

TESSA HORN

FACULTY SPONSOR: PAUL PACHECO, ANTHROPOLOGY

After helping to excavate an earth oven at an Ohio Hopewell habitation site last summer, I wondered what attributes make an earth oven successful and efficient? In this project, I used experimental archaeology to build earth ovens of different sizes, shapes and depths, using different combinations of sandstone, limestone and igneous rocks to cook food such as root crops and meat. My expectations were that by recreating earth ovens of varying shapes, sizes, and depths with different combinations of rocks, I would be able to explain how different attributes contribute to earth oven efficiency, helping to explain how these differences are reflected in the archaeological record. Temperatures were monitored with a thermocouple every hour, allowing me to compare the effectiveness of the different ovens. The sizes of the earth ovens in my experiments and the amount of rocks that I used were based on data from Hopewell habitation sites like Balthaser Home, Brown's Bottom #1, and Lady's Run. This poster presents data on temperature over time, amount of fuel used, how long the fire burned, which types of rocks were used, and their weight. In one experiment, I also encased food in broken pottery to see how that affected cooking. ***Selected for presentation at Ohio Archaeological Council's 3rd Hopewell Conference , Chillicothe, OH.***

5 • Immigration and the Law

MARIA SAITTA

FACULTY SPONSOR: PAUL PACHECO, ANTHROPOLOGY

The number of migrants crossing the border to work in American industries has been dramatically increasing over the past decade. Migrants come to America to work the hardest jobs for the smallest amount of pay; however, their lives in America are better than their lives at home regardless of the harsh working conditions and continuous discrimination that they constantly face. People have noticed the harsh lives that migrants and their families live and advocacy groups have formed as a result. There are many groups located throughout the country to assist migrants who have to continuously relocate according to the season. For the purpose of this poster I will focus on three advocacy groups in three different areas of concern; border deaths, migrant legal services, and immigration rights. It is important to understand the legal issues associated with each area of concern as well as understanding the migrant's perspective. Through these advocacy groups, migrant lives can be saved, families can remain together, and better lives can be lived.

6 • Skeletons in the Closet: Establishing the Biological Profile of the Human Remains Housed in the SUNY Geneseo Department of Anthropology

HUNTER KANE

FACULTY SPONSOR: KRISTI KRUMRINE, ANTHROPOLOGY

Forensic Anthropology employs several techniques to establish the biological profile of a skeletonized individual in order to determine their identity. The biological profile is comprised of the individual's sex, age, ancestry, and height. The standards for establishing biological profile utilize osteometrics (including craniometrics), and cranial & post-cranial morphology. Once the biological profile is established, it can be used to make a positive identification in a missing persons case, mass grave situation, or after a natural disaster occurs. I will present the biological profile data I've collected concerning the skeletal collection that is housed in the SUNY Geneseo Department of Anthropology. Using the standards I've learned I have established the biological profile of several individuals in the collection and will compare them with the actual profiles of the individuals from the company the Department purchased the material from. Additionally, I will compare the findings with that of the ForDisc 3.0 program for establishing the sex and ancestry of skeletal material from the Forensic Data Bank. This presentation will discuss the various discrepancies that arise with using different standards for establishing biological profiles and will provide evidence for how polymorphic human beings actually are.

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BIOLOGY

7 • Heart Development in the Quail Embryo

BLAIR WIGSTEN
FACULTY SPONSOR: DUANE MCPHERSON, BIOLOGY

The purpose of this project is to obtain images of different stages of heart development in the quail embryo. Working with Dr. Arkady Perstov of SUNY Upstate Medical, we stain and clear embryonic hearts, then image them using confocal microscopy and create a timeline of heart formation between 6 and 8 days of development.

8 • Regulation of Chromosome Organization by DivIVA in the Large Bacterium *Epulopiscium* sp. Type B

ALEXANDRA GLATHAER , WILLIAM SCHUTT, ANDREA AMITRANO
FACULTY SPONSOR: ELIZABETH HUTCHISON, BIOLOGY

Epulopiscium sp. type B is a symbiont of tropical surgeonfish and is the second largest bacterium known. One of its adaptations to large cell size is extreme polyploidy, making *Epulopiscium* sp. type B an interesting system in which to study how polyploidy affects chromosome organization. DivIVA is a key regulator of chromosome positioning and cell division in other bacterial systems, and we hypothesize that while *Epulopiscium* sp. type B divIVA (divIVAep) has some overlap in function with that of closely related bacteria, it likely carries out novel roles due to the unique cellular environment in which it functions. Deletion of divIVA in *B. subtilis* (a close relative of *Epulopiscium* sp. type B) results in abnormal cell division, producing a mixture of long cells and minicells. As we cannot culture *Epulopiscium* sp. type B, we transformed a divIVA deletion mutant of *B. subtilis* with a copy of divIVAep to assess its role in chromosome organization. *B. subtilis* divIVA mutants complemented by divIVAep will undergo normal cell division, and have wild type cell lengths. Preliminary results indicate that divIVAep partially complements a *B. subtilis* divIVA mutant. We are now exploring divIVAep's potential effect on sporulation, and its localization using GFP tagged DivIVA.

9 • Mapping Transcript Structure and Measuring Expression of the *fsd-1* Gene in *Neurospora crassa*

JANELLE GOEKE, BRYCE GEBHARDT
FACULTY SPONSOR: ELIZABETH HUTCHISON, BIOLOGY

The female sexual development-1 (*fsd-1*) gene in the fungus *Neurospora crassa* encodes a transcription factor, and is expressed during the sexual cycle. There are three transcript variants of the gene which differ in position of the exons and introns. This project focuses on mapping the starting and ending locations of *fsd-1* transcripts, in order to confirm the transcript structure. *Fsd-1* transcripts were isolated and amplified using a 5' RACE (rapid amplification of cDNA ends) procedure and nested PCR. Successfully isolated transcripts were then cloned into *E. coli* cells, and plasmids containing the correct inserts were extracted and sent for sequencing. As a secondary goal, the expression of the gene variants at different points in the *N. crassa* life cycle was measured, to determine if all three transcripts were expressed. This was done via reverse-transcription PCR (RT-PCR), using primers specific to each transcript variant. All three transcripts are expressed, and preliminary data indicates that expression level may vary between the three transcripts. Our data suggests that *fsd-1* is in fact transcribed as three different transcript forms, and that these variants may be expressed differently in *N. crassa*.

10 • Differences in Xylem Pressure Potential in Invasive vs. Native Species

KELLY HUSTAK
FACULTY SPONSOR: GEORGE BRIGGS, BIOLOGY

Water moves up a plant from the roots through the shoot in xylem tissue. This movement is the result of tensions created in the above-ground part of the plant by both water loss and growth. The tension in the xylem tissue increases during times of high transpiration rates, during drought or if the amount of water conducting tissue is reduced. I compared xylem pressure potentials in dogwood (*Cornus alternifolia*), a native species, to those in honeysuckle (*Lonicera tartarica*), an invasive species, using a pressure bomb. I measured both species in September and October to see if there were significant differences between the two species and to see how values for xylem pressure potential changed as the season progressed. Using a rank-sum test, results indicate that during hot, dry periods there is a significant difference in pressure potentials, with the honeysuckle developing more negative pressures than dogwood. No significant difference was found during periods after rain or during periods with very cold or frost conditions. Additional measurements will be taken this spring.

11 • How Photosynthetic Activity of *Cucurbita* Varies Under Different Light Conditions

MAXWELL COSTICH, EMILY ELLMANN, NICHOLAS ANGELONI, ALICIA SKOWRONSKI
FACULTY SPONSOR: GEORGE BRIGGS, BIOLOGY

We studied the photosynthetic activity of *Cucurbita* plants grown under high and low light intensities. The research was conducted using the Li-6400 Portable Photosynthesis System, which regulates the airflow, carbon dioxide levels, water vapor concentration, and quantum flux levels that a leaf is exposed to. Using the system, photosynthetic response to changes in incident quantum flux were measured for plants grown under the two light regimes. Also measured were measurements of stomatal conductance and estimates of internal carbon dioxide concentrations. We expect to observe differences in photosynthetic ability between the high light and low light plants, as well as differences in the plant response to changing light intensities.

12 • Tannic Acid as a Germination Inhibitor of *Brassica rapa*

MAYDELIS MINAYA
FACULTY SPONSOR: GEORGE BRIGGS, BIOLOGY

Germination is the natural process by which plants develop from seeds. A combination of both internal and external factors influence whether a seed germinates. When environmental factors are suitable and a plant's metabolic machinery is ready, germination takes place. This study focused on the effects of tannic acid on seed germination. *Brassica rapa* seeds were studied under controlled environmental conditions, and experimental groups were subject to different concentrations of tannic acid. The plant's radicle length were measured and compared against a control. Although still at the early phases of the experiment, tannic acid has shown great potential as a germination inhibitor of *B. rapa*. Numerous studies have concluded that tannins play an integral role in plant defenses; these polyphenolic compounds help protect plant's from stressors such as predation or bacterial infections as well as fungal infections, however, not a lot of research is focused on the ecological effects of tannins. I am interested in researching the commercial potential of tannic acid as a germination inhibitor for uses in agriculture and gardening.

13 • Water Use Efficiency in Wisconsin Fast Plants (*Brassica rapa*)

OLIVIA HERMITT, ALEXANDRIA BARLOWE
FACULTY SPONSOR: GEORGE BRIGGS, BIOLOGY

Water Use Efficiency (WUE), the ratio of carbon gained by photosynthesis to water loss from transpiration, is an important measure of plant function, reflecting the balance that plants must make between opening stomata to allow carbon dioxide entry (for photosynthesis) with closing stomata to reduce water loss. We are studying WUE in *Brassica rapa*, the Wisconsin Fast Plant, a plant developed for its ability to grow rapidly and complete its life cycle in five weeks. We experimented with two different methods that might allow us to determine total weight (both root and shoot) of the plant, a measure of carbon gain, and total water use. One method was to grow the plants in test tubes of a nutrient agar that the roots could penetrate and the second method was to grow in test tubes of glass beads surrounded by a nutrient solution. Using these methods we will be comparing WUE under two different light regimes.

14 • The Use of Androgen and Glucocorticoid Receptor Expressing Plasmids in *Saccharomyces cerevisiae*: A Model for the Study of the Nuclear Localization of the AR and GR in Yeast and Prostate Cancer

ARIEL YUSUPOV
FACULTY SPONSOR: HAROLD HOOPS, BIOLOGY

The androgen receptor has been shown to be the critical component behind prostate cancer and androgenic alopecia. Freedman and Yamamoto (2004) have shown that yeast contain a protein, SXM1, that is structurally homologous to the human Importin 7, which is known to inhibit the nuclear localization of the androgen receptor (AR) and induce the nuclear localization of the glucocorticoid receptor (GR). The yeast

Saccharomyces cerevisiae was transformed with a LacZ-reporter containing androgen receptor (AR) and glucocorticoid receptor (GR) expressing plasmids into SXM1 null (SXM1-) and wild type strains, the latter of which was further transformed with an SXM1 overexpressor plasmid (SXM1++) and empty vector as control, allowing for the inhibition and induction of the AR and GR, respectively, to be quantified via beta-galactosidase (b-gal) assay. In the wild type SXM1++ strain, b-gal activity in the AR is to be least expressed and in the GR most expressed. In the SXM1 null strain, b-gal activity should have the opposite effect and be most expressed in the AR and least expressed in the GR. In the wild type control strain, the b-gal activity of the AR and GR should fall in between the SXM1 null and the SXM1++ yeast.

15 • Determining the Mechanism of Thermotaxis in *Astrephomene gubernalifica*

NAOMI WILSON
FACULTY SPONSOR: HAROLD HOOPS, BIOLOGY

Astrephomene gubernalifica is a colonial, volvocine green alga. The colonies are hollow spheres of 32 - 64 cells, each with two flagella. These cells have no apparent means of communication with one another, and yet the colony responds as a unit to stimuli. Prior studies have demonstrated that in a steady-state temperature gradient, *A. gubernalifica* colonies accumulate at warmer temperatures. In theory, accumulation might result from colonies slowing at warmer absolute temperatures, but Amy Potter and Yuliya Muradova demonstrated that this was not the case. More complex models require the alga to sense the gradient, and to adjust to changes in temperature rather than the absolute temperature. For example, *A. gubernalifica* could respond to an increase in temperature by swimming faster, making fewer (or shallower) turns. We exposed the colonies to temperature regimes that mimic algae moving through a temperature gradient and determined their positions over time. Preliminary data suggests that there is no significant difference between the velocities of the colonies experiencing step up versus a step down temperature conditions. Further studies will investigate the potential for turning frequency or magnitude to be the predominant behavioral response of *A. gubernalifica* during step up and step down conditions. ***Selected for presentation at Northeast Algal Society Symposium, Westfield, MA.***

16 • The Hotel California Model of Chemotaxis in *Astrephomene Gubernaculifera*

STEPHANIE NEWMAN, GRANT KUSICK
FACULTY SPONSOR: HAROLD HOOPS, BIOLOGY

One challenge in the early evolution of multicellularity is the performance of collective behaviors. This transition is drastic within the volvocine algae: multi-celled members of the Volvocales exhibit many of the same behaviors as their unicellular relatives, but the mechanisms involved must necessarily be distinct. *Astrephomene gubernaculifera* is the only multi-celled volvocine alga that has been shown to perform chemotaxis: navigation along a chemical gradient. We previously found evidence implying that *Astrephomene* senses and adjusts its swimming based on changes over time in the local concentration of acetate, a food source that it chemotaxes towards. We sought to learn more about this mechanism of navigation. Qualitative observations recommended that *Astrephomene* colonies reverse direction when they swim from a region of high acetate concentration to a region of low acetate concentration. Using tools that we developed to analyze videomicroscopy data, we were able to quantitate this phenomenon. We report evidence from two different experimental systems that *Astrephomene* reorients in response to decreases in local acetate concentration. We term this the "Hotel California" model of chemotaxis, as algae become "trapped" wherever the acetate concentration is high. ***Selected for presentation at Northeast Algal Society Symposium, Westfield, MA.***

17 • A Method to Quantify Motility Patterns in Colonial Green Algae

STEPHANIE NEWMAN, BENJAMIN YAO
FACULTY SPONSORS: HAROLD HOOPS AND GREGG HARTVIGSEN, BIOLOGY

Astrephomene gubernaculifera is a colonial green algae that has the robust ability to perform chemotaxis, a directional movement that leads to the overall algal accumulation around acetate, a food source. However the mechanism for this is obscure. We developed a system to create and analyze videos of colonial motion. In order to test models of chemoresponse, we needed to obtain values for speed, turning frequency and turn magnitude. Using the Tracker software program, we obtained the x,y coordinate positions as a function of time and velocity data, but quantifying turning is more difficult. To do this, we extract the positional angle, theta, and the theta acceleration (theta A). Because theta A represents the angle of acceleration, a shift in sign indicates a change in the direction of acceleration and thus a "turn". This value is obtained by taking a moving average of the theta velocity (provided by Tracker) as a function of time. Using the x,y coordinates, the distance travelled between any two time points can be determined using the Pythagorean Theorem. Based on these values, some of the possible calculated metrics include colony turn frequency, average distance traveled per frame, as well as total difference traveled, and distance displacement. ***Selected for presentation at Northeast Algal Society Symposium, Westfield, MA.***

18 • Effects of Hurricane Joaquin on Coral Patch Reefs Surrounding the Bahamian Island of San Salvador

BENJAMIN O'ROURKE, TARIK JAMES
FACULTY SPONSOR: ISIDRO BOSCH, BIOLOGY

The health of coral reefs around the world has been in a steady decline due to numerous anthropogenic and natural forces that cause stress and damage to the coral animals. Of these natural forces, hurricanes can cause lasting damage in a very short period of time. Previous studies have documented an increase in algae cover and a decrease in coral cover after a hurricane has passed. Hurricane Joaquin, a category 3 hurricane at the time of landfall, struck San Salvador Island, Bahamas in October of 2015, causing significant damage. We studied how the hurricane affected five patch reefs surrounding the island. To do this, the total percent cover of coral and algae, as well as the Simpson index of diversity, was determined. Analysis of multiple quadrats along transects, on four different reefs, were compared to data from 2015, and previous years, to document changes in the coral community and in the balance between coral and algal cover that could be attributed to hurricane damage. The results of this study provide insights on the affects of hurricanes on patch reefs, as well as help determine the status of the reefs surrounding San Salvador.

19 • Abundance and Coral Association Preferences of the Tunicate *Trididemnum solidum*

KELLY HUSTAK, KATIE THARRETT
FACULTY SPONSOR: ISIDRO BOSCH, BIOLOGY

Trididemnum solidum is a chemically defended tunicate that is becoming more abundant in degraded Caribbean coral reefs. There are reports of *T. solidum* frequently overgrowing corals, and causing bleaching and death of whole colonies. This study investigates the distribution and abundance of *T. solidum* on coral reefs around the island of San Salvador in the Bahamas. Our hypothesis is that tunicates are found more commonly in degraded reefs compared to healthier reefs around the island. A second objective of the study was to observe the frequency of association of *T. solidum* with specific coral species. Transect counts of tunicate abundance will be conducted in five patch reefs. The species of coral interacting with *T. solidum* will be recorded and photographed. One m^2 quadrats centered on each association will be analyzed to determine what other corals were present in the area. The relative frequency of available corals will be used to calculate a theoretical distribution and compared to the actual distribution using a chi square analysis. Our hypothesis is that tunicates will be found more commonly in association with branching or ridged corals that provide an elevated substrate where tunicates could filter feed more efficiently from the water column.

20 • The Effect of Spongivorous Fishes on Sponge-Coral Interactions

MADI MURPHY, BAILEY SAWYER, MICHELLE WRYNN
FACULTY SPONSOR: ISIDRO BOSCH, BIOLOGY

Sponges in coral reef systems can be aggressive competitors with corals for space. Some sponges are palatable and can be eaten by spongivorous fishes such as parrotfish and angelfish. Other sponges are chemically defended and are unpalatable. Spongivorous fish predation can limit the extent to which palatable sponges compete with corals. We will examine the extent of competition for space between corals and palatable and unpalatable sponges, and relate patterns of competition to the abundance of spongivores. Observations of competitive interactions and spongivorous fish surveys will be conducted on patch reefs of San Salvador Island, Bahamas. The rate of competition by unpalatable

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sponges will be correlated with the abundance of spongivores on each reef. The results will provide insights into community level effects of the spongivore functional group and may reveal yet another harmful effect of fisheries in the Caribbean reefs.

21 • Microsatellite Analysis of Adult and Larval Sea Star Populations

RACHEL MOORE, COLE GLEASON
FACULTY SPONSORS: ISIDRO BOSCH AND JENNIFER APPLE, BIOLOGY

Sea star larvae that are widely distributed in the tropical North Atlantic are unusual in that they reproduce by cloning during their larval development. Despite improved odds of survival while migrating across the ocean, clonal reproduction may ultimately reduce the genetic variation of the larval populations. The purpose of this study is to document the genetic diversity of clonal larvae using microsatellite DNA analysis. DNA was extracted from Oreaster clavatus tube feet, considering it is the only sea star that lives in the North Atlantic and belongs to the family we believe is expressing clonal activity. DNA was also extracted from another species of sea star, *O. reticulatus* for comparison. DNA was amplified by PCR using microsatellite primers published for a closely related species. Our data has revealed seven possibly effective primers from those previously developed. These amplified microsatellite DNA samples were sent to Cornell University for fragment analysis. GeneMarker software was used to genotype the tube feet samples at each microsatellite locus. With twelve loci appearing to produce reliable genotypes in the adult samples, work is now being done to genotype individual larvae specimens in hopes of finding sufficient polymorphism to use these markers for population genetic analysis.

22 • Damselfish Populations

SCOTT GUYTON, ERIN KIMAK, ANNA MAIO
FACULTY SPONSOR: ISIDRO BOSCH, BIOLOGY

Widespread traumatic events can drastically reshape the structure and biodiversity of coral reef communities. One such traumatic event, Hurricane Joaquin, damaged reefs around the island of San Salvador in October 2015. Assessing the destruction in the aftermath and following up on the long-term consequences of such a disruption can help scientists understand and provide optimum conditions for coral reef recovery. As territorial fish and algal grazers, damselfish are uniquely suited to supply information about the health and composition of a reef in recovery. By conducting a survey of the relative abundance of three important damselfish species common to the reefs of San Salvador, one can hope to provide important information to aid in reef recovery after future traumatic events.

23 • New Fossil Colubroid Snakes from the Late Oligocene Rukwa Rift Basin, Tanzania, and Their Bearing on the Evolution of the Modern Snake Fauna

SIERRA BOUCHARD
FACULTY SPONSOR: JACOB MCCARTNEY, BIOLOGY

The transition from archaic faunas dominated by constricting booid-grade snakes to modern ones dominated by active caenophidians was previously thought to occur during a major global climatic shift from warmer forested habitats to cooler open habitats in the middle Miocene. Fossils found in the Late Oligocene Rukwa Rift Basin of Tanzania show evidence of this faunal transition occurring five to ten million years earlier than expected. Recent fieldwork has yielded new fossil material from that locality; I categorized the new specimens into different morphotypes, including previously identified colubroid, elapid, and booid snakes. Newly discovered fossils include *Gonionotophis*, the oldest and only confirmed fossil of Lamphrophiinae, capturing the group right at the beginning of its evolution. The collection also includes a new colubroid morphotype referred to as Colubroid D, and an indeterminate dentary bone as the first cranial elements discovered at the site. In addition to increasing the diversity of the fauna found at the site to ten morphotypes, fossils previously identified as Booid Morphotype C are reassigned as a colubroid due to evidence in the new material. The collection further supports dominance of colubroids at this locality, consisting of 83% of the collection found at Rukwa.

24 • The Corticosteroid Clobetasol Causes Downregulation of E-cadherin in the Vulvar Carcinoma Cell Lines UMSCV-6 and A431

CHIAMAKA OKORIE, MINGXIN LI, JUSTIN ONGKINGCO
FACULTY SPONSOR: JANI LEWIS, BIOLOGY

Vulvar cancer is rare, affecting 2.4 women /100,000. It can be difficult to diagnose due to the masking effects of a common vulvar rash, lichen sclerosis (LS). We have been treating vulvar cancer cell lines that display epithelial characteristics (suggesting they are relatively differentiated) with clobetasol, a drug recommended in the treatment of LS. Using immunofluorescence, western blotting and microarray analysis, our previous work has shown that clobetasol (clob) treatment of the squamous epithelial cell line, A431, causes loss of the expression of the tumor suppressor E-cadherin as well as the squamous epithelial marker, p63. In addition, the clob-treated cells gained expression of vimentin, suggesting an epithelial to mesenchymal transition. We have repeated these studies using the corticosteroid on a second vulvar carcinoma cell line, UMSCV-6 and seen similar loss of E-cadherin expression. Both cell lines display an altered morphology upon loss of E-cadherin. They also display the ability to remain viable even when cells become suspended upon reaching confluency. To further elucidate if clobetasol is acting in a similar manner to cause loss of E-cadherin in these two cells lines we used RT-PCR to compare the expression of several transcription factors known to regulate E-cadherin. ***Selected for presentation at American Society for Cell Biology Annual Meeting, 2015, San Diego, CA.***

25 • Clobetasol Treatment of Vulvar Carcinoma Cell Lines UMSCV-4 Show Evidence of Entering into Quiescence as Reflected by Decreased Cellular Metabolism

MICHELLE STEVENS, VARUN MEHTA
FACULTY SPONSOR: JANI LEWIS, BIOLOGY

Vulvar cancer is rare, mostly afflicting women aged 60 and over. The cancer is often preceded by a common vulvar rash, lichen schlerosis, that is treated with the ultra-potent corticosteroid, clobetasol. However, there is some concern that clobetasol can promote carcinogenesis in vulvar tissue. Using MTT assays, we showed that clobetasol treatment of the vulvar carcinoma cell line, UMSCV-4, severely inhibits the metabolism of these cells. This suggests that the cells are becoming dormant. Removing the clobetasol results in reinitiation of growth for these cells suggesting that clobetasol is actually promoting a state of quiescence in which the cells become temporarily dormant. This poses an obstacle to the methods of cancer treatment, which typically targets cells that are actively dividing.

26 • Clobetasol Treatment of Vulvar Carcinoma Cell Lines UMSCV-2 and UMSCV-4 Show Evidence of Entering into Quiescence

SINDHOORI KOTAPATI , SARAH MILNE
FACULTY SPONSOR: JANI LEWIS, BIOLOGY

Vulvar Cancer is a rare form of female cancer that impacts women who are between 60-75 years old and is commonly associated with a vulvar rash called Lichen sclerosis. Clobetasol is an ultrapotent corticosteroid commonly used to help inhibit the progression of the rash. There is a possibility that clobetasol may promote the spread of vulvar cancer causing a more aggressive phenotype. This change in phenotype is called an EMT (epithelial to mesenchymal transition) and could enhance metastasis causing elevated resistance to apoptosis. Early detection is difficult for physicians because clobetasol may initially be treating the rash but potentially promote carcinogenesis. Another concern is that cells could enter into a quiescent state which is a reversible non-dividing state. When quiescent, the cells can evade cancer treatment which specifically targets rapidly dividing cells. Treatment of the vulvar carcinoma cell lines UMSCV-2 and UMSCV-4 with clobetasol appears to promote quiescence. To establish if this is actually happening our research examined changes in expression of several markers for quiescence, namely, CDK-2, Cyclin D which are downregulated and p21, p27 and p63, which are upregulated in quiescent cells.

27 • Isolating Serotonin Receptors from RNA of the Snail, *Lymnaea stagnalis*

ALLISON DROZDA, SARAH JONES
FACULTY SPONSORS: JANICE LOVETT AND DUANE MCPHERSON, BIOLOGY

5-hydroxytryptamine, 5HT or serotonin, is a neurotransmitter that functions in muscle movement and behavior. Target tissues have receptors for serotonin. There are seven 5HT receptor types known in vertebrates. The goal of our research is to sequence the analogous 5HT

receptors in mollusks for comparison across the phyla. We started by identifying degenerate primers determined from a range of invertebrates that we believed would isolate one of the two 5HT1 and the 5HT2 receptors in mollusks. We performed PCR with these primers on cDNA synthesized from *Lymnaea stagnalis* brain RNA. We also used degenerate primers previously identified to amplify the 5HT7 receptor. Bands that appeared to be the genes for 5HT1 and 5HT7 receptors were present after agarose gel electrophoresis. These PCR products were next inserted into plasmids and we selected the white colonies resulting from a blue-white screening procedure. These colonies were then isolated, and DNA was extracted and sequenced. This confirmed that we had isolated the receptor gene for 5HT7. We will now design new primers for 5HT1 and 5HT2 receptors as well as test the successful 5HT7 primers on different species of mollusks.

28 • ESP's Effect on the Glucosinolate-Myrosinase Pathway in *Brassica rapa*

AUSTIN LAMB, CAMRYN LIEB
FACULTY SPONSOR: JANICE LOVETT, BIOLOGY

Brassica rapa is an important model plant that has been selectively bred so that it is able to grow continuously under fluorescent light and complete its life cycle in less than six weeks' time. *B. rapa* is closely related to important functional food plants such as cauliflower and broccoli. All of these plants produce a class of compounds called glucosinolates. These biologically active compounds are used in plant defenses and contribute to the plants' nutritional benefits. The enzyme myrosinase converts glucosinolates into toxic isothiocyanate. The plant also produces compounds called epithiospecifier proteins (ESP) which act to change the end product produced by the myrosinase to a biologically safer compound. These compounds still have allelopathic effects. An esp gene from *Brassica rapa* has been cloned into an expression vector and the protein produced. Two known glucosinolates were purchased and combined with myrosinase and with and without the isolated esp protein. After being incubated together the end products were analyzed using reverse phase LC-MS on a C18 column. Using the LC-MS the effects of ESP on the glucosinolates will be observed.

29 • Environmental Enrichment Reduces Stress-Induced Relapse Over Protracted Withdrawal Periods in Ethanol Taking Rats

MARGARET MENGUCCI
FACULTY SPONSOR: JANICE LOVETT, BIOLOGY

Although medications for alcohol addiction show promise in reducing alcohol use when compared to no treatment, they continue to fall short of being highly effective when the goal is long-term abstinence. One potential treatment strategy to support long-term alcohol abstinence is Environmental Enrichment (EE). The present study sought to determine if the implementation of EE after ethanol self-administration training in rats would reduce or eliminate continued ethanol consumption and protect against stress-induced relapse over protracted withdrawal periods. Forty rats were given unlimited access to ethanol for 12 days and then underwent forced abstinence conditions for 7 or 30 days, half in EE containers and half in standard cages. After the protracted withdrawal period, all rats underwent relapse tests. The results showed that EE rats consumed significantly less ethanol than the non-environmentally enriched (NEE) rats during the normal and stress-induced relapse tests for both the 7 and 30 day protracted withdrawal periods. This suggests that enriched life conditions are important in facilitating long-term abstinence and preventing relapse in alcohol addiction.

30 • Comparison of the Genetic Composition and Colony Structure of *Formica glacialis* Ant Nests Over Time

BOWEN WU
FACULTY SPONSOR: JENNIFER APPLE, BIOLOGY

As a common ant species on the SUNY Geneseo campus, *Formica glacialis* is a useful organism for studying the causes of distribution and movement patterns. Since 2008, we have been mapping and monitoring its nests in the Roemer Arboretum and have found that its colonies can be disrupted by the activity of slavemaking ants. These slavemaking ants, predominantly *Formica subintegra*, are social parasites that raid host ant nests to capture their brood; captured ants will become its workforce, providing care for the slavemaker offspring and foraging outside the nest for food. The genetic composition of an active nest may thus change over time because of relocation of host colonies or founding of new colonies in evacuated nests. We compare the genetic composition of *F. glacialis* workers collected from the Arboretum 5-6 years ago to workers from the same active location in summer 2015. By examining genetic composition of the samples collected in the two time periods, we are able to determine whether they represent the same or a different host colony. These results will provide insight into the stability of colonies over time, which is especially interesting given the potentially disruptive effects of the threat of exploitation of slavemaking ants. ***Selected for presentation at Northeast Natural History Conference, Springfield, MA.***

31 • Removal of Fruits by Birds from Native vs. Invasive Shrubs in Western New York

See SESSION 2J for abstract

GINA SCANDAGLIA

32 • Incidence of *Wolbachia* Infection in Free-living, Enslaved and Slavemaking Formica Ants

HANNAH LOO
FACULTY SPONSOR: JENNIFER APPLE, BIOLOGY

Wolbachia are a group of maternally inherited bacteria commonly found in arthropods and are one of the world's most abundant intracellular symbionts. Although the bacteria is commonly transmitted vertically, from mother to offspring, recent research has suggested that horizontal transmission, which occurs between members of different species, may be a means of transmission as well. Here, my work seeks to identify whether *Wolbachia* is being horizontally transmitted between slavemaking ants and their slaves. Slavemakers and corresponding slaves from the same colony were assessed for *Wolbachia* infection through use of polymerase chain reaction (PCR) to amplify *Wolbachia*-specific genes. PCR results point to differing rates of infection between slavemakers and slaves, with higher incidence of *Wolbachia* infection among slavemakers. Sequencing PCR products could indicate whether slaves harbor identical strains to slavemakers, and thus may have obtained the infection through horizontal transmission.

33 • Comparison of Insect Herbivory on Native Versus Invasive Understory Shrubs

HANNAH MRAKOVCIC
FACULTY SPONSOR: JENNIFER APPLE, BIOLOGY

The purpose of this study is to compare leaf insect damage on invasive shrubs (Amur Honeysuckle, Lonicera maackii, and Autumn Olive, Eleagnus umbellata) to a native shrub (Gray Dogwood, Cornus racemosa) in Geneseo's Spencer J. Roemer Arboretum. A potential reason for the success of non-native species in their invaded habitat is that they have escaped their own specialized herbivores. Consequentially, invasive species may disrupt local food webs since they do not support native insect herbivores that local birds may prey on. We hypothesized that the leaves of native species would have the highest damage levels, since native herbivores are accustomed to feeding on them, whereas the non-natives are less likely to be fed on by native herbivores. Last autumn, leaves on 20 shrubs of each species were marked and photographed with a digital camera. Damage was categorized to compare damage types among the three species. Leaf photos were analyzed using ImageJ to quantify the proportion of leaf area damaged per leaf. Preliminary analysis indicates that there is significantly more herbivore damage on the native species than both invasive species, suggesting that the native shrub has greater value in the local food web than the invasive species. ***Selected for presentation at Northeast Natural History Conference, Springfield, MA.***

34 • The Effect of Invasive Shrubs on Soil Carbon Dioxide Emission Rates Compared to Native Dogwood in Spencer J. Roemer Arboretum

JOSHUA BACKHAUS
FACULTY SPONSOR: JENNIFER APPLE, BIOLOGY

Invasive shrubs often face little resistance and may thrive by promoting a microbial community foreign to the native soil environment, altering the soil's properties, and resulting in the surrounding soil becoming more suitable for these invasive species. Spencer J. Roemer Arboretum harbors three invasive shrubs, *Lonicera maackii* (Amur Honeysuckle), *Rhamnus cathartica* (Common Buckthorn) and *Elaeagnus umbellata* (Autumn Olive), which compete with native *Cornus racemosa* (Gray Dogwood). The purpose of this study was to determine the effect of invasive

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shrubs on the CO_2 emission rates of surrounding soil. Abiotic factors, soil temperature and pH were also measured. CO_2 emission rates were estimated using the soda lime method. These tests were performed at two time periods using 10 shrubs of each species. Soils beneath the invasive species E. umbellata had the highest CO_2 emission rates, followed by *L. maackii* and *R. cathartica*. Soils beneath native *C. racemosa* had significantly lower CO_2 emission rates than the invasive shrubs. These differences may reflect differences in decomposition that can occur when invasive species are introduced. These changes in decomposition can potentially alter the cycling of nutrients in the soil, and result in an environment that fosters the establishment and growth of invasive species over natives. ***Selected for presentation at Northeast Natural History Conference, Springfield, Massachusetts.***

35 • Spatial and Molecular Ecology of the Parasitic Plant *Monotropa uniflora*

JULIAN KOOB
FACULTY SPONSOR: JENNIFER APPLE, BIOLOGY

Monotropa uniflora (Indian Pipe) is an example of a non-photosynthetic mycoheterotrophic plant that obtains its carbon by parasitizing mycorrhizal fungi, which mutualistically exchange carbon compounds and mineral nutrients with trees. The goal of this study was to determine which trees are indirectly parasitized by *M. uniflora*, both by mapping its spatial distribution in the Spencer J. Roemer Arboretum at SUNY Geneseo and by identifying its fungal associates. Fine-scale mapping of the plants' distribution, mapping of tree locations, and subsequent analysis in ArcMap indicates that *M. uniflora* exhibits spatial clustering; most clusters fall within the root areas of red and white oak trees, as well as slightly within the root zones of black walnuts in some cases. To identify fungal associates of individual plants, DNA was extracted from root ball samples of *M. uniflora* that were collected from the Arboretum and the Genesee Valley Conservancy Research Reserve. Mycorrhizal fungal DNA was selectively amplified via PCR using primers specific to the ITS region of basidiomycetes and PCR product was sent to an external lab for sequencing. These results contribute to the identification of trees associated with *M. uniflora* and explore the diversity of its mycorrhizal fungi symbionts over a small spatial scale. ***Selected for presentation at Northeast Natural History Conference, Springfield, MA.***

36 • Native Bee Diversity and Abundance at SUNY Geneseo

MEGHAN BARRETT, RYAN CARPENTER
FACULTY SPONSOR: JENNIFER APPLE, BIOLOGY

In this study, fluorescently-painted bowls (white, yellow, blue) filled with soapy water were used to collect bees over the course of ten days from four study sites on the SUNY Geneseo campus: the College Green, a shaded and a sunny site in the Arboretum, and a site by an unmowed meadow. The main objectives of this survey were to determine the abundance and types of bees at sites that varied in exposure to sunlight, level of activity, diversity of flower types and more, to compare bee diversity among those sites, and determine the success of bee bowls in attracting various species of bees. The contents of the bowls were collected, and the bees were pinned and identified. The abundance of bees may differ among sites due to food availability or habitat quality; other factors such as weather and time of year may also affect capture rates. The site comparison aspect of this study can be used to inform improvements in habitat quality for local bees.

37 • The Role of the *Escherichia coli dcm/vsr* Operon on Stationary Phase Fitness

OOHA KAMBHAMPATI, LARA FINNERTY-HAGGERTY
FACULTY SPONSOR: KEVIN MILITELLO, BIOLOGY

Our laboratory is studying DNA methylation in *Escherichia coli*, a process controlled by the Dcm enzyme. Dcm methylates the second cytosine in the sequence 5'CCWGG3'. Our laboratory's microarray data indicates dcm- dependent gene expression changes at stationary phase, suggesting a role for dcm in stationary phase fitness. To test whether dcm is advantageous to the cell in stationary phase, we set up a competition experiment between the wild-type strain and the *dcm* knockout strain to determine which strain would persist. Interestingly, *dcm* is in an operon with one other gene called *vsr*, a DNA repair gene. Another competition experiment was setup to determine whether *vsr* also has an effect on stationary phase fitness. In the competition experiment between the wild-type and the *dcm* knockout strains, the wild-type strain outcompeted the *dcm* knockout; thus the cells with the *dcm* gene have an advantage over the cells lacking the gene. To date, in the competition between the wild-type strain and *vsr* knockout strain, the *vsr* gene seems to promote stationary phase fitness. In summary, both the *dcm* and *vsr* genes have a positive effect on stationary phase fitness in *E.coli*.

38 • Rboh Activity in a *Brassica rapa-Botrytis cinerea* Pathosystem

ADAM WEGMAN
FACULTY SPONSOR: MING-MEI CHANG, BIOLOGY

Plant NADPH oxidases, also known as respiratory burst oxidase homologues (Rbohs), are central mediators of reactive oxygen species (ROS) signaling involved in plant development, responses to external stimuli, and programmed cell death. These enzyme complexes continuously produce low levels of ROS for cell signaling, and are significantly upregulated to drive the respiratory burst during the hypersensitive response to pathogen infections. Previous studies have indicated that Rbohs are under both transcriptional and post-translational control in response to infections; however, the nature of this regulation varies and is not well-characterized in different plant-pathogen systems. Here, we report the preliminary results of a project examining the regulation of Rbohs during infection of *Brassica rapa* by *Botrytis cinerea*.

39 • How Employment, Ease of Access to Healthcare, and Contraceptive Use Affects Pregnancy Rates, Pregnancy Spacing and Age of First Pregnancy Among Malagasy Women

AMELIA SCOFIELD
FACULTY SPONSOR: REGINA CLINTON, BIOLOGY

The Ranomafana region in Madagascar is being deforested at an extreme rate, largely due to the exponential population growth despite the Malagasy government's efforts to provide free contraception. An important focus one needs to keep in mind while studying this problem is women's healthcare. For this study, I found how employment, ease of access to healthcare, and contraceptive use, effects pregnancy rates, spacing and the age of first pregnancy. One hundred eighty-eight women were surveyed from remote villages, an hour or more walk from the road in the Ranomafana peripheral zone, non-remote villages, less than an hour walk from the road in the Ranomafana peripheral zone, and women employed by Centre ValBio, a research facility located in the center of the Ranomafana peripheral zone. It was found that skilled women laborers tend to have lower pregnancy rates, higher ages of first pregnancies and larger pregnancy spacing than unskilled women laborers. Results suggest that helping women in the Ranomafana region gain the skills, opportunities, and education they need in order to become skilled laborers will result in decreased pregnancy rates and therefore decrease the burden of population growth on deforestation rates found in Ranomafana National Park.

40 • ATP-dependent Pump P-glycoprotein May Confer Resistance to 5-azacytidine in Melanoma Cells

CASSANDRE LOUIS
FACULTY SPONSOR: ROBERT O'DONNELL, BIOLOGY

Cancer cells have a high rate of mutation which confers on them certain growth advantages. A melanoma cell line (MDA-MB 435), which has been treated long term with a low dose of 5-azacytidine, has developed a resistance to the drug. To investigate this resistance we have utilized siRNA to target the expression levels of P-glycoprotein (MDR1), a transmembrane, ATP-dependent pump. MDR1 may be responsible for pumping out 5-azacytidine before the drug has had an effect, and thereby increasing the survivability of the cells. With subsequent cytotoxicity assays following transfection with control or MDR1 siRNA, we have observed that the 435 cells that were transfected with MDR1 showed less resistance when compared to the control treated. Future studies will aim to quantify the difference in the expression levels of MDR1 between 435s transfected with the MDR1 and the control siRNA using western blotting.

41 • Analysis of 5-Azacytidine's Effect on the HL-60 Cell Line

DAVID NICHOLAS
FACULTY SPONSOR: ROBERT O'DONNELL, BIOLOGY

The drug 5-Azacytidine, a methyltransferase inhibitor, reopens expression of genes crucial to the regulatory function of the cell. Molecular techniques using MTT analysis, NMR analysis,

RTqPCR, Western Blotting, cell cycle analysis, and flow cytometry to explore both the mechanisms in which a low dose of 5-Azacytidine affects the HL-60 leukemia cell line, and how HL-60 cells develop resistance to this therapy. An MTT analysis established a 20 percent cytotoxic dose of 5 ug/ml over a 48-hour exposure that was used as a standard for all described experiments. Cell cycle analysis for control and treated cells showed a similar profile for G1, S, and G2/M phases. RTqPCR data showed a 6-fold increase of expression of enzyme UCK2, a kinase of pyrimidine crucial for the activation of 5-Aza, and a 6-fold decrease in myc oncogene levels. Western blotting supported a decrease in myc levels. Cells subjected to weekly treatment of 5-Azacytidine for several months revealed insights into how HL-60 cells develop resistance. RTqPCR data on long term 5-Azacytidine treated HL-60s no longer display the increased UCK2 expression seen previously with the single exposure to 5-Azacytidine for 48 hours. Further experiments will continue to test the effects of 5-Azacytidine on HL-60 cells.

42 • Effect of 5-Azacytidine on Micro-RNA Levels in the HL-60 Cell Line

MITCHELL GILLARD, NICHOLAS STAFFORD
FACULTY SPONSORS: ROBERT O'DONNELL AND KEVIN MILITELLO, BIOLOGY

The abnormal expression of four micro-RNAs in patients with acute myeloid leukemia correlates with poor clinical outcomes for these patients. Working with the HL-60 acute promyelocytic leukemia cell line, an AML subtype, the first goal of this project was to determine if the HL-60 cell line expressed micro-RNAs associated with myeloid leukemogenesis. Using a micro-RNA isolation kit and qRT-PCR, we were able to detect thepresence of miR-223, one of the four major micro-RNAs associated with myeloid leukemogenesis. The three other micro-RNAs known to be involved in myeloid leukemogenesis,miR-155, miR-29b-1 and miR-196b, were near the limit of detection of the assay. After determining that miR-223 was stably expressed in the HL-60 cell line, the next goal was to test whether 5-azacytidine, a DNA methylation inhibitor and effective chemotherapeuticagent for AML, could alter the expression of miR-223. We found that increasing concentrations of 5-azacytidine affected the levels of miR-223 expression. Using a derivative of 5-azacytidine, 5-aza-2'-deoxycytidine, the final and ongoing goal of thisexperiment is to determine whether the effects of 5-azacytidine on micro-RNA expression inthe HL-60 cell line are the result of blocking DNA methylation, blocking RNA methylation, or by a novel mechanism. We believe that these series of experiments will provide greater insight into the role of micro-RNAs in cancer and help determine whether their inhibition with 5-azacytidine is clinically relevant. ***Selected for presentation at Experimental Biology 2016, San Diego, CA.***

43 • Combinatorial Effects of 5-azacytidine and Aspirin on MBA-MD-231 Cell Line

NICHOLAS TERRIGINO
FACULTY SPONSOR: ROBERT O'DONNELL, BIOLOGY

Previous studies have shown that epigenetic cancer drugs work more effectively when used in combination with another drug, especially a chemo preventative agent. The drug 5-azacytidine is an epigenetic drug that has been shown to have cytotoxic effects on cancer cells, and could potentially be augmented with aspirin, which is a known chemo preventative agent that has very little side effects. A breast cancer cell line (MDA-MB-231) will be used to test a known optimized dose of 5-azacytidine, and an aspirin dose will be further optimized. The effectiveness of this combination will be tested through apoptosis assays and western blots measuring protein product. Preliminary research has shown that aspirin has shifted the response curve of 5-azacytidine, killing more cells with the same dosage of aspirin. Aspirin has shown to increase the effectiveness of 5-azacytidine, so more cells will be killed with the combination than with 5-azacytidine alone. Further experiments will attempt to elucidate the mechanism by which aspirin enhances the killing of 5-azacytidine.

44 • 5-Azacytidine Increases Class I HLA Expression in Tumor Cell Lines

PATRICK LONG, CASSANDRE LOUIS, DAVID NICHOLAS
FACULTY SPONSOR: ROBERT O'DONNELL, BIOLOGY

MHC-I expression is commonly down regulated during carcinogenesis due to the proliferative advantage acquired. Without class I MHC surface proteins, neoplastic cells are able to avoid surveillance of the adaptive immune system by preventing the presentation of endogenous antigens, providing a proliferative advantage. 5-azacytidine is a novel epigenetic therapeutic drug that inhibits DNA methyltransferase through methyltransferase trapping. Tumor cells display global hypomethylation of their genome but specific hypermethylation of tumor suppressor CpG islands. We hypothesized that tumor cell lines treated with 5-Azacytidine would display an increased amount of Class I HLA expression on their surface. To test this model we have begun to treat MCF-7, MDA-MB-435, MDA-MB-231, A431 and HL-60 tumor cell lines with relatively high and low doses of 5-Azacytidine over a 48 or 72 hour period. For the MDA-MB 435 cell line we also compared long term exposure. Class I HLA ABC proteins were detected with a PE- conjugated anti-HLA-ABC monoclonal antibody and fluorescence measured by flow cytometry. Preliminary results have shown an increase in expression in 5-Azacytidine treated cells compared to controls, but the magnitude of change varied among the cell lines tested. ***Selected for presentation at Experimental Biology 2016, San Diego, CA.***

45 • The Warburg Effect: Studying Cancer Cell Metabolism with the Peripheral Benzodiazepine Receptor Ligand PK11195

SARAH ANSTETT, MICHAEL CUSTANCE
FACULTY SPONSOR: ROBERT O'DONNELL, BIOLOGY

Reprogramming of energy metabolism to a state of unregulated glycolysis, known as the Warburg Effect, is an emerging hallmark of cancer. This process is characterized by an absence of oxidative phosphorylation, and is catalyzed by hexokinase II binding to the outer mitochondrial membrane (OMM). PK11195 is a drug that binds to the peripheral benzodiazepine receptor (PBR) on the OMM, which inhibits hexokinase II binding and limits the rate of glycolysis. MDA-MB 435 cells treated with PK11195 showed decreased cell survival, yet demonstrated recovery when co-treated with PK11195 and supplemental fatty acids. Cells co-treated with PK11195 and supplemental fatty acids demonstrated increased levels of reactive oxygen species when compared to cells treated with PK11195 alone, suggesting that cancer cells can navigate a glycolytic inhibitor by reverting back to producing energy via oxidative phosphorylation. Additionally, PK11195 is a ligand for the constitutive androstane receptor (CAR), which is a nuclear receptor that pumps drugs out of the nucleus. Cells co-treated with PK11195 and 5-azacytidine, a DNA methyltransferase inhibitor, demonstrated decreased cell survival, suggesting that PK11195 may sensitize cancer cells to chemotherapeutic treatment by increasing cell retention of drugs. Thus, PK 11195 may provide two potential treatment benefits when used to treat cancer cells.

46 • Female Genital Schistosomiasis Enhancing HIV Transmission in Sub-Sahara Africa

CAROLINE RUSSO, MEGHAN MCELLIGOTT
FACULTY SPONSOR: SUSAN BANDONI-MUENCH, BIOLOGY

Female Genital Schistosomiasis (FGS) is a specific manifestation of a schistosome infection, caused by egg-induced pathology in women. Ova become deposited in the reproductive tract producing a variety of symptoms. These include disruption of the genital epithelium through the formation of ulcers and lesions, the tendency to bleed easily, and an immunological environment that may facilitate HIV entry and binding to HIV-susceptible cells. We mapped the prevalence of *Schistosoma haematobium* and *Schistosoma mansoni*, and the prevalence of HIV to explore the association between *S. haematobium* and FGS. Using Geographic Information System software and data already compiled on 43 Sub-Saharan African countries, 3 graduated shading maps were created that demonstrate overlap between *S. haematobium* and HIV prevalence; one of *S. haematobium* prevalence, one of *S. mansoni* prevalence and one of HIV prevalence. Statistical analysis done demonstrates that each *S. haematobium* infection per 100 people is associated with a 2.9% relative increase in HIV prevalence.

47 • Finding Correlation Between Environmental Factors and Prevalence of Buruli Ulcer in Ghana

FABIAN THOMPSON
FACULTY SPONSOR: SUSAN BANDONI-MUENCH, BIOLOGY

Buruli Ulcer is a chronic debilitating skin and soft tissue infection that can cause permanent disability and disfigurement. It is caused by the

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environmental pathogen *Mycobacterium ulcerans*, although the mode of transmission of the disease remains unknown. All major endemic foci of this disease are in wetlands of tropical or subtropical countries, which has led to the conclusion that environmental factors play an essential role in the survival of the causative agent of the disease. Spatial analyses were conducted on a regional level in the West African nation of Ghana using Geographic Information Systems (GIS), allowing for the analysis of the spatial distribution of certain environmental factors and their correlation to the distribution of prevalence of Buruli Ulcer. The area of pineapple farms and mango farms in Ghana correlates with prevalence of the disease, as well as number of lagoons and citrus farms. These results do not indicate that these factors are a direct cause of Buruli Ulcer, but there is likely a variable(s) that links these environmental factors to prevalence of the disease.

48 • The Impact and Epidemiology of *Schistosoma* infection of a Periurban Ghanaian Community

GUSTAVE LEONE, NICHOLAS WHITTEL
FACULTY SPONSOR: SUSAN BANDONI-MUENCH, BIOLOGY

Schistosomiasis is a neglected tropical disease caused by trematode worms of the Schistosoma genus. It affects approximately 230 million people worldwide, with cases heavily endemic to parts of Sub-Saharan Africa and Southeast Asia. The acute and chronic symptoms of the infection such as decreased cognitive function and fatigue serve to keep many of those afflicted within a cycle of poverty. Praziquantel is the drug of choice for mass treatment plans and is administered intermittently to suppress morbidity in affected populations. Our group measured the prevalence of *Schistosoma haematobium* and *Schistosoma mansoni* infections which transmit the urinary and intestinal forms of the disease respectively. From a sample population of 80 children and adolescents, we found that 27.5% were infected with *Schistosoma haematobium*, 86% with *Schistosoma mansoni*, and 15% with both infections concurrently. Our findings help to inform future mass treatment plans for Tomefa and make a case for the ongoing burden of Schistosomiasis and the need for alternative treatments and prevention.

49 • Towards Investigation of Small-eye Mutant using CRISPR/Cas9 Gene Targeting

ALEXANDRA DANANBERG, HANNAH LOO, MARIA SUAREZ
FACULTY SPONSOR: TRAVIS BAILEY, BIOLOGY

A genetic screen to identify alleles affecting eye development uncovered the *good effort* (*gef*) mutant. The *gef* mutants are characterized by smaller eyes relative to wild-type fish. Although *gef* mutants exhibit smaller retinas, the lens appears unaffected, suggesting the *gef* phenotype is a result of retinal-specific degeneration. Meiotic mapping linked *gef* near the *chaf1b* gene, which is required for assembly of histone octamers onto newly replicated DNA. Loss of *chaf1b* function results in inability to attach DNA to new histones, ultimately resulting in DNA damage. This damage activates tp53, which may trigger apoptosis if damage is irreparable. This model of cellular death is consistent with the activation of apoptosis seen in the gef mutants. Sequencing of *chaf1b* in *gef* mutant embryos has shown that the *gef* phenotype correlated with a three-base-pair deletion in intron 3. To determine whether the deletion causes the *gef* phenotype, we are targeting *chaf1b* using CRISPR/Cas9 knockout technology. We generated a vector to create double transgenic fish. One transgene drives expression of Cas9 endonuclease and the other a guide RNA specific to chaf1b intron 3 that should result in small DNA deletions only at the same location. ***Selected for presentation at 2016 Northeast Society for Develpopmental Biology Regional Meeting, Woods Hole, MA.***

50 • Multiplex Conditional Mutagenesis in Danio Reio Using CRISPR/Cas9 and Multiple gRNAs

BOWEN WU, JONATHAN KORDIYAK
FACULTY SPONSOR: TRAVIS BAILEY, BIOLOGY

The *good effort* (*gef*) mutant zebrafish correlates with a 3-base DNA deletion of chromosome assembly factor 1b (*chaf-1b*) gene, which ultimately leads to retinal degeneration caused by cell death. A recent study suggests that protein tp53 is responsible for signaling this apoptotic pathway, therefore we use an efficient, one-generation multiplex conditional mutagenesis system on zebrafish using the CRISPR/Cas9 System. The CRISPR endonuclease system is capable of targeting a specific gene and consequently destroying it by inducing a Cas9-mediated double-strand break in the DNA. This endonuclease is incapable of independent cutting, however, and requires the cooperation of specific guide-RNAs (gRNAs) to target its cut sites. We plan to integrate several gRNAs onto a Cas9 system in order to target the *tp53* gene, alongside the *chaf-1b* gene. If both *chaf-1b* and *tp53* genes were to be silenced via a CRISPR system, we predict that cell death will be prevented in the induced *gef*-like mutants.

51 • The Putative Role of Tumor Suppressor tp53 in the Retinal and Neural Cell Degeneration of *gef* Mutants via chaf1b Induced Apoptosis in *Danio rerio*

ROMAN RAHMANI, NOAH CHAUVIN
FACULTY SPONSOR: TRAVIS BAILEY, BIOLOGY

Tumor Protein 53 (tp53) is a multi-functioning tumor suppressor protein which is intricately involved in many pathways to repair DNA, arrest damaged cell growth and initiate apoptosis. Tp53 is crucial in maintaining genetic stability and preventing cancer formation within cells by mediating a molecular cascade that destroys compromised and irreparable cells. It is suspected that the tp53 pathway might be involved in the embryonically lethal *good effort* (*gef*) mutation. The gef mutation is an allele of the *chaf1b* gene which is missing an exon on chromosome 9; this results in a prematurely truncated protein, thus tampering the protein's imperative function of histone-loading and leading to disrupted cell division. It remains possible that gef mutants morbidity is a result of an activated apoptosis pathway by tp53, which recognizes the erroneous histone-loading as irreparable DNA damage. This hypothesis is investigated through Restriction Fragment Length Polymorphisms (RFLP's), allowing us to confirm the genotype of the zebrafish with confidence. The identification and study of a *gef*/*tp53* double heterozygous zebrafish will allow us to characterize the nature and further analyze the associated pathways among these mutations, which may open the door a deeper understanding of tp53 pathway interactions.

BUSINESS

52 • City on Fire

JAMES CLARKE
FACULTY SPONSOR: MANSOKKU LEE, BUSINESS

I will be running a multivariate analysis using cross sectional data to assess the effects different independent variables have on the amount of fire that occurs in major US cities. My regression will be run using 2014 data and I have 5 different independent variables with a sample size of 15 different cities spread across the country.

CENTER FOR COMMUNITY

53 • Experiences of Bisexual Geneseo Students

SKYLER SUSNICK
FACULTY SPONSOR: AIDEN CROPSEY, CENTER FOR COMMUNITY

This poster summarizes the findings of a focus group with bisexual Geneseo students and how the school may be able to better support these students.

CENTER FOR INQUIRY, DISCOVERY, AND DEVELOPMENT

54 • Creating Common Ground: Cooperative Living of Geneseo

MARY AULD, GREGORY KALVIN
FACULTY SPONSOR: CYNTHIA OSWALD, CENTER FOR INQUIRY, DISCOVERY, AND DEVELOPMENT

Genesee Valley Cooperative is an organization of undergraduates seeking to actively engage the campus and local community. Through a generous award from the Center for Inquiry and Development, we worked toward that goal this year. Through working with established community initiatives, a cooperative residence (coop) envisions a broader purpose: to exist as a medium through which individuals, regardless of living status, can participate in and share their passions for the community. Our coop is a "horizontal business model with an eye towards civic engagement and environmental consciousness." Our presentation will focus on defining the value of cooperative living to the individual and to the community. In addition, we will explain how we attained our goals this year: by publishing and distributing a journal of community events, working towards establishing a makerspace, and facilitating a food share, community dinners, and skill-sharing workshops.

CHEMISTRY

55 • Synthesis of Stercobilin: A Potential Biomarker for Childhood Autism

JORDAN COFFEY, ANDREW VADAS
FACULTY SPONSOR: AMBER CHARLEBOIS, CHEMISTRY

Autism is a condition that is, at present, only diagnosed by psychological tests and observations or by parental assessment. At this time, there is no quantitative method to diagnose autism. Dr. Troy Wood and his team at SUNY Buffalo have observed that children with autism have a lower concentration of stercobilin (a bile pigment synthesized in the small and large intestines) in their urine. We are collaborating with the Wood team to create an internal standard that can be used to measure the amount of stercobilin in a patient's urine. Currently, we are developing and optimizing a method for synthesizing stercobilin. During the synthesis, we are incorporating different levels of deuterium (heavy hydrogen) so that the stercobilin can be labeled which would allow the amount naturally occurring in a patient's urine to be quantified. Once complete, we will be on our way to create the first quantitative method for diagnosing autism. We report here the synthetic route and the evidence of the spectroscopy of our stercobilin. ***Selected for presentation at 252nd American Chemical Society National Meeting & Exposition, Philadelphia, PA.***

56 • Analysis of Native and Reduced Protein Structures Using HPLC

MATTHEW STEINSALTZ, RYAN CARPENTER
FACULTY SPONSOR: AMBER CHARLEBOIS, CHEMISTRY

Typically in the undergraduate biochemistry curriculum High Performance Liquid Chromatography (HPLC) is used for purification purposes; however, there is potential for its use in structural analysis. We are in the process of developing a novel biochemistry laboratory experiment that will investigate structural modifications: native (completely folded), denatured (partially unfolded), and reduced (completely unfolded) forms of proteins, specifically, Bovine Pancreatic Trypsin Inhibitor (BPTI) and α-chymotrypsin. This is done using reverse phase HPLC (HPLC-RP), a vital technique for chemical analysis. The chromatographic results of our investigation are reported here using mass spectrometry (MS) as our detection method. Once established, this analysis will be optimized and transformed into an upper level undergraduate biochemistry lab that will provide students with a deeper understanding and elucidation of protein structure, oxidation/reduction reactions, as well as hands on experience with HPLC. ***Selected for presentation at 252nd American Chemical Society National Meeting & Exposition, Philadelphia, PA.***

57 • Synthesis, Characterization and Augmentation of the Chemical and Mechanical Properties of Calcium Phosphate Bioactive Cement for Use in Critical Bone Fracture Repairs

DYLAN OFRI, SABRINA MEDINA , SPOZHMAI QADIRI
FACULTY SPONSOR: BARNABAS GIKONYO, CHEMISTRY

Previous studies to supplement/replace bone, either by inducing new bone growth with bone substitutes, or using electrical stimulation have shown limited success. Normally, an autograft is the most effective method for replacing/supplementing a bone, but they come with certain disadvantages. These include a limited bone supply among young patients with underdeveloped bones, and in elderly patients who, due to heightened bone fragility may not be able to provide a source for the autograft. In this study, we present cement that is designed to act in place of an autograft, and compare the properties of said cement to those of a pig's fibula bone. The aim is to use this model to create a system that can replace autografts. Calcium phosphate cement (CPC), composed of hydroxyapatite (HA), a major component of human bone, is often the basis of many bioactive types of cement. These cements have the unique ability to osseointegrate; however, they come with problems including a lack of porosity and overall poor strength. In our work, the ability of CPC to function as efficient bone cement was optimized using chemical additives to enhance its porosity and mechanical strength. The new cement was characterized using published methods and the data.

58 • A Comparison of Synthesized and Commercially Made Ionic Liquid 1-Butyl-3-methylimidazolium Chloride and Its Role in the Cellulose Extraction of Rice Husks

JANE MATHEWS
FACULTY SPONSOR: BARNABAS GIKONYO, CHEMISTRY

Fossil fuel depletion and its overwhelming contribution of carbon dioxide levels in the atmosphere paves the way for the use of biofuels as a more environmentally and economically friendly use of fuel. The biofuels used in this research are second-generation biofuels, using only the inedible part of the plant. The inedible part of the plant known as lignocellulose consists of cellulose, hemicellulose and lignin. For cellulose to be broken down into glucose, ionic liquids are used as a pretreatment method. The focus of our study is the synthesis and purification of ionic liquid 1-butyl-3-methylimidazolium chloride in order to see a difference between *in situ* and commercially made ionic liquids and to reduce the cost value of the research itself. After synthesizing this ionic liquid, purification and characterization will be employed through various techniques such as CNMR, HNMR, IR, UV analysis, and boiling point temperature. The synthesized ionic liquid and the commercially bought ionic liquid will be compared to note which one is able to provide the best glucose yields.

59 • Microalgae Farming in Action: An Analysis of the Efficacy of Growth Media

JASMINE BELOY, JORDAN GRIFFEN
FACULTY SPONSOR: BARNABAS GIKONYO, CHEMISTRY

Reliance on dwindling reserves of fossil fuels poses a major threat to future economic and energy security, worldwide. Plant biomass-derived fuels recently have been explored as alternative liquid transportation fuels. In the United States, food crops such as corn and soybean are being utilized presently as a feedstock. However, crop- based biofuels require large amounts of arable land, invoking competition between the energy sector and the global food market; thus, precluding their sole use to meet demand for domestic transportation fuels. Fast-growing microalgae are a promising alternative biofuel feedstock as they do not compete directly compete with food crops. They are also more efficient at converting sunlight into chemical energy than their terrestrial counterparts, yielding high percentages of the fatty acids and essentials oils that can be converted chemically to diesel fuel. Despite these advantages, there are many biological, economic, and resource constraints that have limited the commercialization of microalgae fuels. One roadblock to mass-use of microalgae farming is the high cost of purchasing medium. This research focuses on the development of a low-cost algal growth medium and the biodiesel production from algae grown using this media is compared to that grown using other growth media.

60 • A Comparative Study of Cellulose Pretreatment Efficacies of in Situ Prepared Versus Commercially Available 1-Octyl-3-methylimidazolium Chloride Ionic Liquid for Biofuel Production

RUSHKA KALLICHARAN
FACULTY SPONSOR: BARNABAS GIKONYO, CHEMISTRY

Almost all of the world's largest energy sources are being used up at an alarmingly increasing rate, meaning that sooner or later, they will run out, and when they do, what will the world rely on for energy? Researchers are in a race to find other means of energy to be used as fuel, not only because the increasing depletion rate of our main sources of energy, but also because the increasing carbon dioxide levels that are produced from their uses, which contribute to a rise in the Earth's overall temperature. Though there have been advances made with wind energy, solar energy, and, hydroelectric energy, there are still more ways to improve biofuel energy. The goal of this study was to synthesize a potentially cheaper ionic liquid, 1-octyl-3-methylimidazolium chloride, then compare its cellulose pretreatment abilities from rice husks to a previous extraction done using the commercially available version of the IL. The extractions followed a previously formed procedure. Different analyses such as running and processing 13CNMR, 1H-NMR, UV-Vis, IR, were carried out to characterize the IL, comparing the molecular makeup of the synthesized IL versus the commercial IL. The results are presented and discussed.

61 • The Biological Significance of Two Dual Oriented Pal Proteins from Gram-negative Bacteria

RUSHKA KALLICHARAN
FACULTY SPONSOR: BARNABAS GIKONYO, CHEMISTRY

Promotes sustainability

Nontypeable *Haemophilus influenzae* (NTHi) and *Escherichia coli* (*E. coli*) are Gram-negative bacteria that each express a peptidoglycan associated lipoprotein, P6 in NTHi and Pal in *E. coli*. Surprisingly, both proteins have been shown to exhibit dual orientation [1, 2]. The majority of P6/Pal can be found in the periplasm of the cell while a small population of P6 and Pal are toward the extracellular space. Here we report on our studies which demonstrate the biological relevance of P6 and Pal dual orientation. We employed several protein detection methods to elucidate the two orientations of P6 in NTHi under various biologically relevant conditions. More specifically, a cell-permeable biotinylation reagent, (NHS-LC-LC-biotin) and streptavidin-agarose beads to separate the outward and inward facing proteins. We also used protein detection and purification methods to detect whether or not Pal and P6 are released from their bacteria in the presence of human sera. These release studies have great biological significance, as released Pal has been implicated in the pathogenesis of Gram-negative sepsis. ***Selected for presentation at Rochester Institute of Technology Undergraduate Summer Research Symposium 2015, Rochester, NY.***

62 • Identifying Reproducible Methods for Microalgae Biodiesel Production

SHANNON MURPHY, COLLEEN STEWARD
FACULTY SPONSOR: BARNABAS GIKONYO, CHEMISTRY

Reliance on dwindling reserves of fossil fuels poses a major threat to future economic and energy security, worldwide. Fast-growing microalgae are a promising biofuel feedstock because they require less arable land than plants and yield high percentages of the fatty acids and essentials oils that can be converted chemically to diesel fuel. Despite these advantages, commercialization is limited in part by the efficiency of the required chemical processes. This work aims to identify reproducible methods for producing biodiesel from dried algae (*Chlorella*) sources, so that future researchers may test improved methodologies. To this end, organic extraction (2:1 chloroform methanol) was employed to remove lipids from the algae cells. In a second step, transesterification was performed with methanol and an acid catalyst to convert algae lipids into crude biodiesel (methyl esters). These crude lipid and biodiesel products were analyzed using published methods and the results are presented hereafter.

63 • Synthesis and Characterization of Novel Benzimidazole Derivative

PATRICIA ZICK
FACULTY SPONSOR: CRISTINA GEIGER, CHEMISTRY

Benzimidazole derivatives have a broad range of biological activities and play an important role in the medical field. Benzimidazole derivatives have displayed many pharmacological activities such as antimicrobial, antiviral, antidiabetic, anticancer, antihistaminic, anti-ulcerative, antiallergenic, and antipyretic activity. The novel benzimidazole, 2-[phenyl-4-(8-oxymethyloctanoate)]-1H-benzimidazole, was successfully synthesized in the lab in a multistep reaction with a yield of 19.9%. The structures of the products were determined and analyzed by 1H NMR and IR spectroscopies. Absorbance and emission spectra were also obtained. The synthetic details and spectroscopic results of this novel benzimidazole will be presented.

64 • Synthesis of Novel Biphenyl-ester Gelators: the Role of Cholesteryl vs. Methyl and Ethyl Esters on Aggregation and Gelation Behavior

WILLIAM ROBERTS, DOMINIC MORELL
FACULTY SPONSOR: CRISTINA GEIGER, CHEMISTRY

The synthesis and gelation ability of 4,4'-bis-(7-methyloxycarbonyl heptyloxy) biphenyl (BBO8-Me) and 4,4'-bis-(7- ethyloxycarbonyl heptyloxy) biphenyl (BBO8-Et) is reported. These gelators form 1.5% (w/w) stable gels in n-octanol and n-butanol. Previously we reported the formation of chiral gels with similar biphenyl gelators containing a cholesteryl moiety instead of an alkyl group. We attributed the stability and chirality of those gels to the stacking of the cholesterol moiety as one of the primary driving forces for gelation. BBO8-Me and BBO8-Et gels were investigated by circular dichroism (CD), absorption, and fluorescence spectroscopies. BBO8-Me forms chiral gels in both solvents as observed by induced circular dichroism (ICD) spectroscopy. BBO8-Et does not form chiral gels in either solvent. On the basis of x-ray diffraction (XRD) data and molecular modeling, we propose packing modes for the formation of the organogelator aggregates. We suggest the driving forces of aggregation to be a combination of electrostatic interactions between the carbonyl of the esteryl moiety and the oxygen on the biphenyl group, hydrophobic interactions between the methylene chain and CHâ˚™â˚™â˚™Ï€ interactions. Scanning electron microscopy (SEM) was used for the investigation of the morphology of the xerogels. ***Selected for presentation at 251st American Chemical Society National Meeting & Exposition, San Diego, CA.***

65 • Synthesis and Characterization of Benzimidazole-based Ligands with Nitrogen and Oxygen Donating Ligands

JOSEPH MELUNI
FACULTY SPONSOR: DAVID GEIGER, CHEMISTRY

Benzimidazole derivatives have a myriad of uses as pharmaceuticals including serotonin receptor antagonists, DNA intercalators, fungicides, small molecule storing MOFs, orally potent anti-anxiety drugs and even anti-microbial properties. Our research efforts involve the synthesis and characterization of novel benzimidazole compounds with the potential to bind transition metal ions. The reaction of 4,5-dimethyl-1,2-phenyldiamine and salicylaldehyde refluxed in DMF resulted in the synthesis of 5,6-dimethyl-2-(phen-2-ol)-1H-benzimidazole (mono-substituted benzimidazole) with 49.93% yield. This mono-substituted benzimidazole product was characterized through 1H NMR, gCOSY, and HSQCAD studies in deuterated DMSO. A subsequent reaction of the mono-substituted benzimidazole with zinc acetate dihydrate yielded a zinc complex with 80.75% yield. 1H NMR studies were inconclusive in determining structure, but IR studies suggest bidentate binding of zinc to two mono-substituted benzimidazole ligands through the phenolic oxygen and imidazole nitrogen.

66 • Structural Characterization of the Reaction Products of Zinc Chloride and Two Phenylenediamines

PATRICIA ZICK
FACULTY SPONSOR: DAVID GEIGER, CHEMISTRY

Hydrogen bonding plays important roles in areas ranging from drug design to crystal engineering. The presence of two hydrogen-bond donor/acceptor groups in diaminobenzene makes it a good structural scaffold for exploring unconventional hydrogen-bonding interactions in the solid state. Reaction of o-phenylenediamine with zinc chloride in ethanol results in the formation of a tetrahedrally-coordinated zinc complex with two chloride anions and a bidentate phenylenediamine ligand. The compound crystallizes in the orthorhombic spacegroup Pnma with the zinc atom and the o-phenylenediamine ligand residing on a mirror plane. In contrast, the previously reported product prepared from zinc acetate exhibits a zinc coordination sphere composed of two monodentate acetate ligands and two monodentate o-phenylenediamine ligands [Geiger, D. K. Acta Cryst. 2012, E68, m1040] and use of chloro and cyano-substituted o-phenylenediamine ligands yields coordination polymer [Geiger, D. K.; Parsons, D. E. Acta Cryst. 2014, E70, m247-m248]. Under similar reaction conditions employing m-phenylenediamine, the diprotonated diamine is isolated as the tetrachlorozincate salt, which crystallizes in the orthorhombic spacegroup Pna21. The benzenediammonium ions form planes parallel to the ab plane. Extensive N-H…Cl hydrogen-bonding networks are observed in both compounds. The extended structures of these compounds will be reported. ***Selected for presentation at 251st American Chemical Society National Meeting & Exposition, San Diego, CA.***

67 • Studying Cadmium with Mercury: An Examination of Two Coordination Polymers

SAMUEL WEINSTEIN
FACULTY SPONSOR: DAVID GEIGER, CHEMISTRY

Mercury, a free program developed by the Cambridge Crystallographic Data Centre (CCDC), is a powerful tool for the visualization and investigation of crystal structures, allowing users to explore networks of intermolecular contacts in order to study and understand properties of highly ordered crystalline solids. Using Mercury, we have analyzed the bonding and structure of two cadmium-based coordination polymers synthesized in our research group with the formulas C10H15CdN2O4.5 and C10H14CdN2O4. These inorganic coordination polymers are examples of metal- organic frameworks, in which metal cation centers are linked by organic ligands to give potentially porous materials, which have use in separation science, gas or liquid purification,

and catalysis. The results of our investigation will be presented.

68 • Synthesis and Characterization of Apocynin Dimer Derivatives

BREANN COFFARO
FACULTY SPONSOR: DAVID JOHNSON, CHEMISTRY

Current experimental evidence strongly suggests that oxidative stress, or reactive oxygen species (ROS), play a major role in the genesis of many inflammatory diseases. High levels of ROS cause a myriad of problems within the endothelial wall, particularly the formation of lesions and increased permeability. From these studies it was hypothesized that compounds that inhibit NADPH oxidase may be of potential pharmaceutical value. Apocynin, a structural analog of vanillin, is a NADPH oxidase inhibitor that has shown great promise as a therapeutic agent against inflammatory processes. The Johnson team is working with deviations of apocynin analogs including 4-fluoro-2-methoxy phenol compound followed by the 4-bromo-2-methoxyphenol compound. The goal is to work on a dimerization reaction from the starting materials. It is likely that most of these compounds will readily form the dimer because they are closely related to the structure of apocynin with a small deviation. It is thought that these dimers are more effective in inhibiting the MPO from being produced due to their more electron withdrawing groups. So far, the team has successfully created the two aforementioned dimers and is now looking into a third analog, 4-chloro-2-methoxyphenol. ***Selected for presentation at 251st American Chemical Society National Meeting & Exposition, San Diego, CA.***

69 • Determination of the Carotenoid Content of the Berries of Feral Populations of Autumnberry (*Elaeagnus umbellate)*

BRITTANY ABRAHAM, STEPHANIE SOJDA
FACULTY SPONSOR: ERIC HELMS, CHEMISTRY

Autumnberry shrubs, native to Asia, produce a rich harvest of berries in the fall months of September and October. The hearty bushes can grow in a variety of environments and conditions, and their berries are rich in the antioxidant lycopene. Ounce for ounce, autumnberries have 17 times the amount of lycopene as a tomato, the primary source of lycopene in the western diet. Lycopene has been associated with various health benefits including the prevention of cancer and heart disease, two leading causes of death in the United States. The berries studied were obtained from feral plants in Geneseo, NY, as well as Long Island in the months of September and October. The carotenoids were extracted using an organic solvent system, and analysis via UV-Vis spectroscopy confirmed that the primary carotenoid present was lycopene. The amount of lycopene in various extracted samples was determined and compared to previously reported values from commercialized autumnberry shrubs.

70 • Refining a Solid Phase Micro-Extraction Method for the Multisampling of Trans-Resveratrol in Red Wines by Orbital Agitation and Subsequent HPLC Analysis

JULEN BASCARAN, CAROLYN THORNTON, SIYEON CHOI, MICHAL ZWEIG
FACULTY SPONSOR: JAMES BOIANI, CHEMISTRY

Trans-resveratrol has been hypothesized as a possible explanation for the cardioprotective effects of red wine. Wine composition varies widely based on factors including but not limited to the: fermentation time, grape variety, and origin of the vintage. Therefore it is useful to be able to determine the amount of trans-resveratrol in the wine. Previous studies have confirmed that the use of Solid Phase Micro Extraction (SPME) C-18 Silica micro fibers is applicable to the determination of trans-resveratrol concentration in wine. Current fibers are advertised as single use, and therefore can become a financial burden for institutions utilizing these fibers. The experiment at hand looks into the reusability, reliability, and continual efficiency of these SPME fibers for the analysis of trans-resveratrol. Through HPLC analysis and concurrent comparison using an established separation method (Solid Phase Extraction), this experiment will allow for further insight into the reusability of SPME fibers. ***Selected for presentation at 251st American Chemical Society National Meeting & Exposition, San Diego, CA.***

71 • Detection in Polycyclic Aromatic Hydrocarbons (PAH) in Water using HPLC and LC-MS

MICHAL ZWEIG, SIYEON CHOI
FACULTY SPONSOR: JAMES BOIANI, CHEMISTRY

Polycyclic aromatic hydrocarbons (PAH) are carcinogenic and need to be kept out of the drinking water. The EPA tests for their presence using gas chromatography-mass spectroscopy (GC-MS). We investigated the feasibility of using liquid-chromatography-mass spectroscopy (LC-MS) and high pressure liquid chromatography (HPLC) with UV-Vis compound identification to test PAH presence in water as an alternative method. To do this, we need to find the proper conditions at which PAHs would separate from each other. The compounds will be identified by their UV-Vis spectrum and their mass spectrum.

72 • Detection of Pesticides in Locally Produced Honey

VICTORIA KOMPANIJEC, CHRISTOPHER KUBOW
FACULTY SPONSOR: JAY CHARLEBOIS, CHEMISTRY

Colony collapse disorder and other diseases have caused the honey bee population to plummet in past years. Many people believe that pesticide use is a contributing factor to this decrease. This experiment aims to develop a simple and efficient method of detecting trace amounts of pesticide in honey samples. Currently, samples are prepared using the QuEChERS (Quick, Easy, Cheap, Efficient, Rugged and Safe) method and run through an HPLC/MS. Several calibration curves have been created by spiking small amounts of pesticide into honey, and plotting the concentration of pesticide against the area of the resulting peak. In the future, more honey samples from local sources around New York State will be tested for the presence of pesticides.

73 • Photo-Physical Behavior of CdSe Quantum Dots in Controlled Environments

BRANDON MEHLENBACHER
FACULTY SPONSOR: JEFFREY PETERSON, CHEMISTRY

The photo-physical behavior of single CdSe quantum dots were studied using single molecule fluorescence spectroscopy in a controlled atmosphere. CdSe quantum dots were synthesized and single molecule samples were prepared using conventional techniques. Following the synthesis, the blinking trajectories (fluorescence intensity vs time) were then studied in atmospheric conditions. The entire system was then sealed in a glovebox where no atmospheric oxygen came into contact with the quantum dots and the same approach was taken. Surprisingly, quantum dots kinetic patterns are sensitive to surface conditions on the surface of quantum dot with an on slope value of -1.60±.05 in the nitrogen tank and an on slope of -2.78±.13 in ambient conditions. These conditions include the composition, environment of measurement, and size of the molecule. Control experiments that followed showed that this isn't due to sampling and that the quantum dots blinking kinetics are highly sensitive to oxygen exposure. These results also indicate an important role in surface composition of CdSe quantum dots and their blinking behavior.

74 • Green Synthesis of Water Soluble CdSe Quantum Dots as Biological Light Probes

BRENDAN SMITH
FACULTY SPONSOR: JEFFREY PETERSON, CHEMISTRY

An inexpensive and rapid procedure has been developed for the solubilization of CdSe/CdS core/shell quantum dots in water. Hydrophobic solubilization of the nanocrystals is achieved by the use of an oleic acid surfactant coating. The oleic acid surfactant coating is believed to form a head to tail arrangement with the native oleic acid ligands on the QDs in a micelle-like structure. The transfer of the QDs from their native hydrophobic medium to water resulted in a near 100% percent transfer efficiency. No significant difference in photoluminescence quantum yield was seen between CdSe/CdS QDs in water when compared to CdSe/CdS QDs in their native organic solvent. The uptake of CdSe/CdS core/shell oleic acid micelles by *Escherichia coli* K12 was also investigated a potential application for water soluble quantum dots. Future projects will aim to investigate the efficiency of the QD oleic acid micelle as H2 photogeneraters, as well as inexpensive biomarkers, and heavy metal sensors.

75 • Separation of Single-Walled Carbon Nanotubes by Gel Chromatography and Aqueous Two-Phase Extraction

ELLEN COONEY
FACULTY SPONSOR: JEFFREY PETERSON, CHEMISTRY

Single-walled carbon nanotubes (SWNTs) exhibit unique and chirality-dependent optical and

electronic properties that make them promising materials for use in various next-generation optoelectronic technologies. One challenge for SWNT researchers is the development of efficient methods to separate and purify the different SWNT chiralities that exist in as-synthesized samples. A number of different methods have been explored in the literature, including electrophoretic separation, density gradient ultracentrifugation, and diameter-selective solubilization. Here, we present efforts to separate SWNTs using size-exclusion gel chromatography and sodium dodecyl sulfate. Starting from a parent sample containing 16 different chiralities that range in relative abundance from 2-12%, we demonstrate the ability to separate out multiple individual chiralities with purities >90%. Challenges and opportunities associated with this methodology will also be discussed. ***Selected for presentation at 251st American Chemical Society National Meeting & Exposition, San Diego, CA.***

76 • Conjugation Size Dependence of Fluorescein Tagged Amyloid Beta 1-40 on Gold Colloidal Nanoparticle Surfaces

YEZHONG LU, TARIK JAMES
FACULTY SPONSOR: KAZUSHIGA YOKOYAMA, CHEMISTRY

One of the key causes of Alzheimer's disease is incorrect protein folding - fiber formation of amyloid beta protein. More interestingly, amyloid beta proteins exhibit various shapes depending on whether the temperature is higher or lower than human body temperature. Therefore, our group is aiming to investigate the effect of temperature control on the protein to hopefully find the relationship between temperature and protein conformational change. The structure change was successfully monitored through a combination of a dye-encapsulated protein, a pulse laser-system and temperature control equipment.

77 • Detection of Beta 2-Microglobulin aggregates with varying gold sizes and pH's utilizing Thioflavin-T assay

DIMITRA ANASTASOPOULOS, JAISON MEDAYIL
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

β_2-microglobulin (β_2m) is known to be the major component of fibrillar deposits causing amyloidosis. The aggregation of the β_2m leads to the formation of amorphous aggregates, and these aggregates leads to amyloids which bind to the dye, thioflavin T (ThT). In order to systematically test the effect of surface potential to the formation of aggregates, various sizes of gold nanoparticles, and varying pH environments were used. The energy transfer took place during the aggregation process, and it was monitored by fluorescence decay time with sub nanosecond time resolution. It was also monitored with a fluorometer to measure intensity of ThT fluorescence. The aggregates were believed to be constructed out of several types of oligomers. Our hypothesis was that as the gold size increased the fluorescence intensity would increase as well. We also hypothesized that a neutral pH would inhibit amyloid growth. As the size of the gold particles increased from 10 nm to 100 nm, the fluorescence intensity varied throughout, meanwhile fluorescence decay trend demonstrates a longer lifetime decay with increasing size of amyloid beta coated gold nanocolloids. There was no size dependence observed in the gold nanocolloids without the presence of β_2m peptide.

78 • Direct Probing of the Reversible Self-assembly of Amyloid Beta Peptide and Beta2m Oligomers over Nanoscale Metal Colloidal Surfaces

ELIZABETH D'AMBROSIO, NICOLE RALBOVSKY
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

Both amyloid beta protein and β_2 microglobulin are amyloidogenic, and their aggregation abilities are of great interest in disease. We investigated oligomer formation of $A\beta_{1\text{-}40}$ and β_2m monomers over nano gold colloidal surfaces as folded and unfolded conformations of the monomers were induced by an external change in pH. Transmission electron microscopy (TEM) was used to probe the conformation of the protein situated on metal colloid. Using circular dichromism spectroscopy, the secondary structures responsible for binding to gold surfaces and for protein networking were investigated. CD spectroscopy revealed an increase in alpha helix formation when β_2m interacted with gold. Reduced networking under high pH conditions as seen on TEM indicates that alpha helical coils could support the binding and networking of β_2m. Overall, we have obtained evidence for controlling a degree of Aβ and β_2m networking by varying pH conditions. Thus, it provided us with a further understating of the peptide networking processes taking place in fibrillogenesis. ***Selected for presentation at 251st American Chemical Society National Meeting & Exposition, San Diego, CA.***

79 • Studying Amyloid Peptide Oligomer Dynamics over Nanometer-interface

HONGLING CHEN, MAGGIE LUCE, NICOLE ROUNTREE
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

The conformation of Fab, Amyloid peptide 1-40 ($A\beta_{1\text{-}40}$) with N-terminal attached fluoresein was investigated as the peptide attached to a nanogold colloid. Various sizes of nanogold colloids were used and the picosecond fluorescence dynamics of fluorescein reflecting the conformation of $A\beta_{1\text{-}40}$ were observed. The fluorescence intensity increased when $A\beta_{1\text{-}40}$ was adsorbed on a gold colloid; however, no significant change in dynamics was found for any given size of nanogold colloid. The lifetime was slowed as the size of the gold colloid was increased, resulting in nanosize dependent dynamics. The enhancement of fluoresence due to the presence of the gold colloids supports that nonradiative channels were closed. Based on these results, it is thought that the $A\beta_{1\text{-}40}$ monomers align in an organized way along the conformation of the oligomer while maintaining enough distance between one another, allowing unfavorable interactions to be minimized. A drastic quenching of the fluorescence was observed in both highly acidic and basic conditions. The source of the quenching in highly acidic conditions is due to a network formed between unfolded monomers. Increased contact between the folded monomer and the nanogold colloidal surface is a major source of quenching at highly basic conditions. ***Selected for presentation at 251st American Chemical Society National Meeting & Exposition, San Diego, CA.***

80 • Probing Diffusion Rate and Internal Peptide Dynamics in a Sol-Gel Matrix: Fluorescence and Lifetime Decay Studies of Fluorescein-Tagged Amyloid Beta Peptide

JOE CHAPMAN, WILLIAM DOWNS, MAGGIE LUCE, RANDHIR SHAH
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

Hydrogels are very popular, serving as an advanced drug delivery method to carry and release drugs to specific parts of the body. Our group is attempting to design a silica sol-gel material-based drug delivery capsule similar to hydrogels with sensitivity-controlled diffusion rate parameters. Inserting a peptide into the sol-gel alters solvent diffusion rates because it changes conformation, possibly blocking gel cavities where solvent normally diffuses through. However, extracting the expression of the structural changes occurring is a challenging study. To probe the peptide dynamics in the gel matrix, fAβ (fluorescein attached to Amyloid Beta 1-40) is encapsulated into a sol-gel matrix and subject to fluorescence and lifetime decay assays at different temperatures and pH levels to determine both the solvent diffusion rates and the peptide structural changes occurring. In addition, different sizes of gold or silver nanoparticles ranging from 10nm-100nm were added into the gel to observe their effects. The diffusion rates and peptide dynamics were minimally affected by temperature change. However, they were found to be sensitive to pH change, which implies that the stable conformation at each pH level reflects on the coverage of the cavity, which in turn affects the solvent diffusion rate. ***Selected for presentation at 251st American Chemical Society National Meeting & Exposition, San Diego, CA.***

81 • Peptide Coverage and Packing on Gold Nanocolloid Surface

KIERAN BROWN, PETER SHEVLIN
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

We investigated the effect of Alpha-synuclein and Beta 2 microglubulin protein coverage on gold nanocolloids in differing pH solutions. An experiment on the peak absorbance wavelength of gold nanoparticles provided insight towards a relationship between surface coverage of the nanoparticles and the first derivative of λpeak with respect to pH. These relationships hold the key to understanding the structure and packing arrangement of the proteins on the gold surface. Current theoretical models are aimed at the goal of

minimizing the potential energy of the polypeptide arrangements.

82 • Investigation of an Effect of Peptide Fiber Formation to Solvent Diffusion Rate in a Sol-Gel Matrix

KUN IL CHUNG, SUNGAH KIM, JUNG BAN, JECEACA AN
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

Background: Currently, the drug delivery technology utilizes sophisticated systems, which allows specific drug delivery along with persistent or controlled release of drugs. Exceptionally, silica gel based materials are bioactive and is regarded to be an accurate drug delivery in the biomedical and dental field. However, many drugs cannot be able to go through the gastrointestinal tract due to their poor physicochemical properties, a high first-pass metabolism in the liver, or degradation in the acidic environment of the stomach. Our research team attempted to design a silica Sol-Gel material with a sensitively controlled diffusion rate parameters. To probe the peptide dynamics in the gel matrix, fAβ (fluorescein attached to Amyloid Beta 1-40) is encapsulated into a sol-gel matrix and subjected to fluorescence and lifetime decay assays at different pH levels to determine both the solvent diffusion rates and the peptide structural changes occurring. In addition, different sizes of gold nanoparticles ranging from 10nm- 100nm will be added into the gel to observe their effects.

83 • Nano Size and pH Dependence of Interfacial Self-assembly of β_2 Microglobulin Peptide

MASON BLADIS, DAVID HARTNETT, MONICA PUJOLS
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

Our group has discovered that a selective oligomerization of amyloid peptide (β_2m) is possible over the nanoscale gold colloidal surface with an external pH change. Remarkably, a type of oligomer depends on the size of nanogold colloid. This was speculated to be due to a most effective oligomer unit to cover a maximum surface area of the gold colloidal surface in an organized manner. So that monomers composing these oligomers can reversely conform in unfolded and folded conformation under an external pH 4 and pH 10, respectively. Further investigation is being done to discover the type of oligomer that is being formed. We investigate the absorbance change in SPR (Surface Plasmon Resonance) band under the condition where a solvent is at room temperature in order to confirm the stability of gold colloid due to protection provided by the peptide. Correlations between the size of the gold colloid surface and optimal coverage of the peptide were analyzed and it was determined that 30 nm was optimal for surface coverage and 50 nm had the best reversibility for folding and unfolding of the peptide. ***Selected for presentation at 251st American Chemical Society National Meeting & Exposition, San Diego, CA.***

84 • An Investigation of Nanoscale Folding and Unfolding of Ovalbumin Protein

NICOLE RALBOVSKY, JONATHAN BEKOE, HENRY HO, JACK EHRET
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

The goal of this research project is to see how different levels of basicity or acidity will affect ovalbumin protein that is situated over nanoparticles. At different sized gold nanoparticles ranging between 10 nm and 100nm and at different pH levels (pH2-pH12), conformational change of ovalbumin monomers or aggregates were confirmed through the use of the circular dichroism (CD) spectroscopic technique within the range of 190-600nm. At lower pH levels, the protein formed a beta-sheet, and at basic conditions, the protein was an alpha helical structure. It was discovered that the 20nm gold nanoparticle size and at acidic conditions, there was the greatest difference in data taken with and without the addition of the protein. The spectra for these conditions also showed a shift in peak position as well as a less enhanced negative signal. This evidence is a strong indication that 20 nm gold nanoparticles have the largest effect on protein folding, which can allow us to better monitor the mechanism of protein folding.

85 • Size Dependence of Beta2-microglobulin Placed over Gold Nanoparticles Observed under Transmission Electron Microscopy

NIKKEL GOHEL, ELIZABETH D'AMBROSIO, MADELINE TUCKER, SHOURIK DUTTA, JESSICA BATTAGLIA
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

Nanoparticles may be used as sensing materials for the onset of neurodegenerative diseases such as Alzheimer's and Parkinson's diseases. Our group has successfully observed how aggregate formation of the amyloid protein Beta2-microglobulin (β_2m) depends on pH and gold colloid size. Using Transmission Electron Microscopy (TEM), the morphologies of β_2m aggregations were observed in vitro attaching to gold nano colloid in water. The presence of colloid aggregation indicates the initial stages of oligomer formation in neurodegenerative diseases. From the tested colloidal sizes, 30 nm, 50 nm and 80 nm were found to display the largest respective differences in particle dispersion between acidic and basic pH conditions. Particularly large aggregates were observed in when using 30 nm gold under acidic pH. Using imaging software the intramolecular distances between gold nano colloid indicated uniformity, a phenomenon often seen as a precursor to the formation of cross-β-sheet structure seen in mature fibrils.

86 • Dynamic Probe of Amyloid Beta Peptide 1-40 Oligomer at Nanoscale Interfacial Environment

PEI YI CHOO
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

The conformation of amyloid beta peptide 1-40 ($A\beta_{1\text{-}40}$) was investigated through picosecond fluorescence dynamics of directly attached fluorescein (fluorescein attached Amyloid beta 1-40, fAβ) to its N-terminal as they were adsorbed over nanogold colloidal particles. While the components of the band of fluorescence remained constant with or without the presence of ($A\beta_{1\text{-}40}$), the entire peak intensity has been increased as FAï•¢ weakly bind to gold colloid. For the same gold colloidal size, there was no significant difference in dynamics was found in the presence of gold colloid. The fluorescence decay time of the excited state of fAβ showed evidence of an increasing trend as a function of nanogold colloidal size adsorbed, and a distinct size dependence of dynamics was confirmed when fAβ was attached over nanogold colloids. The enhancement of fluoresce due to gold colloids closed the channels of nonradiative. The fluorescence intensity and fluorescence decay are inversely proportional to the pH varied between pH 2 and pH 12. The shortening in decay time correspond to the quenching of the fluorescence at highly acidic and basic conditions. This feature was regarded as a general trend for any nanogold colloidal size tested in this work. It is consistent with the decay. ***Selected for presentation at 42nd Annual Fall Scientific Paper Session, Finger Lakes Community College, Canandaigua, NY.***

87 • Interaction between MbtH-like Proteins and Enzymes within NRPS Pathways

JAKE CANAVAN
FACULTY SPONSOR: WENDY POGOZELSKI, CHEMISTRY

Non-ribosomal peptide synthetases are series of enzymes that create unique natural products serving a variety of different purposes. These enzymes are often coexpressed with smaller proteins called MbtH-like proteins (MLPs), which are needed by the adenylation domains of these enzymes in order to properly function. Two such enzymes, PvdL and EntF, and their respective MLPs (PA2412 and YbdZ) are the subjects of this study of NRPS enzyme/MLP interactivity. PA2412 was mutated in order to study the importance of N-terminal residues in MLPs. YbdZ was added to EntF crystals in an attempt to crystalize a module with an MLP bound to it. The mutated N- terminal residues seem to play a role stabilizing MLPs bound to A-domains, as demonstrated by both thermal shift and activity assays. The EntF crystal seed recrystallized in the presence of YbdZ, although the exact structure of this new crystal is still unknown. By diffracting and solving this crystal structure, more light can be shed on just how important these N-terminal residues are when it comes to MLP/adenylation domain binding. ***Selected for presentation at 2015 Buffalo Summer Research Day, University at Buffalo, NY.***

88 • Effects of Elevated Levels of the Mitochondrial DNA 4977-bp Common Deletion on Human Lymphoblast Growth and Metabolism

MICHELLE GULFO

FACULTY SPONSORS: WENDY POGOZELSKI, CHEMISTRY AND ROBERT O'DONNELL, BIOLOGY

Defects in mitochondrial DNA (mtDNA) are associated with aging and degenerative diseases. One such defect called the Common Deletion is a large-scale 4977-bp deletion in human mtDNA (δmtDNA4977) that affects cellular growth and energy production. We are studying the growth and metabolism of human lymphoblasts (white blood cells) bearing elevated levels of δmtDNA4977 to better understand how this particular defect affects cell function. These lymphoblasts are derived from a boy with Pearson syndrome, an incurable and often fatal disease in which cells of the bone marrow and pancreas bear elevated levels of δmtDNA4977. We are obtaining foundational data on these and normal lymphoblasts to investigate how mitochondrial defects such as the Common Deletion affect cellular growth patterns, energetic profiles, and response to supplements. We hope that these studies will lead to better understanding of the role of mtDNA defects in human pathologies and to the development of preventive or corrective therapies for them.

221 • Synthesis of a Novel Photoreversible Stilbene Hydrogelator

ERIC NAIOTI

FACULTY SPONSOR: CRISTINA GEIGER, CHEMISTRY

Photoreversible hydrogels have many potential uses in the biomedical and pharmaceutical fields. It has been reported in prior research that a peptide-based molecule can form a gel when attached to an aromatic moiety and that a stilbene-based molecule has photoreversible gelation potential when attached to a long hydrophobic tail. This project focuses on the synthesis of a novel photoreversible gel that combined a stilbene moiety and a phenylalanine base, each of which show gelation potential. The total synthesis of this molecule is still in progress. ***Selected for presentation at Undergraduate Research Symposium for the Rochester Local Section of the American Chemical Society, Rochester, NY.***

COMMUNICATION

89 • Male Seeks Exotic Wife: What Might Media Reveal About Racism and Sexism?

ANNA FONG

FACULTY SPONSOR: ATSUSHI TAJIMA, COMMUNICATION

This study explores how racism and sexism intersects in romantic relationships. Racism and sexism have been perceived as major social problems—perhaps independent to each other—for a substantial duration in the United States. However, the growth of interracial romantic relationship and marriages as an extension requires in-depth examination of racism-sexism intersections. This study specifically focuses Asian females and their interaction with White males, one of the most visible interracial romantic relationships. Primarily by employing Gerbner's cultivation theory as a theoretical framework, the study conducts a textual analysis and an online survey. The study argues that the stereotyped and sexualized images of Asian female characters influence how males of other races, including White males, perceive Asian females in an altered way. ***Selected for presentation at Eastern Communication Association Undergraduate Scholar's Conference , Baltimore, MD***

90 • Can Given Names Give Empowerment? The Effects of Non-Conventional Names on Women

LEANDRA GRIFFITH

FACULTY SPONSOR: ATSUSHI TAJIMA, COMMUNICATION

This study examines the function of non-conventional first names on women based on the perceptions of the individual who holds the name, the parent that gives the names, and the authors of baby-name media that advise expecting parents in name selection. There is a rising trend in parents naming their daughters non-conventional names, and the feminist movement has gained its highest number of supporters to date. Recognizing how gendered today's institutions still are, parents try to provide as much support toward individualism and empowerment as possible for their daughters. Their attempts begin with a non-conventional first name. My poster presentation centers on educating peers and faculty about the power and meaning that a simple first name has on an individual and their relationships with those around them. I will present the findings of my study, the implications that come from the characteristics of one's name, and future predictions on the long-term effects our society may see. ***Selected for presentation at Eastern Communication Association Undergraduate Scholar's Conference, Baltimore, MD.***

91 • Occupational Therapy and Nonverbal Communication

SKYE CARDONA

FACULTY SPONSOR: ANDREW HERMAN, COMMUNICATION

Occupational Therapy aims to help patients return to their daily "occupations" after an injury, a cognitive deficiency, surgery, visual problem, loss of memory, and general aging. It is critical that the therapist understand not only the individual but the breadth of the age and subject group the individual is a part of as well. In order to gain insight into the patient's life, an OT must have excellent communication skills. To investigate the vital applications and techniques of communication that play a role in Occupation Therapy, five currently employed Occupational Therapists were interviewed about their personal experiences. Overall, the data reflects a need for instances of explicit verbal communication. However, OTs seemed to favor particular facets of nonverbal communication in order to connect, treat, create a rapport with, and educate patients and caretakers. Be it inherit or learned, through coursework or personal experience, nonverbal communication proves to be an essential aspect in being a successful and effective Occupational Therapist. This poster aims to educate and assist students in understanding the exact role communication plays in Occupational Therapy as a career, which is a swiftly growing field of interest for students of all majors.

EDUCATION

92 • Olivia: The Effect Deafness Has On a Student's Education

BREEANNA DEXTER, KAYLAN RUIZ, CAYLEY BREGE, KATHERINE BENSBURG

FACULTY SPONSOR: DOUGLAS MACKENZIE, EDUCATION

This poster presents Olivia, a 13 year old girl who at the age of 3 acquired severe hearing loss after suffering from meningitis. She is now considered to be profoundly deaf. We present information about how Olivia became deaf and how it has affected her education. We discuss accommodations and modifications that have been provided for her and the related services she needs to facilitate learning. In addition, we describe how Olivia gets through a school day and how her deafness has affected her social interactions with her hearing peers in the classroom.

93 • Exploring Attention Deficit Hyperactivity Disorder (ADHD)

EMILY WIDGER, SARAH HARTNETT, MICHAELA DURR, RYANNE KAMINSKI

FACULTY SPONSOR: DOUGLAS MACKENZIE, EDUCATION

This poster presents a mock-case study of a nine-year-old girl, named Annie, who has been diagnosed with attention deficit hyperactivity disorder (ADHD). ADHD is a developmental disability, which usually begins in childhood and can continue into adulthood. Annie struggles with concentrating and being distracted during classes and tests. This poster presents Annie symptoms, the cause of the disability, educational implications, related services, and common misconceptions about her disability. Annie's progression into special education and the details of her Section 504 plan are described in the poster.

94 • What Makes Jimmy Exceptional? A Case Study of a Learner with Autism Spectrum Disorder

KELSEY HUNT, JOHN CUTRONE, TAYLOR CHIOLA, COLIN SUGRUE

FACULTY SPONSOR: DOUGLAS MACKENZIE, EDUCATION

Come take a look at what makes Jimmy an exceptional learner and learn about autism spectrum disorder! Autism spectrum disorder (ASD) is a developmental disability that occurs on a wide spectrum of abilities often denoted by significant communication, social and behavioral exceptionalities. According to the DSM-5, the following three areas characterize autism spectrum disorder: social interaction, communication skills, and repetitive and stereotypical patterns of behavior. In our case study we will evaluate how our individual finds his place within the spectrum. In this context we will discuss how our individual utilizes the many therapies and strategies available today to best meet the unique educational needs of his diagnosis within the school setting. Furthermore, we will explore the prevalence of autism spectrum disorder and discuss current trends with respect to treatment in education.

95 • Teaching Students with Cerebral Palsy: Information, Accommodations, Modifications and Supports for Students Who Have Cerebral Palsy

LAUREN SCHAEFER, TIM NGUYEN, SHAUN-MARIE MURRAY
FACULTY SPONSOR: DOUGLAS MACKENZIE, EDUCATION

Cerebral palsy is a neurological disorder that permanently affects body movement and muscle coordination. This disorder usually appears in infancy or early childhood. Symptoms vary between people but they often include poor coordination, stiff and weak muscles, and tremors. This poster presents a student who has difficulty walking and drags one leg on the ground behind him. The student also has some difficulty speaking. This difficulty leads to problems with learning and communicating appropriately for his age. This requires the student to need an Individualized Education Program (IEP). He also has poor control of his hands and arms which can make writing difficult at times. In order to provide the best experience for all students with cerebral palsy, it is important as an educator to make appropriate accommodations and modifications to adhere to their unique needs.

96 • Helping Visually Impaired Children Conquer Education

SAM DECKER, TAYLOR VANTINE, ELIZABETH TRIFONE, ANDREW SMITH
FACULTY SPONSOR: DOUGLAS MACKENZIE, EDUCATION

In the world today visual impairments is a category of disability which has a high impact on children. In 2014 The National Center on Severe and Sensory Disabilities reported that approximately 45% of students who were struggling with severe visual impairments graduated with a high school diploma. This is alarmingly low in comparison to the 80% of the general population who received a high school diploma. Therefore, teaching children who have a disability under this category can sometimes be a struggle. However, there are many ways in which to minimize these negative effects on children. Through specific accommodations and modifications implemented at an early age and tailored to the child's individual needs, learner's can blossom rather than let their disability hold them back.

97 • Emotional Disturbances: Do You Feel Me?

SAMANTHA SCOTT , KELSEY DAVERIN , STEPHANIE PEARL , AUTUMN PILETZ
FACULTY SPONSOR: DOUGLAS MACKENZIE, EDUCATION

This poster presents information about a student with anxiety, depression, and other disorders and describes ways that emotional issues affect a student's academic and social life. Not only has this child's academic performance suffered due to the disability, but the student'ssocial life in school and outside of school has been affected as well. Along with the student's struggles, we represent ways in which teachers can work with this student, how they can accommodate the student, and provide modifications that can be implemented and support services. We also present ways in which other students in the class can be taught to support a peer with a disability.

98 • Timmy

SOPHIE DEFREITAS, ALYSSA KUEHNLING, CLAIRE PAYNE, EMILY WEBER
FACULTY SPONSOR: DOUGLAS MACKENZIE, EDUCATION

Timmy has dyslexia; because of this, he sometimes has problems reading, writing, and speaking. Dyslexia is a very common learning disability. Even famous celebrities like Steven Spielberg have this specific disability. Due to his disability, Timmy struggles to recognize sight words, so instead of reading a word just a few times, he may have to read it over thirty times in order to identify it. Sight words are defined as words that do not follow the usual rules, so they need to be recognized by sight. Because of this, Timmy needs to learn a little differently than his peers and needs extra time studying using a special activity to help him succeed. Timmy also sometimes needs help with his sound-word connection; in other words, he needs some help with phonics. This poster will then address different strategies teachers can use to facilitate learning, including accommodations, modifications, and support services. These strategies/activities will be on the poster board.

100 • What Is A Leader?

JONATHAN KEE
FACULTY SPONSOR: ELIZABETH HALL, EDUCATION

I am presenting my research on different types of leaders from Ancient Greece to modern day America. I'm specifically looking at how the leadership impacted the people in that country or group.

101 • Why Sports Balls are Created Differently

MATTHEW KLEIN
FACULTY SPONSOR: ELIZABETH HALL, EDUCATION

Matt will be discussing his research about sports balls and why different balls are shaped differently, depending on what sport they are used for. He will report statistics and formulas regarding how his information was achieved.

102 • Golf Ball v. Other Sports Balls (Baseball, Pool Ball, Bowling Ball)

MATTHEW KLEIN
FACULTY SPONSORS: ELIZABETH HALL AND MARY CONIGLIO, EDUCATION

This poster is about the mathematics of a golf ball compared to other sports balls. The sports balls I chose are the pool ball, the bowling ball, and the baseball. Some examples of the mathematics for this poster being presented are the average velocity, size, and the weight of each sports ball for the open eye to see.

103 • Societal Viewpoints Regarding Sexual Assaults

TAYLOR CATHEY
FACULTY SPONSOR: ELIZABETH HALL, EDUCATION

Taylor will be discussing statistics of sexual assault of women in the United States and comparing the statistics with a survey of college students' knowledge of those statistics.

104 • Perform Arithmetic Operations With Complex Numbers

JAKE RYDER
FACULTY SPONSOR: MICHAEL PAWLIKOWSKI, EDUCATION

Through EDU 302, our class has decided our final project, a lesson plan for a selected high school math topic, could also translate as a series of GREAT Day poster presentations. My poster will focus on finding conjugate roots of complex numbers, as well as using the properties of i to turn unusable imaginary numbers into usable real expressions through the use of the form: a+bi, a-bi. The properties of i will also be used to multiply, add, subtract, and divide complex numbers, namely through use of i^2=-1. This presentation will cover Common Core sections N.CN.1 and N.CN.2, with a possibility of adding in N.CN.3 for completion of this area of study.

ENGLISH

105 • Vending Machines in Japan

AYANA IKEDO , AYAKO KANEKO, IKKI TANAKA, HIROKI YOSHIKAWA
FACULTY SPONSORS: IRENE BELYAKOV-GOODMAN, ENGLISH AND WESTON KENNISON, ENGLISH

With 1 vending machine for every 23 people, Japan has one of the highest vending machine densities in the world. You can find them on various places such as streets, stations, and bathrooms. Vending machines have proven to be a convenient solution to the problem of the population density. Even today, Japan works ceaselessly to develop new and interesting types of vending machines that attract the attention of both modern Japanese and foreign customers.

106 • Divulging into the Special Needs of English Language Learners

LEXIE BACOTTI
FACULTY SPONSOR: IRENE BELYAKOV-GOODMAN, ENGLISH

English Language Learners, or ELL students, like every other student, have a unique set of special needs that need to be addressed in the classroom. It is necessary for teachers to familiarize themselves with appropriate methods of attending to the special needs of these students in order to maximize their learning outcomes, which will enable them to become successful and productive members of society. In addressing these special needs, I will elaborate upon successful teaching strategies while breaking down traditional stereotypes of ELLs to set a foundation upon reaching these students. In addition, I will focus on methods of enriching ELLs' English speaking, reading, and writing skills, as well as introducing these students to American culture in order to help them navigate American social conventions.

108 • Korean Culture

BONGJOO KIM, EUNBIN CHO, HYEMIN PARK, NAMYOUNG LEE, YEDARM HAN, SEONG SHIK PARK, JI SOO YU
FACULTY SPONSOR: IRENE BELYAKOV-GOODMAN, ENGLISH

Promotes sustainability

Our poster will be about Korean culture, which consisted of: 1. a comparison between Korean university and American university; 2. Lorean cuisine; 3. traditional / national holidays; 4. do's & don'ts; 5. current issues (from news article...); 6. meaning of national flag; and 7. pop culture (K-pop)

GEOGRAPHY

112 • The Allerton Coops: The Communist American Dream

AISLINN KLEIN
FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

This poster details the rise and fall of one of the first cooperative apartment complexes in America, the United Workers Cooperative Colony, known as "the Coops." Exploring the philosophy of the Coops is important to studying New York City, culture, and urbanism, and shows a unique point in housing history (late 1920s-1940s) of this leftist, self-sufficient community of Jews and African-Americans.

113 • Welcome to Polonia: A Historical Geographic Analysis of Buffalo's Polish Neighborhood

BENJAMIN FREIMAN
FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

Modern day Buffalo, NY is well-known for its post-industrial blight, night owl bars, and mid-tier football team. However, since the mid-eighteenth century, Buffalo has remained a distinctly Polish place. The Broadway-Fillmore district, also known as "Polonia," has been a historical hearth of Polish immigration in the United States. Despite meager origins as a small collection of houses and churches, Polonia grew into a populous and well-known Polish hot spot and remained as such well into the twentieth century. Though factors such as deindustrialization, botched Urban Renewal programs, and steady Rust Belt decline have dramatically changed the demographics and appearance of Polonia over the past century, as well as the rest of Buffalo, its rich Polish ancestry remains. This project will attempt to reflect upon and analyze the history and impact of Polonia and its Polish inhabitants on the city of Buffalo, NY.

114 • HIV and TB Rates in Sub-Saharan Africa

RACHEL WALSH
FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

Tuberculosis is an ongoing epidemic that has been deemed a health emergency by the World Health Organization for a little over 15 years. The reason it continues to be an epidemic is due to the increasing rates of new strains of the virus, most importantly drug-resistant strains of TB as well as little resources on hand. On top of all this countries are dealing with an equally devastating powerhouse disease, HIV. Countries do not have the funds to deal with these issues, especially those in Africa. Africa has been most affected by the tuberculosis "World War," since 1990 when HIV started to affect a large number of people, and even before that. Most countries in South Africa have had high numbers of cases of TB and HIV since 1990 and the number of cases has continued to increase since then. Other countries have had success controlling HIV, but not TB or vice versa. The little success stories that there are have been attributed to hard work and dedication from the government of that state as well as outside partnerships.

115 • Paths of Peril: A Report on the Migration Paths of East African Refugees

SARAH BUCKOWSKI
FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

The civil conflict ravaging parts of Muslim Africa has escalated in the past several years due to the increase in activity of Islamic militant groups amongst the numerous other threats found in the region. This has created some of the largest population shifts in recent history with hundreds of thousands of East Africans, West Africans and Equatorial Africans taking any means necessary to relocate for safety and chance at a more stable life. For most, the end goal is Europe, as relocation to neighboring countries only ends in disappointment. Usually accessed through a chain of smugglers, men, women and children cross Africa in punishing conditions, in terrible equipment with absolutely no guarantee of their safety or successful passage to European soil. This poster sets out to explain the situation in a three-pronged approach: 1) an overview, specifically on the East African migration crisis, 2) an analysis of one of the major paths in the North East Africa migration system today compared to the routes used in the times of the Arab established Trans-Saharan slave trade route and 3) a case study of the one of the largest nationalities taking part in this migration, the Eritreans.

116 • Sustainable Benefits of Tree Canopy at SUNY Geneseo

VICTORIA ROBERTS, SARAH KOWALSKI
FACULTY SPONSOR: JAMES KERNAN, GEOGRAPHY

After creating an interactive campus tree map of SUNY Geneseo utilizing GIS technology, the project has been furthered by analyzing specific attributes about the canopy and its relation to sustainability. The coordinates of the trees on campus as well as their scientific names and diameter at breast height were recorded in the database and spatially represented. With this information and use of the National Tree Benefit Calculator, interpolations of storm-water runoff intake in gallons, monetary property value, energy conservation in kilowatt hours, carbon dioxide sequestration in pounds, and the overall monetary benefits were mapped. The interpolations can be used by the Facilities Grounds Services department for further evaluation and planning of future landscaping designs. The creation of this map has additionally been beneficial in applying for the Tree Campus USA Certification. ***Selected for presentation at Association for the Advancement of Sustainability in Higher Education, Minneapolis, MN.***

117 • Gentrification and Neighborhood Change in Red Hook, Brooklyn

JAMES WADE
FACULTY SPONSOR: JENNIFER ROGALSKY, GEOGRAPHY

Cut off from the rest of Brooklyn by the Gowanus Expressway, Red Hook has historically been a haven for drugs, crime, and prostitution. Since the turn of the century, however, people have been attracted to Red Hook for its cheap real estate, proximity to Manhattan, and quiet atmosphere. Indeed, the process of gentrification has begun to spill over the Gowanus. Concerns remain, however, over the equity of this neighborhood change, as gentrification often raises the cost of living in an area and "prices out" its original residents. The goal of this research is to show, through a series of maps and spatial analyses, how Red Hook differs from the Brooklyn archetype and what changes are currently taking place. I will determine whether or not Red Hook is on a similar trajectory as other heavily gentrified neighborhoods in Brooklyn. Utilizing zoning and land use data from the NYC Department of Planning, demographic and economic data from the U.S. Census, as well as transportation data from NYC's transportation authority, I will show that Red Hook still has a unique character, but that it is also being transformed and is beginning to resemble the more gentrified neighborhoods that characterize much of Brooklyn.

118 • Using Python to Observe Spatiotemporal Variation in Atmospheric Moisture Conditions

BRANDYN BALCH
FACULTY SPONSOR: STEPHEN TULOWIECKI, GEOGRAPHY

Studying spatial patterns in atmospheric moisture and its relationship to regional climate is crucial to understanding climate processes, including the occurrence of drought under projected climate change. However, one of the challenges to understanding atmospheric moisture patterns is accessing and managing vast collections of atmospheric data, collected at global spatial extents, fine spatial resolution, and fine (i.e. monthly) time intervals. The purpose of this project is to develop a Python "script" integrated with GIS software (i.e. Esri ArcMap) to facilitate the processing of large volumes of atmospheric moisture data. Specifically, the script will automate routines such as: 1. Isolating 30 years of monthly atmospheric data, 2. Deriving raster "slices" of atmospheric data at various atmospheric pressure levels for each month, and calculating their "normals" (30-year averages), and 3. Re-calculating monthly climate normals up until the most recent climate data available.

The script will provide a tool for researchers to efficiently visualize atmospheric data at one-month increments, providing a highly intuitive means of analyzing spatiotemporal dynamics of atmospheric moisture. Future work, such as linking atmospheric moisture rasters in an animation using third party software, will reveal spatial changes in atmospheric moisture that occur over time.

222 • A Historical GIS of Population Relocation in Western Vieques, Puerto Rico

ASHTON HUGHES
FACULTY SPONSOR: DAVID ROBERTSON, GEOGRAPHY

In 1941, the United States Navy appropriated approximately two-thirds of the island of Vieques, Puerto Rico, to construct a military base and perform weapons testing on the island. The population of Vieques was forced to relocate to the center of the island, which led to decades of tense relations between the United States. and the Viequense people. After widespread protest, the Navy pulled out of Vieques in 2001, but the geodemographic characteristics of the relocated communities remain mostly unknown. An understanding of this oppressed population is important in validating the continued struggle of the Viequense people to regain access to their ancestral lands. Utilizing the 1935 Special Census of Puerto Rico and GIS, this study analyzes the demographic characteristics of a sample of those dispossessed by these historic events. ***Selected for presentation at 2016 American Association of Geographers Annual Meeting, San Francisco, CA.***

227 • Discovering Small Arms Patters of Violent Non-State Actors

KARLY NOCERA
FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

Gangs, cartels, guerrillas, and terrorists may differ in aim, but each uses violence to enforce decisions and support trade networks. To hinder this behavior, it is crucial to understand the source and route of weapons into the hands of violent non-state actors (VNSA) as well as bolster law enforcement efforts with new techniques to approach the issue. This research is part of a larger project to suggest a best-practice for law enforcement to utilize geospatial analysis and GIS products to better understand and hinder the weapons networks associated with VNSAs. This study begins at a city-level scale, tracing the guns recovered in 2014 and 2015 that are affiliated with a gang member in Rochester, New York. ***Selected for presentation at American Association of Geographers, San Francisco, CA.***

GEOLOGICAL SCIENCES

119 • Sorption of Chlorofluorocarbons at Ambient Concentrations to Thermally Altered Carbonaceous Material

CHELSEA KANALEY, KENDALL FITZGERALD, PATRICK SUTER, MATTHEW REBOLINI, COREY HENSEN
FACULTY SPONSOR: AMY SHELDON, GEOLOGICAL SCIENCES

Chlorofluorocarbons (CFCs) are used in hydrology as a tracer to determine water velocity in groundwater systems. Values are known for the atmospheric CFC concentrations since the production of CFCs began, so the time that the water entered the groundwater system can be determined from the concentration of CFCs in the water and Henry's Law. This model, however, assumes a conservative system where the CFCs are not sorbed by the material that the water flows through. If CFCs sorb to the surrounding material, then the groundwater is being dated incorrectly, as the measured CFC concentrations in the water are lower than when it entered the groundwater system. A previous study done at the University at Buffalo determined that thermally altered carbonaceous material (TACM) sorb CFCs at high concentrations, and a study at SUNY Geneseo determined that this also occurs at natural concentrations. The objective of this study is to verify and further quantify CFC sorption at ambient concentrations. A new apparatus has been devised to more accurately measure CFC sorption to TACM. Preliminary results using the new apparatus confirm CFC sorption to TACM at ambient concentrations.

120 • The Effects of Gradient on the Sinuosity of the Genesee River from Head Waters to Mouth

ABRAHAM FERTIG-COHEN
FACULTY SPONSOR: BENJAMIN LAABS, GEOLOGICAL SCIENCES

The gradient of the topography along the Genesee river will be measured along with the sinuosity in two kilometer intervals to discover what the effect of variable gradient has on the sinuosity of the river. The river will then be divided into segments based on the type of surrounding topography to more generally explain how the sinuosity varies from areas of high gradient to those of flatter topography.

121 • Evaluating Signals of Mountain Glacier and Paleolake Response to Heinrich Event 1, Northern Great Basin, Nevada

MICHAEL REED
FACULTY SPONSOR: BENJAMIN LAABS, GEOLOGICAL SCIENCES

Pleistocene paleolakes in the Great Basin (southwestern U.S.) provide an opportunity to identify temperature and precipitation changes accompanying lake highstands during the last glaciation and deglaciation. Paleolakes Clover and Franklin, (northeast Nevada) existed to the east of the glaciated Ruby and East Humboldt Mountains. Chronologies from lake deposits and moraines indicate that mountain glaciers reached their extent as lakes reached their highstands during the late Last Glacial Maximum (ca. 19.0 ka) and Heinrich Stadial 1 (ca. 17.0 ka). To infer climate change during these times in the northeastern Great Basin, temperature and precipitation results from numerical glacier models are combined with those from a hydrologic model of lake water balance. The water balance model uses calibrated evaporation, weekly meteorological inputs, runoff data, and historical dimensions of paleolakes Clover and Franklin to constrain modern hydrology in terms of soil-water storage and runoff. The glacier model determines mass balance based on monthly meteorological inputs and insolation Combined results of the two models indicate that synchronous lake highstands and moraine deposition during Heinrich Stadial 1 were accompanied by temperatures as much as 12°C less than modern with near-modern precipitation, suggesting that cooling assisted in augmenting effective precipitation during late Pleistocene lake highstands. ***Selected for presentation at Geological Society of America, Baltimore, MD.***

122 • Climatic Conditions of the Western Uinta Ice Field, Uinta Mountains, Utah During the Last Glacial Maximum Inferred from Glacier Modeling

WILLIAM YEUNG
FACULTY SPONSOR: BENJAMIN LAABS, GEOLOGICAL SCIENCES

The Western Uinta Ice Field (WUIF) occupied the western sector of the Uinta Mountains during the last Pleistocene glaciation, forming the largest single ice mass in the range. The time when the WUIF was at its maximum size is known in several glacial valleys from cosmogenic ^{10}Be exposure dating of moraines, which indicate that outlets of the ice field occupied moraines near the time of the Lake Bonneville highstand at ca. 18 ka. The reconstructed, west-to-east rise in glacier equilibrium-line altitudes across this area suggests a strong climatic gradient downwind of Pleistocene Lake Bonneville, possibly reflecting local effects of the lake on glacier mass balance. A two-dimensional numerical model of glacier mass balance and ice flow applied to this area in previous studies is reevaluated here using higher resolution topographic and meteorological models. The known ice thickness and area in glacial valleys occupied by the WUIF was modeled at steady state using a broad range of temperature and precipitation combinations. Model results indicate that lesser temperature and/or precipitation changes relative to modern are needed for ice to fill the eastern valleys occupied by the WUIF, whereas greater temperature or precipitation changes are needed for ice to fill the western valleys. These results are consistent with previous modeling studies and the local trend in equilibrium-line altitudes, further supporting the idea that the magnitude of climate change during the last glaciation was greatest in valleys nearest Lake Bonneville. ***Selected for presentation at Geological Society of America Northeastern Section Meeting, Albany, NY.***

123 • Conodont Fauna within the Schurtleff Separation Horizon Concretions of the Cashaqua Shale, Upper Devonian, New York State

DANIEL SULLIVAN
FACULTY SPONSOR: DANIEL SULLIVAN, GEOLOGICAL SCIENCES

Concretions are widely distributed within the Frasian marine strata of central and western New York. These concretion horizons are associated with transgressive pulses, one of which occurs within the Rhinestreet Formation of the West Falls Group. By identifying the fauna present within the Cashaqua shale from the underlying Sonyea Group it is possible to use the concretion horizon to create a timeline along the basin during a major

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deepening event. Concretion samples will be collected from the Cashaqua Formation of the Sonyea Group from several localities across western New York; these include Beards Creek, Murder Creek, Eighteen-mile Creek, and Cazenovia Creek. Samples collected from the Schurtleff horizon and the conodont lag bed within the upper Rhienstreet Formation will also be analyzed from these localities. Through the study of microfossils it will be determined if there is a spatial change across the basin occurred as well as temporal changes that impact the age biostratiographically and possibly the lateral facies changes.

125 • Introductory Instructional Movies for GSCI 141 - Environmental Science Laboratory

ASHLEY OLIN
FACULTY SPONSOR: JEFFREY OVER, GEOLOGICAL SCIENCES

Learning from observation is a natural and common method of human learning. The overall purpose of this project is to create supplementary lab visuals for GSCI 141: Environmental Science to assist students in grasping some of the abstract concepts and procedures used in the laboratory setting. The plan is that before attending lab each week, students enrolled in GSCI 141 will watch an instructional YouTube video and then take a three question quiz on MyCourses. Movies were produced for each lab that: (1) states the goals of the lab (2) demonstrates techniques used, and (3) address common errors made in the lab.

126 • Biostratigraphic Analysis of the Broken Rib - Coffee Pot Transition, Dyer Formation, Chaffee Group, Upper Devonian, West Central Colorado

HUGH HORNER
FACULTY SPONSOR: JEFFREY OVER, GEOLOGICAL SCIENCES

Upper Devonian events are poorly constrained in the shallow water carbonates of west central Colorado of the Dyer Formation, which is subdivided into two members, the lower Broken Rib Member and the upper Coffee Pot Member. At the Monument Lake section, the diverse biota found in the Broken Rib is characterized by corals, brachiopods, orthocone nautiloids, crinoids, gastropods, bryozoans, as well as teeth of holocephalians, acanthodians, elasmobranchs, and conodonts of the expansa Zone. This diverse fauna disappears just above the contact between the Broken Rib and the Coffee Pot. The Devonian-Carboniferous boundary is proposed to be in the Coffee Pot Member, but fossils have proven to be rare and position of the boundary has not been narrowly constrained.

127 • The Search for Blue on the Red Planet

AARON WEINTRAUB
FACULTY SPONSORS: NICHOLAS WARNER, GEOLOGICAL SCIENCES AND AARON STEINHAUER, PHYSICS & ASTRONOMY

The purpose of this research project is to evaluate the composition of the Martian surface using spectroscopic remote sensing techniques. By analyzing images from the Mars Reconnaissance Orbiter, it is possible to determine the presence of certain molecules, such as O_2 and H_2O. These molecules indicate the presence of hydrated minerals on the surface, which implies the existence of water on Mars. This project has great promise because Mawrth Vallis lies in an area that demonstrates alluvial stratigraphy, meaning that certain phyllosilicates and clays are present and located in channels that indicate the presence of a previously hydrated environment. By understanding this region, we will attain a better grasp on the aqueous history of Mars.

128 • Elysium Planitia: Possible Volcanic Source Terrain for Young Martian Meteorites.

DAVITIA JAMES, MICHAEL JOHNSON
FACULTY SPONSOR: NICHOLAS WARNER, GEOLOGICAL SCIENCES

This study aims to determine the geographic origin of basaltic shergotites - meteorites ejected from cooled lava flows at the Martian surface (Bridges and Warren, 2006). The age of the meteorites is 300-600 Ma (Nyquist et al., 2001), after the assumed end of volcanism on Mars. Two regions of Mars were identified as potential sources for the shergotites based on the occurrence of relatively large (~10 km), young craters (Corinto and Zunil) that have impacted into young lavas. The exposure age of the shergotites during their time in space is about 10 Ma (Nyquist et al., 2001); similar to the age of either crater. Both craters are located in the Elysium province which is characterized by long basaltic lava flows. Context Camera (CTX) images were obtained from the Mars Reconnaissance Orbiter at a resolution of 6 m/pixel in the region surrounding both craters. The CTX images were then map-projected to construct image mosaics. Geologic maps were created in ArcMap 10.3. The density of craters that superpose the craters and the lava flows will be used to estimate the age of the target material and the age of the impact event.

129 • Crater Degradation and Surface Erosion Rates at the InSight Landing Site, Western Elysium Planitia, Mars

JULIANNE SWEENEY
FACULTY SPONSOR: NICHOLAS WARNER, GEOLOGICAL SCIENCES

Erosion rate estimates for Martian terrains are key indicators of past surface processes. Here, we utilize new data over the InSight landing region to quantify the degradation of 100-meter-scale craters and to estimate local erosion rates. For this analysis we mapped craters with rocks in the ejecta on three High Resolution Imaging Science Experiment (HiRISE) images. The craters were then visually classified by morphology from Class 1 craters (pristine) to Class 5 craters (degraded). Using 1 m HiRISE digital elevation models we measured crater depth (d), diameter (D), and rim height (R). From this data, we estimate 14 m of total vertical degradation between Class 2 and Class 5 craters, and 5 m of rim erosion. Using the program Crater Statistics, we determined that modification from a Class 2 to a Class 5 crater requires ~600 Ma +/- 90 Ma. From this age we calculated a 0.02 m/Myr crater degradation rate, which accounts for rim erosion and the filling of the crater floor. The rim height data provides a lower rate of 0.008 m/Myr. The factor of 3 difference between these rates suggests that infill plays a more significant role than erosion in the modification of craters in this region. ***Selected for presentation at Lunar and Planetary Science Conference, Houston, TX.***

130 • Compositional Analysis of Smooth Units In Valles Marineris, Mars

MICHAEL O'SHEA
FACULTY SPONSOR: NICHOLAS WARNER, GEOLOGICAL SCIENCES

The Valles Marineris region of Mars is an area of intense study on Mars because it is one of the largest canyon systems in the solar system. Planetary scientists have evidence that catastrophic outflow channels took place here on the Martian surface. The purpose of this specific project was to learn more about the compositional features of the base, within the canyon, of Valles Marineris. CRISM, compact reconnaissance imaging spectrometer for Mars, data was used to determine the surface mineralogy of smooth units in the region of interest. The goal was to determine the compositional features of these unknown units. CRISM data was uploaded into the program ENVI. This process involved a series of conversion and corrections for atmosphere and photometric factors. Map projections then took place in order to properly upload the images and spectrometry data into a functional form. Furthermore, the large presence of iron-oxidized dust was accounted for and corrected due to its dominance on the Martian surface. The data revealed, via spectroscopy data based on reflection and absorption coefficients, the presence of mafic minerals in the region. This reveals the nature of Valles Marineris and the presence of volcanic activity in the region.

131 • History of Outflow Channel Flooding from an Integrated Basin System East of Valles Marineris, Mars

NEIL WAGNER
FACULTY SPONSOR: NICHOLAS WARNER, GEOLOGICAL SCIENCES

The Eastern Valles Marineris region of Mars contains terrain formed from extensional forces and release of groundwater. There is evidence that shows large volumes of water was traveled through this area as overland flow. The purpose of this new study is to better understand the aqueous history of the broader region of eastern Valles Marineris. We present an integrated analysis of the morphology, chronology, and paleohydrology of outflow channels, chaotic terrains, and other associated landforms. A geomorphic map was constructed in ArcMap using the Thermal Emission Imaging System (THEMIS) Daytime IR Global Mosaic. In addition, several outflow channels were mapped at a scale of 1:80,000 using Context Camera Images (CTX) at 6m/pixel. Channels exposed at Daga Vallis, Columbia Valles, Eos

Chasma, and Aurorae Chasma have near complete preservation of flood morphology including bedrock terraces. The relative chronology of flood channels and the surrounding terrain was determined using high resolution crater statistics and standard production and chronology functions for Mars. Ongoing mapping of the eastern Valles Marineris region confirms that the large chaotic basins here sourced high magnitude flood events. Importantly, the timing of basin formation and outflow channel incision suggests that the basins pre-date flood erosion of downstream bedrock barriers. ***Selected for presentation at Lunar and Planetary Science Conference , Houston, TX.***

132 • Analysis of The Great Mississippi Flood of 1993: A Geomorphological and Depositional History

PATRICK DIEZ
FACULTY SPONSOR: NICHOLAS WARNER, GEOLOGICAL SCIENCES

In 1993, The Midwestern United States experienced one of the costliest, most destructive natural disasters ever seen. The Great Mississippi Flood of 1993 was larger than a 100-year flood, cost the United States $15 billion in damages, and displaced thousands of people. Using Landsat 5 images from years 1987-2004, twelve images were analyzed to determine the transport and deposition of sediment at and near the confluence of the Mississippi, Missouri, and Illinois rivers. Spectral angle mapper (SAM's) was utilized using the GIS software ENVI to more easily identify the changes in water and vegetation. The geomorphological results revealed meandering scroll bars most evident at the confluence of the Mississippi and Missouri Rivers, and at the confluence of the Mississippi and Illinois Rivers. Post flood, Channel erosion and migration was mapped at Pelican Island along the Missouri River and at Bloody Island along the Mississippi. The Depositional history taken from the images revealed that sediment transportation and deposition happened at a faster rate prior to the 1993 flood than it did after the 1993 flood. This was mainly due to a decrease in suspended sediment concentration (SSC) as a result of the velocity and discharge of the river during the flood.

133 • Timing of Fluvial Activity in the Xanthe Terra Region Of Mars: Implications For The Hypanis Delta And Other Potential Landing Sites For Mars2020 and ExoMars

SAMANTHA ECKES
FACULTY SPONSOR: NICHOLAS WARNER, GEOLOGICAL SCIENCES

The Xanthe Terra region of Mars exhibits multiple fluvial networks that are of interest for future exploration. The timing of these channels is poorly constrained and it's not clear whether they formed at the same time or spanned a broader period of history. Furthermore, sedimentary fans that are sourced by some of the channels are currently under consideration as landing sites for ExoMars and Mars2020. It is therefore critical to understand their timing within the chronostratigraphic context of Mars. Current estimates, based on crater counts from the fans, place the fluvial activity within the Hesperian to Early Amazonian epochs [1, 2], relatively late in Mars history. Here, we present a new map for Xanthe Terra to attempt to constrain the timing of fluvial activity in this region. We demonstrate that the timing of river formation spans a broad period of Mars history, which includes the Late Noachian to likely the Early Amazonian. ***Selected for presentation at Lunar and Planetary Science Conference, Houston, TX.***

134 • Deformation of Quartz Microstructures in a Garnet-bearing Granofels

HAYLEY SCHATZ, ATHEEQA AIJAZ
FACULTY SPONSOR: SCOTT GIORGIS, GEOLOGICAL SCIENCES

A garnet-bearing granofels was collected from an outcrop along West Chicago Creek in the Front Range of the Colorado Rocky Mountains. A shear zone is located along strike to the northeast of the sample locality. A quartz grain analysis and shape preferred orientation measurement were performed in order to determine if this shear zone extends to through the sample locality. If so, the sample should be deformed and a have a solid state fabric. The quartz microstructure analysis was done by comparing a thin section image of the garnet-bearing granofels sample, to thin sections made after the experimental deformation of quartz under a variety of temperature and pressure regimes. The thin section of the granofels was most similar to microstructures that formed between 400-700 Celsius. The quartz grains in the thin section were traced and stacked, to quantify the shape preferred orientation. It was determined that the sample has a weak solid state fabric and underwent low strain deformation. It is likely that the shear zone does extend to the outcrop location.

220 • Determining the Experimental Capabilities of the Geneseo Geology Flume

ADRIAN BERGERE
FACULTY SPONSOR: BENJAMIN LAABS, GEOLOGICAL SCIENCES

Research was conducted to determine the experimental capabilities of the Geneseo Geology flume. Stream flow data collected by SUNY Geneseo geology students at nearby Conesus outlet was compared with data collected in the geology department flume to determine if the flume can be used to model the flow characteristics of a real stream. Stream velocity profiles across the channel were determined using data gathered by a velocity meter in both the stream and the flume. It was found that the flume cannot accurately model real stream velocity profiles, and therefore real conditions, due to the rectangular channel shape of the flume.

GEOPHYSICS

135 • Paleomagnetic Evidence for a Multi-Sheeted Assembly of the Maiden Creek Sill, UT

ZACHARY VAN ORNAM
FACULTY SPONSOR: SCOTT GIORGIS, GEOPHYSICS

The Maiden Creek sill is a satellite igneous intrusion of Mount Hillers in the Henry Mountains of south-central Utah. Prior paleomagnetic work on the sill revealed a natural remnant magnetization that varies on a meter-scale. This suggests that the sill was constructed in at least twenty discrete pulses of magma over the twenty meter exposure sampled. This finding supports a similar conclusion derived from magnetic susceptibility data which exhibits an analogous pattern. Paleomagnetic analysis was applied to 22 sampling sites spaced ~5cm apart over ~3.7 m vertical distance of an exposure. It was found that the samples are resistant to alternating field demagnetization, with most only having 80% of the magnetic signal removed. Consequently, the remaining 20% cannot be analyzed and may contain a significant part of the high coercivity component of the magnetic vector. Further, the declinations and inclinations are inconsistent with Oligocene polar positions. These observations suggest the rocks may have experienced chemical weathering. The use of thermal demagnetization in place of alternating field demagnetization could allow for the true high coercivity component to be obtained and these issues to be resolved.

HISTORY

136 • Walt Whitman Birthplace-State Historic Site-Interpretive Center

ERIK MARCINIK
FACULTY SPONSOR: CATHERINE ADAMS, HISTORY

My summer 2015 internship took place at the Walt Whitman Birthplace Association in Huntington, N.Y., where I toured visitors through the house in which the poet was born. There is also an interpretive center that reflects Whitman's vision of democracy, diversity and creativity conveyed through his poetry.

LANGUAGES AND LITERATURES

137 • Initiating Behavioral Science Insights to Better Serve the American People through Intervention of Shanghai's Air Pollution

LEXUS LAM, CAMILLE CHIN, SAVANNAH WILLIAMS
FACULTY SPONSOR: JASMINE TANG, LANGUAGES AND LITERATURES

The title has it all, but why do we ask? Shanghai is one of the busiest cities in China where its population suffers from air pollution. From traffic emissions to heavy industry, it is no wonder why Shanghai has smog all year round. The government in Shanghai has created policies to prevent further pollution and has effectuated an air cleaning program as of 2013 but is it enough? The Environmental Protection Agency reports that Shanghai is the worst and exceeds the normal standards in air quality by a margin. The United States has developed refined methods that may minimize the issue. Renewable energy and minimizing or altering pollution-intensive industries are solutions that may change the quality of air in Shanghai. Based on executive order from the President of the United States, in terms of

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the behavioral science insights, if the United States can intervene in Shanghai, it may help design government policies that can serve the American people.

MATHEMATICS

138 • Adding Another Dimension: The Applications and Future of 3D Printing Technology

AMY LIANG
FACULTY SPONSOR: AARON HEAP, MATHEMATICS

In recent years, 3D printing technology has become more sophisticated, advanced, and widespread. As this technology becomes increasingly available for consumer use, it is important to figure out where this technology can fit into our lives. Up until recently, 3D printing has almost exclusively been used in the STEM fields. As part of the experimental 3D Modeling & Printing course, SUNY Geneseo students explore ways they can apply 3D printing to various academic fields, and create ideas and possibilities for the future of 3D printing technology.

139 • Direct and Inverse Problems for Heat Equation

KIERAN BROWN
FACULTY SPONSOR: ANDRZEJ KEDZIERAWSKI, MATHEMATICS

We discuss several direct and inverse problems related to the heat equation and solve them with varies mathematical and numerical methods. We illustrate our numerical methods using Mathematica.

140 • Simulating Blackjack for Maximization of Success Rate through Card Counting

ELIZABETH LAWSON-KEISTER
FACULTY SPONSOR: HOMMA FARIAN, MATHEMATICS

This research is part of the Mathematics Department at SUNY Geneseo. The goal of this research is to analyze the game of blackjack and create a program that will find the maximal success strategy for the player by using a card counting scheme. This project has two phases. The first is to create a working blackjack simulator in Matlab. This would support one player against an automated dealer. Keeping track of the dealt cards and the changing probability of winning the game would enhance the chances of the player. The second part is to run simulations using different strategies to maximize success rate for the player. I have come to the conclusion that a player is more successful with a strategy of "high risk, high reward" on lower counts. However, at higher counts the player should avoid hitting above a 60% bust rate. Interestingly the game is designed so the player is at a disadvantage and his or her success rate will never go above 50%.

141 • The Effects of State Policies on Trends in Vaccination Non-Medical Exemption Rates

JOSHUA KOLODNY
FACULTY SPONSOR: LISA SMITH, MATHEMATICS

For the last several years there has been a debate about the side-effects of vaccinations which has had a significant effect on the rate of non-medical exemptions. Data on these rates and the possible factors affecting them was collected from 2008 - 2014, analyzed, and the findings will be presented.

142 • Teaching Techniques for Relationships of Volumes for 3-Dimensional Figures

AMBER HO
FACULTY SPONSOR: MICHAEL PAWLIKOWSKI, MATHEMATICS

An overview of research on teaching strategies for high school-leveled geometry courses on volumes of cylinders, pyramids, and cones. The collected research includes general information on how the volumes of these shapes relate to each other, ways to incorporate technology into teaching these lesson topics, and specific activities and teaching strategies to utilize during lesson presentations.

143 • Teaching Techniques for Bivariate Data Analysis in the Middle School Classroom

ANNA HOLCOMB
FACULTY SPONSOR: MICHAEL PAWLIKOWSKI, MATHEMATICS

This research is on a variety of implementations of how to teach the Common Core State Standards regarding Bivariate Data Analysis in an eighth grade classroom. This research includes multiple activities, labs, and investigations that can be incorporated into lessons. The activities will have real world applications, will include technology, and will allow the students discover important concepts on their own. They will allow for students to collaborate together and discuss the mathematical concepts in a setting that they will enjoy. The research will also help to emphasize the importance that the teacher should be a guide for students to facilitate their own learning and that this will allow students to gain a better conceptual understanding of the mathematics being taught.

144 • Best Ways to Teach How to Solve Systems of Equations in Algebra 1

JACQUELINE PFALTZ
FACULTY SPONSOR: MICHAEL PAWLIKOWSKI, MATHEMATICS

Based on research of student learning, what are the best ways to teach how to solve systems of equations in High School Algebra? Can integrating technology into the algebra classroom be helpful in teaching this topic? According to some sources, graphing a system of equations is the best way. On the other hand, some say that solving systems using an algebraic method works best. After taking a look at both of these methods, teachers will be able to determine which one will work best for their students.

145 • Teaching Integer Operations in 7th grade

MAGGIE HALE
FACULTY SPONSOR: MICHAEL PAWLIKOWSKI, MATHEMATICS

This poster looks to address the following question: based on research of student learning, what are the best approaches to teach integer operations in grade 7? This poster looks at the best teaching strategies to help 7th graders understand integer operations. This research is aligned with New York State 7th grade Mathematics Common Core Standards. There has been extensive research on practices of teaching integer operations and the Number System in Secondary schools. Educators are using multiple representations and different types of technology rather than rote memorization to teach the Number System. The goal is for students to have a deeper more conceptual understanding of integer operations and to target a variety of different learning styles. Knowing operations with integers is an extremely important skill for students to have to help them both in future math classes and the real world.

146 • Different Teaching Strategies in Secondary Mathematics

MICHAEL KANE, FRANK DECICCO
FACULTY SPONSOR: MICHAEL PAWLIKOWSKI, MATHEMATICS

This poster will look at different strategies and ways to go about teaching secondary mathematics at the high school level. We present two different mathematic topics, specifically Trigonometry and Factoring, respectively, and show the advantages and disadvantages of the variety of ways to teach these topics.

147 • Effective Methods for Teaching Statistics in 11th Grade Algebra II and Trig

RACHEL SUNG
FACULTY SPONSOR: MICHAEL PAWLIKOWSKI, MATHEMATICS

Based on research of student learning, I have investigated the best approaches to teach statistics in 11th grade Algebra II and Trigonometry. In order to do so, I have looked at various teaching strategies, research articles, and technological resources that will better enable math teachers to effectively teach these topics to their students.

148 • Teaching Circles in Geometry

SARAH PETERSON
FACULTY SPONSOR: MICHAEL PAWLIKOWSKI, MATHEMATICS

During this presentation I will examine the best methods to teach properties of circles, tangent lines, and the relationships among inscribed angles, radii, and chords. I will look at different research based strategies to decide what is the most effective way to teach these things to high school students. I will also look at technology resources, which will amplify the concepts so the lessons are most effective. Finally, I will explore textbooks that help to enhance the concepts and promote student discovery.

149 • Do Standardized Tests Intended to Assess Common Core Education Accurately Reflect Actual Student Learning, Using the MCAS as a Case Study

SAMUEL MILLER
FACULTY SPONSORS: YUSUF BILGIC, MATHEMATICS AND MICHAEL RESTIVO, SOCIOLOGY
The Massachusetts Comprehensive Assessment System (MCAS) is a yearly assessment administered to all Massachusetts public school students in grades three through eleven that is designed to test students' proficiency in English, Science, and Math. The MCAS is just one example of many nationwide programs intended to test student learning proficiency. Passing these tests each year is a requirement for receiving a high school diploma in many states. Due to nationwide struggles to obtain an adequate number of passing grades, the difficulty level of these assessments is often decreased. As a result, some scholars now think these tests no longer accurately reflect how well students are learning. Also administered with the MCAS each year is a student questionnaire that asks self-assessment questions about how well the students think they understand core materials. The goal of this project is to use multivariate tools to examine the relationship between the students' perceptions of their understanding of core material and their actual test scores in order to determine how accurately these assessments predict how well students are learning.

PHYSICS & ASTRONOMY

150 • WIYN Open Cluster Study: Photometry for NGC 2158

DANIEL FINN
FACULTY SPONSOR: AARON STEINHAUER, PHYSICS & ASTRONOMY
High resolution UBVRI photometry of the open cluster NGC 2158 are presented. NGC 2158 is an intermediate- aged, metal poor cluster. The photometric data was taken with the WIYN 0.9m telescope at Kitt Peak National Observatory. Using these results, the astrophysical parameters distance, reddening, and cluster age were derived.

151 • WIYN Open Cluster Study: Lithium in Red Giants of the Open Cluster NGC 2158

DANIEL KROLIKOWSKI
FACULTY SPONSOR: AARON STEINHAUER, PHYSICS & ASTRONOMY
Understanding the evolution of lithium throughout a star's lifetime is of vital importance to the study of astrophysics, from basic stellar modeling to theories about the origins of the universe. As lithium was one of a few light elements created in the big bang, determining its primordial abundance is important for constraining big bang theory. Lithium abundances for a sample of red giant member stars in the open star cluster NGC 2158 are presented. Of particular interest is the detection of four stars, with nearly identical surface temperature and luminosity, exhibiting much higher lithium than is expected to be present in stars at their particular stage of evolution. Only one other star has been discovered in a similar evolutionary state with this lithium overabundance. Finding four more examples in a single cluster raises the possibility that this is a common--albeit short-lived--occurrence in a star's giant branch evolution. We discuss some possible theoretical causes for the enhancement of lithium, implications for understanding the primordial lithium abundance and report on further observations required to fully understand the mechanism behind this phenomenon. ***Selected for presentation at Council on Undergraduate Research Posters on the Hill, Washington DC.***

152 • WIYN Open Cluster Study: Lithium in the Globular Cluster M92

DANIEL KROLIKOWSKI
FACULTY SPONSOR: AARON STEINHAUER, PHYSICS & ASTRONOMY
We present Li abundances of photometric candidate member giant stars of the globular cluster M92 derived from WIYN Hydra spectra. We address membership criteria, as well as discuss the morphology of Li in both V magnitude and B-V color.

153 • The LEGUS Survey with the Hubble Space Telescope: Classification of Extragalactic Star Clusters

KIERAN BROWN, DAVID CLARKSON, GABRIEL GUIDARELLI, SYED AHMAD, LUCA BEALE, MIKE WEBER
FACULTY SPONSOR: ANNE PELLERIN, PHYSICS & ASTRONOMY
As part of the Legacy ExtraGalactic UV Survey (LEGUS), we classified thousands of star clusters detected in the nearby galaxies NGC 1313, M 51, and NGC 6503. LEGUS is an ongoing Treasury Program with the Hubble Space Telescope that recently imaged 50 local (closer than 12 Mpc) galaxies in multiple colours with the WFC3 and ACS cameras, with an special emphasis in the UV bands. Because of the proximity of all targets, the galaxies are being resolved into their main components: stars, star clusters, and associations. Last summer, we focused on classifying star clusters originally detected by a computer. The clusters were visually inspected, one by one, and assigned a class 0, 1, 2 or 3, based on their compactness, shape and luminosity profile. The visual classification is currently being used to train a neuronal network that will automatically classify star clusters in all 50 LEGUS galaxies, which be would too big a task for traditional visual classification.

154 • Acoustical Analysis of Architecture

JONAH PADAWER-CURRY
FACULTY SPONSOR: DAVID MEISEL, PHYSICS & ASTRONOMY
A new dual microphone acoustical testing system has been developed that allows panchromatic analysis of architectural spaces to high accuracy. A previous study by Greg Palermo using a singlemicrophone system was completed and published for the Doty Hall. This is work has now been extended to Wadsworth auditorium and Sturges auditorium using a combination of Fourier and Wavelet analysis. Calibration of the method is based on a resurvey of Doty. Results for all three spaces will be presented and discussed with emphasis on possible listening experience effects of recent renovations applied to the Wadsworth space. Special thanks to Micah Wiesner for the loan of one of the two microphones used in thus study.

155 • Preparing Undergraduates for Solving Problems in PhD-level Research

JARRETT VOSBURG
FACULTY SPONSOR: KURT FLETCHER, PHYSICS & ASTRONOMY
While 'problem solving' is a task that is heavily emphasized in the undergraduate physics curriculum and often cited as a skill needed in 21st century STEM careers, it is unclear how the problem solving experiences of undergraduates compare to those encountered in scientific research and careers. One way to better understand problem solving in authentic scientific research settings and how it relates to undergraduate preparation, is to explore the perspectives of graduate students. We conducted semi-structured interviews with ten graduate students to determine what problems they encountered in their research, what strategies they used to solve these, and how problem solving in their graduate research compared to their undergraduate experiences. We coded these interviews using emergent and grounded theory approaches. Our findings include a taxonomy and context for problems and problem solving strategies, along with implications for problem solving opportunities in the undergraduate curriculum. ***Selected for presentation at RIT Summer Research Symposium, Rochester, NY.***

156 • The PENGUINS BLT Program: A Model for Physics Education Outreach

JULIA DIBERNARDO, ARI KRAMER, JONATHAN SPARLING, NICOLE TOMEI, JARRETT VOSBURG
FACULTY SPONSOR: KURT FLETCHER, PHYSICS & ASTRONOMY
The Physics Educators' Network at Geneseo: Understanding, Inspiring, and Nurturing Students (PENGUINS) provides early high-school teaching experiences for physics undergraduates who are interested in becoming teachers. This program was inspired by PhysTEC, a national coalition dedicated to improving high school physics teaching. Through the Build-it, Leave-it, Teach-it (BLT) program, undergraduates design and build demonstrations to reinforce fundamental physics concepts in unique ways. After discussing and collaborating on lesson plans, participants present these demonstrations in area high school classrooms, and the equipment is left for teachers to use in the future. Additionally, the program has been used to conduct physics education research (PER) on student learning. For five years, the BLT program has positively impacted physics faculty, high school physics teachers, undergraduate physics majors, and high school students.

157 • Characterizing ICF Neutron Diagnostics on the nTOF Line at SUNY Geneseo

HANNAH VISCA, HANNAH HARRISON, ELIZABETH LAWSON-KEISTER, JONAH PADAWER-CURRY
FACULTY SPONSORS: STEPHEN PADALINO AND KURT FLETCHER, PHYSICS & ASTRONOMY

We used SUNY Geneseo's particle accelerator to induce d-d fusion reactions and then calculated the energies of the neutrons emitted based on neutron and associated charged particle time-of-flight measurements. The goal is to prove that we can make the necessary measurements for characterizing fast-response neutron detectors. ***Selected for presentation at National Ignition Facility Users Group Conference, Livermore, CA.***

158 • Determining the Depletion Region of a Solid-State Silicon Detector

HOLLY DESMITT, ARIANA SABZEGHABAE, ELLIE TRELSTAD
FACULTY SPONSOR: STEPHEN PADALINO, PHYSICS & ASTRONOMY

This experiment investigates the relationship between voltage bias and depletion region of a silicon charged-particle detector. An 241Am alpha-emitting source was placed in a vacuum chamber a fixed distance directly below a silicon charged-particle detector. The voltage bias of the detector was varied from 0 V to 50 V causing the resulting energy peaks to shift. An energy spectrum for each voltage bias was acquired in Maestro. The experimental trials were then modeled with a Monte Carlo simulation outputting a histogram representing the theoretical energy peak values. The depletion region for each voltage bias was calculated from the thickness obtained from TRIM. A correlation between the voltage bias and the depletion region of the detector was found for a 5.5 MeV Alpha particle.

159 • Analysis and Optimization of a Thermal Storage Device

JENNIFER LOMAKI, ARIANA SABZEGHABAE
FACULTY SPONSOR: STEPHEN PADALINO, PHYSICS & ASTRONOMY

A heat capacitor is a heat sink which allows for fast storage and retrieval of thermal energy. In this case we used an insulated cylindrical metal garbage can that was filled with crushed soda cans to create our own heat capacitor. A heat gun was used to heat the cylinder up to 103 degrees Celsius which drove out water vapor. The temperature and humidity inside and outside of the cylinder were monitored and recorded using Arduino temperature sensors. As the cylinder cooled down to room temperature, the Arduino temperature data acquisition system allowed us to monitor temperature over a period of time and determine the rate of heat loss. The rate of heat loss was calculated for the aluminum cans. A theoretical model for the device using the principles of thermodynamics was developed. We then mathematically modeled the heat loss and thermal storage. The rate of deposition and retrieval of thermal energy was experimentally measured for the soda cans. The data was compared to the theoretical model and the uncertainty was computed.

160 • Time-Resolved Tandem Faraday Cup Development for High Energy TNSA Particles

MARY KATE GINNANE, ETHAN TURNER, BILAL KOUSAR
FACULTY SPONSOR: STEPHEN PADALINO, PHYSICS & ASTRONOMY

Lasers at LLE utilize ultra-intense laser light to produce high-energy ion pulses through Target Normal Sheath Acceleration (TNSA). A Time Resolved Tandem Faraday Cup (TRTF) was designed and built to collect and differentiate protons from heavy ions produced during TNSA. Heavy ions stop within the primary cup, while less massive particles continue through and deposit their remaining charge in the secondary cup, releasing secondary electrons in the process. The time-resolved beam current generated in each cup will be measured on a fast storage scope in multiple channels. A charge-exchange foil at the TRTF entrance modifies the charge state distribution of heavy ions to a known distribution. Using the known distribution and the time of flight of the heavy ions, the total heavy ion current can be determined. Initial tests of the TRTF have been made using a proton beam produced by SUNY Geneseo's 1.7 MV Pelletron accelerator. Secondary electron production was found to be as large as 70% for the proton beam current at a bombarding energy of 2 MeV. A significant reduction, as low as a 0.7% contribution, was achieved by installing a pair of dipole magnet deflectors which successfully returned the electrons to the cups in the TRTF. ***Selected for presentation at American Physical Society Division of Plasma Physics, Savannah, GA.***

POLITICAL SCIENCE & INTERNATIONAL RELATIONS

161 • The Dangers of Privatization of Military Intelligence

BRANDON GIMPELMAN
FACULTY SPONSOR: EUNJU KANG, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

The privatization of military intelligence has expanded dramatically in the United States since the terrorist attacks of September 11, 2001. Subsequently, private contractors have become an indispensible part of U.S. intelligence operations, accounting for 70 per cent of the intelligence budget (Bloomfield, 2013; Chesterman, 2008, p. 1056; Shorrock, 2007). Military intelligence, or spying, has become one of the fastest growing private industries in the U.S. Many of the duties and responsibilities of the intelligence community are now being performed by private firms, including analyzing signal intelligence and even interrogation. This trend is likely to continue as the need for counterterrorism operations increases all over the world. Critics have dubbed this phenomena as the "security- industrial complex" (Rohde, 2013). Considering the rise of prominent Islamic terrorist organizations such as the Islamic State (also known as IS, ISIS, ISIL or Daesh), Boko Haram, al Qaeda and increasing instability throughout the Middle East and North Africa (MENA), the need for accurate military intelligence has never been of greater importance.

162 • Privatization of Child Welfare Services

EMMA BAMBURY
FACULTY SPONSOR: EUNJU KANG, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

Child welfare services are composed of various components and services. Overall, they are all services that are designed to promote the well-being of a child to address safety concerns they can be facing in their homes. Child welfare services also aim to promote permanency and strengthen family care for children. These services are primarily funded and provided by state agencies. Some of the services offered include foster care, adoption services, family-centered practices and child abuse and neglect prevention. Foster care is a major component of the child welfare services. Foster care is designed to aid children that are in dangerous or unstable living situations and need a temporary, safe environment to live in. Foster care is developed on a system that if a child is in the system for 15 out of the previous 22 months, he or she becomes available to enter the adoption services. There are many various services provided within the realm of child welfare services. The two largest and main services are foster care and adoption. Through the privatization, these services improved significantly creating more efficiency and accountability. Privatization of child welfare services in Kansas and Florida are both case studies illustrating these results.

163 • Reworking Workers' Compensation

MARCUS SCHOEN
FACULTY SPONSOR: EUNJU KANG, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

At its core, workers' compensation insurance is in existence with the purpose of protecting those who are hurt in any way, shape, or form from losing their wages, which are essentially the livelihood of not only the individual, but also anyone who is dependent upon them for survival. This type of insurance can, and in many cases should, pay for medical costs to heal the injury, rehabilitative services like physical therapy, and maintain at least in part the wages of the afflicted worker. In the case of an occupational death, workers' compensation ensures that the families/dependents of the deceased will not struggle to survive without that person's income. There will always be a risk of personal harm involved with hundreds of jobs in the United States, but this risk should not keep anyone from trying to earn the money needed to live the life they want. This is the essential function of workers' compensation, not only to actually keep those occupationally injured on their financial feet, but to also provide peace of mind to all who incur risk in making a living that if hurt, they will still be able to provide for themselves and others.

164 • Privatization of American Prisons

SHANNON PRIMAVERA
FACULTY SPONSOR: EUNJU KANG, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

One of the most booming industries in this country is one that often lies in obscurity within the daily spectrum of news, but in its totality is an industry that garners exponential revenue each year. With the largest number of prisoners per capita in the world, the American prison system is one that dominates the background of the governmental system. With high crime rates across the country as well as general prison populations being so obtuse,

it was almost natural for the government to begin to privatize the industry. When the prison system fell into a downward spiral of lost revenue in the 1980s the ground was paved for private prisons to begin emerging. Yet the issues that surround these private prisons are daunting. This paper will seek to examine not only the history of the prison industry, but also how rising incarceration rates all but paved the way for private prison industry to become one of the most profitable markets in the United States. It will seek to explore and compare how privately-run facilities measure up against publicly-run facilities and how they rank on different performance levels, such as competition, cost effectiveness, quality of confinement, and ethical criterion.

165 • The Privatization of Long Term Care

WAY BRIANA

FACULTY SPONSOR: EUNJU KANG, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

The system that America uses for long term care is a hybrid of public and private funding that has many failings. The partial private-public system removes the accountability of the facilities from the residents and is astronomically affordable. The cost of insurance is very high, and the requirements for Medicaid often leave the elderly completely at the mercy of a system with no other options. There needs to be a shift toward more public provision of care, or there needs to be more monitoring of long term care, and more economically affordable payment options.

166 • Privatization of Hospitals and the Impact on Healthcare Outcomes

ZACHARY SMITH

FACULTY SPONSOR: EUNJU KANG, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

With the passage of the Affordable Care Act of 2010, healthcare markets have by and large been restructured with a focus on cost efficiency. One of the biggest proposals for cost savings has revolved around the privatization of largely unprofitable public hospitals. Due to the unique nature of the US healthcare system and due to the special economic characteristics of healthcare in general, the impact of privatization of public hospitals has not been widely studied in terms of changes in the quality of care and cost savings. However by analyzing case studies both in the US and abroad, it can be concluded that the change in healthcare outcomes relative to cost savings is largely dependent on what classification of ownership change occurred.

167 • The Gender Pay Gap and its Contribution to Economic Inequality in America

AIMEE BACHER

FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

On June 10, 1963, John F. Kennedy signed the Equal Pay Act, which prohibited wage disparity based on gender. Yet over 50 years later, women are still making less than men for the same work. As of 2014, females were paid 79 percent of what males were paid. Although the pay gap has narrowed since the 1960s, progress has slowed in recent years. This matter, which began as a women's rights issue, is becoming more and more of a societal problem that is unlikely to go away on its own. For this presentation, I will further explore the pay gap in relation to historical and political context, state party affiliation, race and education.

168 • Income Inequality and the Gentrification of Urban Neighborhoods

ALEXANDER KWONG

FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

The effect of income inequality on urban neighborhoods such as Brooklyn, New York has had a negative effect on older businesses and consequently, the lower income residents that populate these areas. As wealthier residents continue to purchase property, they bring trends of artisinal business along with them as well as driving up the cost of living. The older businesses that occupy these neighborhoods often times cannot sustain themselvea among this younger, wealthier, and whiter demographic forcing them to close down. As the costs of rent increases, similarly older residents can no longer afford to live in these neighborhoods and are forced out reducing the minority populations of certain neighborhoods such as Crown Heights by up to 14% in the last 10 years. The gentrification of Brooklyn represents the issue of income inequality and its consequences on the lower income. This presentation will seek to explore the effect of income inequality on neighborhoods and changing population and income trends.

169 • Defining, Explaining, and Analyzing the Evolution of the American Dream through the 20th and 21st Centuries

DANIEL LANG

FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

The American Dream has its roots in America's Critical Period stemming from political theorists like Thomas Jefferson and John Locke. It has also manifested itself into the canon of American literature. However, has modernization into the globalized world shifted public opinion from caring about unalienable rights to caring about increased consumerism? Has this shift made the attainment of the American Dream a notion of the past?

170 • Economic Inequality and Well-Being: A Welfare State is a Happy State

DANIEL RANDAZZO

FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

The purpose of my paper is to examine the effects of economic inequality on well-being. Research in political science and psychology, among other fields, indicates economic inequality is negatively associated with life satisfaction and happiness. A vast array of social ills such as alcoholism, mental illness and child abuse are associated with higher levels of economic inequality. Nations that are less egalitarian economically are also associated with populations that tend to have less positive views towards government and society. Typically, the public engages less in political participation and displays lower levels of trust. Not only does inequality predict social ills, but undesirable psychological traits as well. Important issues of note are causality, individual differences and cross-cultural variation. Research suggests that reducing economic inequality in the United States could increase levels of well-being.

171 • Reducing Income Inequality in the United States: Small Changes with Big Results

DYLAN DRAPER

FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

There has been a growing concern in recent years among many members of the American public regarding economic inequality in the United States. Never before has the economic gap between the rich and the poor and middle class been so great, and never before has there been such a large public outcry asking for a solution to be found to narrow the economic gap. The aim of this poster is to present sensible and practical policy proposal ideas directed at improving existing federal programs, such as Social Security and other social welfare programs, in order to reduce economic inequality in the United States, as well as improve the effectiveness of the programs, themselves. Also presented will be proposals aimed at improving the quality and reducing the costs of higher education in the country, which would reduce economic inequality in the United States by giving more people a better opportunity at financial success by allowing more people to afford to attend college and by reducing the economic burden of those already in college.

172 • Public Opinion in America in the Age of Economic Inequality: Why the American Public is Resistant to Economic Redistribution

ELIZABETH SCHROEDER

FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

Over the last half century, economic inequality in America has steadily increased at an alarming rate. The share of income held by the top 1% has reached levels last seen during the American Gilded Age. While in more recent years the American public has become more likely to recognize that economic inequality exists, they fail to support economic policies that would redistribute wealth in order to achieve economic equality. This presentation will explore the various reasons Americans are hesitant to support economic redistribution, including longstanding American values and beliefs dating back to the founding of this nation, in equality of opportunity, but not in equality of outcome. Additionally, it will explore how other factors such as partisanship, class status, nature of the times, and other social, cultural and economic circumstances affect support, or lack of support, for economic policy

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which would reduce economic inequality in America.

173 • Is the American Dream Actually the American Curse?

ERIC BUCHANAN
FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

The United States has always been considered a land of opportunity for immigrants, where individuals can achieve a better life for themselves through hard work and perseverance. Today, individuals still immigrate to the United States in order to pursue the American Dream. However, is the American Dream still a reality today? The nation that prides itself on high rates of social mobility and equality of opportunity is facing a discrepancy between popular rhetoric and the facts. Social mobility in the United States has decreased and the United States is one of the most economically unequal advanced democracies. A major cause of this seems to be American aversion to taxes and social welfare programs. Americans are unique from other advanced democracies in there overtly negative view of these government actions. The question that stems from this is why do Americans oppose government actions that would make the American Dream a realistic possibility for a greater number of people? The answer is that the idea of the American Dream itself promotes policy counterproductive to making it more equally achievable. This paper argues that the American Dream has shaped American public opinion to support policies that decrease the equality of opportunity.

174 • Public Opinion and Alleviation of Income Inequality in the US by the Federal Government: Is This Just Pie in the Sky?

HARRISON HARTSOUGH
FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

By examining current literature in political science on public feelings regarding social welfare, taxes, and the general distrust of government, I will explore how these factors relate to current attitudes about whether the US government should attempt to solve the growing problem of income inequality in the US. Tying together these three contributing factors (an important consideration will be any interactive effects between them) it is clear that the American public may have some vague concerns with the problem of income inequality. However, since public opinion in the three areas I examine is stronger and more divisive, the problem of income inequality in the US becomes a far more difficult one to solve when it comes to specific policies. Thus, public opinion on these issue areas hampers efforts by the U.S. government to alleviate the problems associated with income inequality.

175 • United States' Rising Inequality: How Rent-seeking is Widening the Gap

JAMES GAVIGAN
FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

Inequality has plagued the United States for over a century but has been vastly increasing in the past couple decades. This increase can be partially attributed to the financialization of the economy with particular focus on rent- seeking. Rent-seeking is a theory first proposed by Gordon Tullock (1967) in which individuals seek to increase their wealth without creating any new wealth or without deserving it. This is generally done by those who are already in the top 10% of wealth and have a surplus of capital that they can invest or utilize to influence others. Their political influence can be seen by the fact that the top quintile of wealth has received tax cuts greater than any other group. My presentation will try to explain why this phenomenon has occurred and what we can do to curb its negative effect on income inequality.

176 • Blinded by The American Dream: What Does this Mean for Economic Inequality?

KATHERINE NICKELS
FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

Does the idea of the American Dream contribute to increasing economic inequality in the United States? The focus of this research will attempt to address the underlying factors that fuel the growing economic inequality in our country. It will also attempt to show how the American Dream makes its it difficult for many Americans to accept that there is economic inequality in the United States. Looking at the publics' perceptions about economic opportunity over time will help support these arguments.

177 • Where are the 99%? America's Invisible Wall Against Democracy

LINDSAY HELENBROOK
FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

My poster will look at public participation in the American political system. Specifically it will examine the anomaly that exists between the public's decreasing satisfaction and trust of the government paired with decreasing political participation, including low voter turnout and the lack of cohesive protest movements. It will examine why movements like the Tea Party, Occupy Wall Street, and Black Lives Matter have failed to gain political momentum, and why voter turnout has continued to decline. This will be contrasted against public opinion data that verify low levels of government trust and satisfaction to determine why American democracy has seemingly failed to enforce the will of the many.

178 • Why Do Americans Hate Taxes?

MAXWELL GARNAAT
FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

Simple question: what is the root of the strong American antipathy towards federal taxation? Studies show that Americans have a far greater resentment towards such measures than other nations, even countries which have much higher tax rates. Why is this? The answer can be traced to basic cultural beliefs held by Americans regarding the fairness of taxes in general, the usefulness of federal funding, and the efficacy of government in general, all of which sow serious doubts in the minds of citizens. All of these and more cause Americans to rail against taxes, even ones that do not effect them or may even be to their benefit.

179 • Analysis: Public Opinion on Welfare Policy

NATALIE HILL
FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

Public opinion is supposedly a key aspect of any Democracy. Yet in America, we do not see the public support of welfare programs translate into any policy changes. Why? Perhaps this is due to a lack of voter knowledge in regards to what welfare is, or perhaps it speaks more to our political leaders disregard of the voters. Using academic research and data, this paper will serve to analyze public opinion on Welfare policy in America today and answer these questions.

180 • Analysis of the Relationship between Income Inequality and Public Opinion in the Midwestern United States

SAMUEL EVANS
FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

The Midwestern United States is known for its unique geography, climate and demographics. It differs most from the rest of the country in that most of its inhabitants earn lower incomes due to their occupations as farmers, ranchers, small business owners, etc. Many of these individuals and households also hold fiscally and socially conservative views. For this analysis, there will be an emphasis on determining whether there is a relationship between their lower incomes and their political preferences.

181 • Education Policy Proposal

SARA WARNER
FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

Income inequality is a huge problem in the United States today. There are many factors that political scientists and economists think are the main contributing factors causing the huge income gap and how to fix it. I believe that the biggest contributor to the income issue is the education system and the lack of funding to help the who live in areas where finishing grade school is at extremely low levels. There is a program that isn't very well known yet, that takes children out of homes where there is little possibility for them to either attend school or be able to finish school and puts them in a building like dorms to help them escape the poor lifestyle. Education is key because without it, kids that are born into families in low-income families, have a harder time accomplishing a better life for themselves because they get stuck in the lifestyle they were born into. Proposing policy to help increase the possibility for kids to get all the way through grade school and hopefully get accepted into college could help the income inequality issue because more people would have more equal opportunity.

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182 • Public Opinion on Areas of American Public Policy

ULRICA KIM
FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

This poster consists of an analysis of public opinion on some area of American public policy that relates to inequality. Examples of inequality would be tax policy, government provision of jobs, welfare policy, provisions on jobs, and education policy. I will further explain the wealthy and poor and how that affects our economy. What benefits come out of our tax paying citizens.

223 • Containing the Beast: Rampant Income Inequality as a Threat to the Just Democratic Ideals

THOMAS KOTAK
FACULTY SPONSOR: JEFFERY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

This paper will discuss the topics of political campaign finance, policy responsiveness to the lower and middle class, political apathy regarding income inequality, and the role of interest groups in the current political landscape. By curtailing the effect of money in the electoral process, we can hope for government that responds to the views of all parties rather than a bias towards the upper class. This paper will then make realistic policy recommendations to improve the current problem of uneven, class-based political representation evident in the United States. This paper will address a wide range of possible policy outcomes and discern the solutions most effective in curtailing the threat to democratic governance.

224 • The Dangerous Influence of Interest Groups within American Democracy

SHANNON KARST
FACULTY SPONSOR: JEFFREY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

My project will focus on the power of Interest Groups within the United States and how their influence in government undermines the principle of representation. I plan to focus on significant bills and how interest groups affected the bill's ultimate failure or aproval. Specifically, one of the bills I will focus on is The Affordable Care Act, and the process of interest group-intervention during the health care debate. I will also look at specific organizations such as the Heritage Foundation and Americans for Prosperity and evaluate how and when interest groups influence politicians. Finally, I will demonstrate hw interest groups undermine the will of the majority within American democracy, and thus contribute to inequality.

226 • Examining Congress and Politicians Responsiveness to Income Inequality

CONOR SUDDABY
FACULTY SPONSOR: JEFFERY KOCH, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

A poster presenting my findings pertaining to responsiveness to income inequality in congress. My poster will have some statistics on different congresses and many other aspects of congress such as committees and interest groups. All of my information on my poster will be the evidence I collected and summarize my paper.

PROVOST OFFICE

183 • SPG 2021: Shaping Geneseo's Direction through Engaging the Campus Community

ANDREW HAYES, DANIEL MARTIN
FACULTY SPONSORS: CAROL LONG AND ANTHONY HOPPA, PROVOST OFFICE

Upon her arrival to Geneseo, newly inducted president of SUNY Geneseo Denise Battles charged the college Strategic Planning Group (The Group) and the Budget Priorities Committee with identifying the college's foremost priorities through our sesquicentennial year, 2021. These priorities will set the agenda for SPG2021. One major element of this charge included designing a plan that flows from our institutional mission, vision, and values statements. Another element detailed the importance of engaging stakeholders so that our final product aligns with feedback from the campus community. This element is being met by the Group through the distribution of six weekly polls to gauge how the respondents feel on a variety of issues. Each week features a distinct topic, with questions and prompts for commentary on the area of inquiry. In this presentation we will synthesize the data and findings from the polls. We will explore possible conclusions that we can take from the polls and essentially present to the campus what we make of their interactions.

PSYCHOLOGY

184 • The Effect of Marital Conflict on College Students Academic Achievement

JULIA CHMIELEWSKI
FACULTY SPONSOR: CHRISTINE MERRILEES, PSYCHOLOGY

Previous research has examined links between marital conflict and academic achievement for younger children. However, less is known about processes that might be responsible for negative academic outcomes associated with family interactions for emerging adults. The purpose of this study is to examine the effects of marital conflict on academic achievement, both during adolescence and during college. Previous research has suggested that more conflict between the parents was correlated with lower cognitive and social competence. This conflict was measured by higher levels of hostility and unresolved problems between the parents. Thus, in the current study, mediating factors being looked at include perceived threat and self-blame and self-esteem with be examined as a moderator. We expect that lower academic outcomes will be explained by emerging adults' responses of threat and self-blame in response in their parents' marital conflict.

185 • Intergroup Contact: Predicting Bias, Trust, and Forgiveness

JONATHAN KISLIN
FACULTY SPONSOR: CHRISTINE MERRILEES, PSYCHOLOGY

The Contact Hypothesis, popularized by Gordon Allport in 1950s, posits that contact of high quality between various groups decreases the prejudice each group exhibits towards the other. More recently, in a study conducted in South Africa in the late 2000s, "harmonious contact" between whites and blacks was negatively linked with prejudice in black telephone survey respondents (Dixon, Durrheim, Tredoux, Tropp, Clack, & Eaton, 2010). Research has also examined intergroup contact as a predictor of intergroup forgiveness in cases where conflict between groups previously lead to intergroup bias. Given the socio-political histories informing intergroup bias, some researchers have suggested that before bias can be reduced and forgiveness reached, a certain level of intergroup trust must be built. Increases in intergroup trust have been associated with positive intergroup behaviors (Tam, Hewstone, Kenworthy, & Cairns 2009). It stands to reason that bias will thus decrease and forgiveness will thus increase with increased levels of trust. The present study therefore hypothesizes that intergroup contact of high quality will positively predict intergroup forgiveness and negatively predict intergroup bias, and that both of these relationships will be mediated by intergroup trust. Preliminary analyses on correlational data indicate support for this hypothesis.

186 • Students' Support for Radical Political Activism

JONATHAN KISLIN, DYLAN HORCHER, CODI LYKE, MASANARI YOSHIDA, JENNIFER MAZZOLA, CHLOE OKTAY
FACULTY SPONSOR: JAMES ALLEN, PSYCHOLOGY

Previous research (Duncan & Stewart, 2007) indicates that Personal Political Salience (PPS), the degree to which individuals find meaning in political events, predict individuals' level of political activism. However, research has only investigated whether PPS predicts mainstream political activities such as voting, letter-writing, picketing, and petitioning. The purpose of the present study was to investigate whether PPS also predicts more radical kinds of activism, including giving hypothetical support for violent or illegal acts, or to organizations engaging in these acts for the sake of political goals. A preliminary sample of 49 Geneseo students tests how PPS interacts with political self- efficacy to predict various types of activism, including radical activism. Finally, PPS is also examined as a possible mediator between personality traits and political activism, testing a model proposed by Curtin, Stewart, and Duncan (2010).

187 • Moral Licensing, Descriptive Norms and Environmentally Friendly Behaviors

DYLAN HORCHER, JONATHAN KISLIN, CODI LYKE, MASANARI YOSHIDA, JENNIFER MAZZOLA, CHLOE OKTAY
FACULTY SPONSOR: JAMES ALLEN, PSYCHOLOGY

Research on moral licensing shows that individuals will act in environmentally destructive ways if they are aware of previous behaviors that were

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environmentally positive. For instance, participants that shop in a "green" store act in a less environmentally friendly manner after this experience. Participants act as if the previous environmentally friendly behavior of shopping in the green store gives them a "license" permitting less positive future acts (Mazar & Zhong, 2010). Research also shows that descriptive norms, or information about what other people do, can increase or decrease environmentally friendly behaviors. For instance, Cialdini, Reno, and Kallgren, (1990) found that participants littered more if they were aware that a high proportion of other people littered. However, the opposite was true if participants were aware that few others littered. We hypothesized that descriptive norms block the negative effects of moral licensing. Results partially confirmed this hypothesis in that participants with strongly positive environmental values did not show the moral license effect if they were told that others also acted to protect the environment. However, participants with weak environmental values were not influenced by either moral licensing or descriptive norms. Theoretical considerations are discussed.

188 • Competition and Cooperation in Caribbean-American Children's Sibling Relationships

DANELLE DRYDEN, JENNIPHER COLAS, EVELYN RODRIGUEZ, ALYSSA MORALES, GENEVIVA DODOO, HENRY NIMOH, GLADYS NINSON, BRIA MONROSE

FACULTY SPONSOR: GANIE DEHART, PSYCHOLOGY

The project is an observational study of Caribbean-American children's interactions with siblings in semi-structured free play situations at home. Research on children's sibling interactions has so far focused almost entirely on white North American families; little is known about cultural influences on sibling relationships. The present study videotaped the siblings while completing 3 tasks; construction, free play, and board game. Videotapes were transcribed and coded for competition and cooperation. The results were compared to previously collected data on Latino and Anglo siblings. To our surprise, we found that the Caribbean-American children showed less cooperative behavior with their siblings during all three tasks than the Anglo and Latino siblings did. we also discovered that the Caribbean-American siblings showed more competitive behavior than the Anglo siblings did, but less than the Latino siblings. Results will be discussed in terms of culture and immigration experiences.

TITLE AND ABSTRACT CHANGED FROM PRINTED PROGRAM

189 • Latino Sibling Relationships: Assertion and Affiliation Language in Latino Sibling Relationships

GENESIS DIAZ , ALEXANDER CALDERON, YASKAIRY CASTILLO DE LA CRUZ , VANESSA CEPEDA, ARLENIS SANTANA

FACULTY SPONSOR: GANIE DEHART, PSYCHOLOGY

In previous research, Latino parents were found to encourage their children to identify with the prescribed roles in the family and community, while repressing goals for individual gain, needs, and self determination (Coll & Garcia, 1995). Due to high levels of familism, and the importance placed on family obligations in Latino culture, we expected that Latino siblings might be less likely to use assertive language and more likely to use affiliative language and to mitigate assertive utterances than Anglo children. Researchers videotaped sibling pairs interacting in a home setting. Only the free-play sessions were analyzed for this study. Each session was transcribed and coded for assertive and affiliative schemes. Study participants were 15 Latino, middle- and lower-class sibling pairs from the Rochester, NY, and New York City areas. The sample was heterogeneous in age (2-10 years), ethnicity, and acculturation status. Our results suggest that differences in assertive and affiliative language in target children exists between Anglo and Latino children. Contrary to what was hypothesized, Latino children displayed more mitigated assertive language compared to Anglo target children. Latino target children also expressed less mitigated affiliation compared to Anglo children. Total affiliation language was larger among Latino target children than Anglo children.

190 • Asymmetry in Adolescents' Use of Verbal Irony

JOSEPH VENTICINQUE, OLIVIA WOLFRAM, BETHANY OWENS, ELISE JOHNSON, AMANDA BARRY, MATT VOLCY

FACULTY SPONSOR: GANIE DEHART, PSYCHOLOGY

As part of an ongoing longitudinal study of sibling and friend relationships, we examined the usage of verbal irony and its important communicative function in adolescence. Verbal irony is defined as an utterance in which the underlying meaning differs from the literal meaning. Two forms of verbal irony are sarcasm and jocularity. Sarcasm is defined as a form of irony that involves ridicule aimed at a specific target that appears to be hurtful. Whereas, jocularity is defined as a form of irony in which speakers appear to be teasing one another in humorous ways without being overtly hurtful. Ironic utterances can be either symmetrical (in which the surface valence and underlying intent of the utterance match) or asymmetrical (in which the surface valence and the underlying intent are opposite). The purpose of the current study was to examine the relationship between the two forms of verbal irony and asymmetry. We expected that sarcastic utterances would be likely to be asymmetric, such that the surface valence would be positive and underlying meaning would be negative while asymmetrical jocular utterances would have a different pattern (Gibbs, 2011). ***Selected for presentation at Association for Psychological Science, Chicago, IL.***

192 • Assertive and Affiliative Language in 4-Year-Olds, 7-Year-Olds and 17-Year-Olds with Siblings and Friends

VICTOR BORGES, BRITTNEY RICHARDSON, CAITLYN FISHER, SHELBY LAMOND, SAMANTHA CYTRYN, MARISSA BERRY

FACULTY SPONSOR: GANIE DEHART, PSYCHOLOGY

Research on gender differences in children's and adolescents' use of affiliative and assertive language has focused primarily on interactions with same-sex peers. Based on these studies, researchers (e.g., Leaper & Ayres, 2007) have long suggested that boys use more assertive language than do girls, and that girls use more affiliative language than do boys. However, recent research suggests that the relationship between language use and gender is more complicated when negative affect and mitigation use is taken into account (Dehart et al., 2011). Relatively little is known about how adolescent boys' and girls' use of affiliative language, assertive language, and mitigation may change with different partners across varying contexts. ***Selected for presentation at Association for Psychological Science, New York, NY.***

193 • How Do Maternal Perceptions Relate to Observed Prosocial Behavior in Adolescent Sibling and Friend Relationships?

ZOE MARSHALL, MARYLEN SANTOS, MEGHAN BERMAN, RYAN KIRRANE, TEAGAN PLIMPTON, ERICA LIEBERMAN

FACULTY SPONSOR: GANIE DEHART, PSYCHOLOGY

We examined relationships between adolescent siblings' and friends' prosocial behavior and maternal perceptions of the relationships. We used coded data from recorded cooking sessions of 47 Caucasian, middle-class 17-year olds, and maternal questionnaires that measure perceptions of sibling and friend relationships across 5 dimensions. We found that maternal perceptions of Intimacy were positively correlated with Reciprocal behavior in siblings. The lack of other significant correlations suggests that either mothers are not able to accurately assess their adolescent children's relationships at that age, that the taped sessions and the coding scheme used tap into different aspects of the relationships than the maternal questionnaires do, or that the taped sessions do not provide a fully representative snapshot of the adolescents' ongoing relationships. ***Selected for presentation at Association for Psychological Science, New York, NY.***

194 • Attentional Breadth and Trade-offs in Spatial and Temporal Acuity

ASHLEY EDWARDS, SALMATA KABA, EMMA NERING, DANIEL MIRABILE

FACULTY SPONSOR: JEFFREY MOUNTS, PSYCHOLOGY

The human visual system contains two pathways, the magnocellular pathway and the parvocellular pathway, defined by which layers of the lateral geniculate nucleus that the visual information flows through on the way to the primary visual cortex. The magnocellular pathway is specialized for processing motion and temporal information while the parvocellular pathway is specialized for processing color and spatial information. Researchers have proposed that these two visual systems trade-off, such that enhanced spatial acuity comes at the cost of decreased temporal acuity, and vice versa. Here we examined the effect of the breadth of the attentional focus on spatial and temporal acuity. Subjects performed either a spatial gap detection task (parvocellular-focused) or a temporal gap detection task (magnocellular-

focused). We cued the location of the upcoming target with various sized cues in order to manipulate the breadth of the subject's attentional focus. We found that small cues increased spatial acuity, but decreased temporal acuity. As the cue size increased, spatial acuity declined, while temporal acuity was enhanced. These data suggest that changes in the size of the attentional focus results in differential weighting of the two visual processing streams.

195 • Pregnancy Coercion Among College Women: Associations with Self-Objectification and Contraceptive Outcomes

BRITTNEY RICHARDSON
FACULTY SPONSOR: JENNIFER KATZ, PSYCHOLOGY

Pregnancy coercion (PC) occurs when a person is instructed, coerced, or threatened by a partner into trying to get pregnant, forgoing the use of birth control, or both. It was hypothesized that past experiences of PC would be associated with numerous harmful outcomes including low contraceptive adherence and increased body shame. Sexually active undergraduate women who have been in at least one dating relationship (N = 238) provided data on past experiences of PC and current contraceptive adherence, contraceptive self-efficacy, and body shame. About 10.5% (n = 25) of women reported past experiences of PC. As expected, past experiences of PC were negatively associated with women's contraceptive outcomes including both adherence and self-efficacy. In addition, PC was positively associated with body shame, and body shame mediated the association between past PC and current contraceptive self-efficacy. The mediational model implies that experiences of PC promote women's feelings of body shame which in turn interfere with their confidence in using contraception. These findings suggest that PC can have serious physical and emotional consequences for women's health.

196 • Effect of Brief Exposure to a Safe Zone Symbol on Perceived Campus Climate

DILLON FEDERICI, MICHAELA CIOVACCO
FACULTY SPONSOR: JENNIFER KATZ, PSYCHOLOGY

Safe Zone programs are a safe school initiative developed to support individuals who identify as a member of a sexual minority group. In general, such programs operate by identifying and training volunteers interested in promoting inclusivity. After training, volunteers show their support for people who are sexual minorities by displaying a rainbow symbol and the words, "Safe Zone." This study investigated the effect of exposure to a Safe Zone symbol on student perceptions of campus climate. Undergraduates (N = 265) were randomly assigned to read an excerpt from a fictitious course syllabus that either did or did not feature a Safe Zone symbol. Afterwards, they rated campus climate characteristics for sexual minority students. A sample positive characteristic is "Faculty members care about gay/lesbian/bisexual students;" a sample negative characteristic is "Gay/lesbian/bisexual students experience verbal abuse on campus." Participants who viewed a Safe Zone symbol reported more positive campus climate characteristics for sexual minority students than those who did not view a Safe Zone symbol. Exposure to the symbol was not associated with perceptions of negative campus climate characteristics. The current results provide experimental evidence that displaying Safe Zone symbols can promote inclusive, accepting perceptions of the campus community.

197 • Neoliberal Beliefs, Victim Blame, and Willingness to Help a Potential Victim of Party Rape

MARISA MOTISI, MIRANDA MCKINNEY, JOANNA OSTROOT
FACULTY SPONSOR: JENNIFER KATZ, PSYCHOLOGY

Party rape has unfortunately become a common sobering reality on today's college campuses. Party rape is a type of sexual assault in which a victim is targeted for easy sexual access after incapacitation by alcohol or drugs. Bystander education for college students can be used to prevent sexual assault. These educational programs encourage an otherwise uninvolved observer to take initiative in deescalating a potential risky situation. This study examined acceptance of neoliberal beliefs as a correlate of decreased willingness to intervene in a party rape situation. At a macro level, political and economic neoliberalism emphasizes the expansion of capital markets, corporate deregulation, and the restriction of government programs. On a micro level, these ideologies presume that an individual is responsible for their own successes and failures regardless of their circumstances. Data collected from 95 undergraduates, supported the hypothesis that neoliberal beliefs promote increased victim blame, which in turn, significantly reduces willingness to help a potential victim. These findings imply that neoliberal beliefs may be associated with the current cultural trends of diminished compassion for others. This decreased compassion may manifest as victim blame, which negatively predicts bystander willingness to help others at risk or in need.

198 • Attention and the Influence of Noise

ALEXIS KIDDER, GABRIEL BIRKBY
FACULTY SPONSOR: JOAN BALLARD, PSYCHOLOGY

Previous research has been inconclusive regarding effects of noise on vigilance performance. In this study, we aim to explore the relationship between type of noise, volume, and anxiety on attentional/ vigilance performance. The two types of noise in this experiment were white noise (static) and irrelevant speech (such as what one would hear in a coffee shop). To examine the question, we used a 2-back identical pairs task. We also used the STAI to measure participant anxiety. It was hypothesized that performance of low-anxiety participants would be maximized at the volume level of 70 dB in the white noise condition.

199 • Implicit Ability Beliefs and Adolescents' Academic Self-Presentation with Peers

BRIANNA NELSON
FACULTY SPONSOR: JOAN ZOOK, PSYCHOLOGY

The aim of this study was to examine how adolescents' beliefs about the nature of intelligence are related to how they want their peers to perceive them academically. According to Dweck and Leggett (1988), there are two implicit ability beliefs -- entity and incremental. Entity theorists believe intelligence is a fixed trait and those who are smart do not have to work hard. Incremental theorists believe intelligence is changeable and working hard increases intelligence. We hypothesized that adolescents with entity beliefs would be more likely than those with incremental beliefs to want to be perceived by peers as "effortless achievers," and use self-presentation strategies to promote that perception. In a sample of 96 twelfth graders, we found support for our hypothesis that those with entity beliefs are more likely to want their peers to perceive them as getting good grades with low effort. Entity beliefs were also positively correlated with a number of self-presentation strategies designed to make them appear smarter [e.g., claiming to get a better test score, and not studying in order to have an excuse for doing poorly (self-handicapping).] Entity theorists were especially likely to use the self-handicapping strategy when they were higher in popularity goals. ***Selected for presentation at Association for Psychological Science, Chicago, IL.***

200 • Conceptions of Other-Sex Relationships: Variable-Oriented and Person-Oriented Approaches

MICHAEL CAREY
FACULTY SPONSOR: KAREN MOONEY, PSYCHOLOGY

Romantic relationships and other-sex friendships become very important for adolescents and college students. However, most of the research has not viewed these as distinct types of relationships, frequently lumping platonic and romantic relationships into an "other-sex relationships" category. The present study assessed 322 heterosexual college students' conceptions of the positive and negative features in romantic relationships and other-sex friendships with variable-oriented analyses (e.g., correlations) to replicate previous findings and person-oriented analyses (e.g., cluster analysis) to examine individual differences and distinguish patterns of conceptions. How these patterns were associated with other-sex relationship experience was also examined. Variable-oriented analyses indicated that college students believe romantic relationships contain higher levels of positive and negative features while person-oriented analyses grouped the students into six clusters based on their conceptions of positivity and negativity in romantic relationships and other-sex friendships using standardized scores. Both variable- and person-oriented analyses indicate that males and females have similar conceptions of other-sex relationships. Analyses also show that experience with other-sex friends, but not romantic relationships, was associated with conceptions. These findings suggest students typically view other-sex friendships and romantic relationships differently, and cluster analysis illustrates that the nature of this difference varies between individuals. ***Selected for presentation at Association for Psychological Science, Chicago, IL.***

201 • Qualitative Assessment of Parent Satisfaction with the Families on Track Preventive Intervention for Children with FASD

BETHANY HETTINGER, TORIA HERD
FACULTY SPONSOR: MICHAEL LYNCH, PSYCHOLOGY

Fetal alcohol spectrum disorders (FASD) represent the range of effects that can result from prenatal alcohol exposure. Children with FASD experience life-long impairments in cognitive and behavioral functioning and are at high risk for secondary conditions such as mental health problems, school disruptions, and trouble with the law. The current study evaluated the perceived satisfaction and efficacy of the Families on Track intervention program from the lived experiences of caregivers (n=15) who had completed the program with their children (ages 4 to 8) with FASD as part of a larger trial. The Families on Track program was designed to prevent secondary conditions in children with FASD and improve family adaptation. Caregivers' evaluation of the intervention was assessed using a brief, qualitative interview administered as part of a larger battery at the conclusion of the 30-week program. Interviews were transcribed verbatim and analyzed qualitatively. All families described their participation in the program positively. Thematic analysis identified that the level of caregivers' enthusiasm for the program and subsequent suggestions for improvement varied by specific family characteristics, level and type of skills gained in the program, and the degree of program fit with family needs. Results will inform further development of the program. Additional co-authors: Nicole Myers, University of Rochester; Mary E. Pandolfino, Mt. Hope Family Center, Christie L. M. Petrenko, University of Rochester, Mt. Hope Family Center.

202 • Effects of SSRIs on Insomnia in Women with PTSD and MDD Undergoing CBTi

CASEY JELONEK
FACULTY SPONSOR: MICHAEL LYNCH, PSYCHOLOGY

This study examined the effects of SSRIs on insomnia levels in women diagnosed with posttraumatic stress disorder (PTSD) and comorbid major depressive disorder (MDD) undergoing cognitive behavioral therapy for insomnia (CBTi). Data was obtained from an ongoing study at the URMC Sleep & Neurophysiology Lab. Participants insomnia levels were compared using the Insomnia Severity Index (ISI) at baseline and T2 after undergoing CBTi. It is hypothesized that participants taking SSRIs will report higher levels of insomnia following CBTi than participants in the control group.

203 • Changes in Blood Oxygenation across the Dorsolateral Prefrontal Cortex as a Function of Perfectionism, Mental Health, and Cognitive Performance

NICOLE BERGAMO, TIFFANY LUI, TORI SIMPSON, PATRICK BOUGE, ARIANA DIPRETA, LAURA DOLAN, KADIN FAWCETT, LIAM MCMAHON, CAROLINE O'BRIEN, BRAEDEN SHARER, ZARMEEN ZAHID
FACULTY SPONSOR: MICHAEL LYNCH, PSYCHOLOGY

The goals of the current study were (1) to evaluate possible determinants of activity in the dorsolateral prefrontal cortex (DL-PFC), including: pre-existing perfectionistic tendencies, current symptomatology, and cognitive performance; and (2) to examine the extent to which symptomatology and cognitive performance moderated the relationship between perfectionistic tendencies and activity in the DL-PFC. The sample consisted of 171 undergraduates. Participants completed a questionnaire assessing behaviors, cognitions, emotion regulation strategies related to perfectionism, and indicators of mental health. Functional near infrared (fNIR) spectroscopy was used to assess changes in blood oxygenation across 16 regions as a measure of activity in the DL-PFC during two cognitive performance tasks: a card-sort task and an anagram task. Perfectionistic profiles, anxiety, depression, and cognitive performance predicted changes in blood oxygenation of the DL-PFC during the card-sort task. Moreover, anxiety levels and cognitive performance modified the association between perfectionism and changes in blood oxygenation. Finally, there was a significant interaction among anxiety levels, depression levels, and cognitive performance in predicting changes in blood oxygenation across the DL-PFC. These findings suggest that individual differences in perfectionism, anxiety, depression, and performance are associated with distinct patterns of activity across regions of the DL-PFC during cognitively effortful activity. ***Selected for presentation at Association for Psychological Science, Chicago, IL.***

204 • The Impact of Perfectionism and Mental Health on Cognitive Performance

PATRICK BOUGE, LAURA DOLAN, BRAEDEN SHARER, NICOLE BERGAMO, ARIANA DIPRETA, KADIN FAWCETT, TIFFANY LUI, LIAM MCMAHON, CAROLINE O'BRIEN, TORI SIMPSON, ZARMEEN ZAHID
FACULTY SPONSOR: MICHAEL LYNCH, PSYCHOLOGY

The goal of the current study was (1) to examine the impact of perfectionism on cognitive performance and mental health, and (2) to identify the extent to which mental health mediates the relationship between perfectionism and cognitive performance. The sample consisted of 171 undergraduate students. Participants completed a questionnaire assessing behaviors, cognitions, and emotion regulation strategies related to perfectionism, as well as indicators of mental health and well-being. Subscales were factor-analyzed to generate seven composite variables, which were cluster-analyzed to group participants into one of four distinct profiles of perfectionism: non-perfectionism, anxiety-driven perfectionism, overcontrolled perfectionism, and constructive perfectionism. Participants also completed a cognitive task. They were instructed to sort cards based on color, number, or shape. Participants had to infer what the sorting rule was based on feedback, and this rule changed multiple times within the task. Profiles of perfectionism were associated with differences in cognitive performance on the card sort task as well as indices of symptomatology, well-being, and behavioral competence. Specifically, perfectionism was significantly associated with interpersonal competence, and there were trends in its association with happiness and self-harm. Finally, after controlling for the effects of perfectionism there was evidence that self-harm was associated with lower cognitive efficiency. ***Selected for presentation at Association for Psychological Science, Chicago, IL.***

205 • Understanding Why Students Leave College: Predictors of Attrition Among Access Opportunity Program Students

JENNIPHER COLAS, TARA BASILE
FACULTY SPONSOR: MONICA SCHNEIDER, PSYCHOLOGY

This study examined the graduation rates of students enrolled in the Access Opportunity Program (AOP) over a 12- year period, focusing on factors predicting graduation completion by first generation status, socioeconomic status, and ethnic/racial group membership. Among students who left the college, we assessed their self-reported reasons for leaving, examining factors predicting their reasons for leaving. Institutional data were collected from 1429 undergraduate students enrolled in AOP at SUNY Geneseo between the years 2002-2014. Results indicated differential graduation rates across race/ethnicity and gender, but not first generation status. High school GPA, but not SAT scores or financial need predicted graduation rates; these patterns did not differ by race/ethnicity. When examining attrition reasons separately, no significant differences were found by first generation status or by race/ethnicity. However, differences between first-generation and non-first generation students emerged when examining compounded reasons, with approximately 48% of first-generation students reporting a combination of academic, financial, and family reasons, in contrast to 23% of non-first generation students reporting all three. Similarly, racial/ethnic differences emerged when examining compounded reasons, with approximately 30% - 40% of Black, Latino, and Asian students reporting a combination of academic, financial, and family reasons, in contrast to only 11% of White students. ***Selected for presentation at American College Personnel Association, Montréal, Canada.***

206 • The Effects of Sexualized Media on Memory

Moved to presentation 1S

PAMELA EMENGO
FACULTY SPONSOR: STEVEN KIRSH, PSYCHOLOGY

The purpose of this study was to investigate the influence of gender, sexism, and sexualized- and non-sexualized media on memory for television commercials. After completing a survey on sexism, college students viewed either a sexualized or non-sexualized episode of Japanese Anime. Embedded within each cartoon were sexualized and non-sexualized television commercials. Participant recall and recognition memory for the advertised

brands was then assessed. Preliminary data analyses found statistically significant effects for gender and levels of sexism. However, the effect of Anime watched only approached statistical significance. These findings will be discussed in terms of schema theory and previous research. In addition, the real-world implications of the results will be addressed.

207 • Analysis of Motor Coordination in Mouse Models of Huntington Disease: A Pilot Study

MIKA NAOR, ANTHONY BURGOIS, SUNITA SINGH
FACULTY SPONSOR: TERENCE BAZZETT, PSYCHOLOGY

A growing area of research in neuroscience is concerned with debilitating neurodegenerative diseases. Neurodegenerative diseases are marked by anatomical and pharmacological changes that often result in significant changes in behavioral functioning. Huntington Disease (HD), an inherited genetic disorder, is classified as a neurodegenerative disease in which degradation of basal ganglion cells is observed. Destruction of these cells is characterized by a complex symptomatology that includes motor impairment, cognitive deficits, and social dysfunction. The development of useful and sensitive measures of motor coordination in animal models is paramount in advancing basic research in HD. In this preliminary study, C57/BLJ mice were tested in novel paw reaching chambers used to evaluate fine motor coordination. Future research will use this same task to evaluate changes in transgenic knock-in models of HD.

208 • Effects of Developmental Exposure to Flame Stop® I on Stress Regulation, Motor Control, and Social Behavior in the C57BL/6J Mouse.

ERIC TEBOUL, TYLER BELL, NADINE PIAZZA, MEGAN EHMANN, KARINA COLE, SHANA LEDNER
FACULTY SPONSOR: VINCENT MARKOWSKI, PSYCHOLOGY

Household and industrial flame-retardants such as the polybrominated diphenyl ethers have become ubiquitous environmental toxicants known to produce a number of adverse healtheffects. Unfortunately, regulatory actions meant to encourage non-toxic flame-retardant alternatives might have promoted a new generation of flame-retardants with their own setof potential neurotoxic effects. The current study seeks to determine whether Flame Stop®, a new-generation flame-retardant, has neurotoxic effects. Additionally, due to the proprietary nature of Flame Stop® I's ingredients, IR spectroscopy, NMR spectroscopy, and powder diffraction were undertaken to determine the flame-retardant's chemical composition. Preliminary data suggest the presence of inorganic phosphorus. To investigate developmental neurotoxicity, neonatal C57BL/6J mice were exposed to 0%, 10%, 50% or 90%Flame Stop® I in a 5µL/g artificial breast milk solution throughout the lactational period. Evaluations of stress on the elevated plus maze, motor control on the Rotarod and grip strength meter, and social behavior were conducted in late adolescence/early adulthood. Preliminary analyses indicate that Flame Stop® I decreased social interaction and produced a dose-related impairment of motor functioning suggesting that this compound, like its predecessors, is not without health risks.

209 • Stress-responsivity, Anhedonia, and Motor Deficits in the MK-801 Mouse Model of Schizophrenia and their Partial Reversal by the Glutamatergic Drug, CDPPB.

NADINE PIAZZA, ERIC TEBOUL, MEGAN EHMANN, JOSEPH MCMAHON, KARINA COLE
FACULTY SPONSOR: VINCENT MARKOWSKI, PSYCHOLOGY

The neurodevelopmental hypothesis depicts schizophrenia as a long-term consequence of disruption of the interplay between the glutamate and dopamine neurotransmitter systems during the perinatal period. The drug MK-801 is a glutamate N-methyl-D-aspartate (NMDA) receptor antagonist that has been shown to produce schizophrenia-like symptoms in laboratory rodents when administered early in development. Our laboratory has been investigating whether CDPPB, a positive allosteric modulator of the metabotropic glutamate receptor 5 (mGluR5), would reverse the effects of MK-801. To test this, mice were first administered 0.25 mg/kg MK-801 as neonates, and later given 10.0 mg/kg CDBBD or saline during their juvenile period. After mice reached adulthood, their sucrose preference, navigation in the elevated plus maze, and circadian wheel running activity was examined to assess anhedonia, stress reactivity, and motor behavior, respectively. Preliminary results from this work in progress indicate that MK-801 decreased sucrose preference and increased motor output, but did not affect stress reactivity. CDPPB reversed the MK-801-induced anhedonia and motor hyperactivity, further supporting this drug as a potential therapeutic agent.

SOCIOLOGY

210 • Medicine and Charity Culture

CHARLOTTE LANGDON
FACULTY SPONSOR: ELAINE CLEETON, SOCIOLOGY

Throughout history, medicine and health care has been associated with acts of charity. Early European hospitals became popular through religion and the spread of Christianity. The American Red Cross was established in 1881. Since that time, organizations dedicated to health and wellness, often associated with specific disorders have become common. In modern culture, organizations like the American Heart Association and charitable events, such as Relay for Life have become prevalent and easily accessible. This has allowed for dialog about health care too become more open and in the forefront of our cultural mindset.

211 • Humans and Air Pollution: An Evaluation of Three Sociological Theories, Using the STIRPAT Model

JONATHAN CAMPBELL, IAN THOMAS, GABRIELLE JUERS
FACULTY SPONSOR: MICHAEL RESTIVO, SOCIOLOGY

Evidence linking climate change to human activity has renewed interest from social scientists in understanding how human societies impact the environment. This project focuses on atmospheric pollution, as measured by emissions of the greenhouse gases carbon dioxide, methane, and nitrous oxide. To assess which factors drive these emissions, we draw on theories rooted in human ecology, economic modernization, and political economy perspectives. To test competing hypotheses from these theories about how political, economic, and social structural factors drive impacts, we use the STIRPAT model developed by Dietz and Rosa (1994). We estimate emissions for a sample of countries using data from the World Bank and other sources. By implementing a multivariate extension of the STIRPAT model, we are able to highlight how techniques that preserve the multivariate structure of the data on environmental impacts (e.g., multiple related types of emissions) may yield results that provide different degrees of support for these theories.

212 • A Contemporary Critique of Past Statistical Methodology of Reproductive Health Issues in the Developing World

TASHIRA HARGROVE , AUDREY HOWARD, ELIZABETH OHMAN, SUSANNA ROHE, KATHERINE ZASLAVSKY
FACULTY SPONSOR: MICHAEL RESTIVO, SOCIOLOGY

Reproductive health problems, particularly maternal, child, and infant mortality affect developing countries at disproportionately higher rates than developed countries (World Health Organization 2011). Around the world, over one billion children and mothers do not have access to basic necessities for survival-- clean water, nutritious food, adequate housing, and proper health care (World Health Organization 2011). Over the past three decades, sociologists have studied the social, political, and economic determinants of health from a macro-comparative perspective to explain differences across countries. In this project, we review the methodology used in cross-national research, following how new techniques were developed to address problems and limitations. Using data from the World Bank's World Development Indicators, we replicate and critique empirical studies of child, infant, and maternal mortality, and also consider which multivariate statistical techniques, such as MANCOVA and structural equation modeling (SEM), may be more suited for use in this field of study.

STUDY ABROAD

109 • Preventive Dental Medicine in Borgne, Haiti

WITHDRAWN

HARPREET AUJLA

Promotes sustainability

FACULTY SPONSORS: WESTON KENNISON, STUDY ABROAD AND SUSAN BANDONI-MUENCH, BIOLOGY

Poor oral health has a profoundly adverse affect on the lives and productivity of individuals. Dental hygiene and dental education are topics that get very little attention in Haiti where there is an average of only one dentist for every 10,000 Haitians, the majority of whom practice in the capital, Port-Au-Prince. Moreover, few Haitians have ever been to a dentist or owned a toothbrush, reported by the Huffington Post. Though the country is battling other major public health threats such as cholera and malnutrition. it's important to provide dental care as it affects overall wellness. Gum disease can increase the likelihood of HIV transmission, tooth loss can contribute to malnutrition, and oral infections can lead to blood-borne diseases and heart attacks. By providing an education to kids early, we may slowly be able to decrease the amount of dental diseases caused by poor dental hygiene. Through my research in Borgne, I hope to come up with a lesson plan on how I can teach kids everyday how to brush effectively, disband common misconceptions of how to have healthy teeth, and promote overall good health.

110 • Advanced Service Learning: Expanding Relations Between SUNY Geneseo and A.S.B./H.O.P.E.

KYLE FLETCHER

FACULTY SPONSOR: WESTON KENNISON, STUDY ABROAD

We examine effective strategies for American universities engaged in local sustainable advancement initiatives in Haiti, working in collaboration with local groups. Such strategies include opportunities for curriculum advancement within SUNY Geneseo's Haiti Service Learning Course. These enhancements will address sustainable economic development initiatives in Haiti, working in collaboration with A.S.B./H.O.P.E. We will also provide a critique of possible paradigms that will explore models for expanding Geneseo's own relationship with the people of Borgne, Haiti.

111 • Time in the Lives of the Men and Women of Haiti

WITHDRAWN

MACKENZIE ROSS

FACULTY SPONSOR: WESTON KENNISON, STUDY ABROAD

Since I have not gone to Haiti in order to complete my project: I am looking at how men and women in Haiti spend their time, and observe the people I see throughout my stay there. I will be taking pictures of the town throughout the day to show a sort of timeline, as well as use conversational interactions with the people I meet to tell the story of how time is utilized and perceived in Haiti. I want to see if the perception of time there has an affect on the lifestyle and culture, especially when it comes to differences in men and women (ex: free time, work, child care, education, etc.).

213 • Patient Care in Borgne, Haiti

JENNIFER BOODY

WITHDRAWN

FACULTY SPONSORS: WESTON KENNISON, STUDY ABROAD AND SUSAN BANDONI-MUENCH, BIOLOGY

A large number of Haitian doctors are trained in Cuba. The doctors in Borgne, Haiti's local hospital practice under a preventive medicine approach. Community medicine in which a patient's complete health is considered. I am interested in observing how Borgne's physicians and nurses interact with their patients, and note any similarities and differences between Haitian preventive medicine and United State's medical model.

214 • Insitutional Structures of Data Flow and Management in Haiti

LINDSEY HACHERL

FACULTY SPONSOR: WESTON KENNISON, STUDY ABROAD

Study of the way health information is taken, recorded, and archived in the hospital of Borgne, Haiti.

215 • PT Haiti

WITHDRAWN

SHANNON WALSH

FACULTY SPONSOR: WESTON KENNISON, STUDY ABROAD

In a place where people cannot afford to pause their daily life because of an ankle sprain or a sore back, I wanted to learn about any rehabilitation program they have in place in Haiti. I wanted to work with the doctors there to develop a program that people could utilize while maintaining their daily routine. Patients should be able to work on range of motion, strength and stability while still being able to take care of their families and still work.

216 • Cultural Influences of Haitian Dance

WITHDRAWN

SOPHIA GARBER

FACULTY SPONSOR: WESTON KENNISON, STUDY ABROAD

An exploration of the past and present implications of Haitian dance in not only a cultural context, but also in a social one.

225 • HIV Elimination in Bornge, Haiti: A Case-Study Analysis

DANIEL ALOHAN

FACULTY SPONSORS: WESTON KENNISON, STUDY ABROAD AND SUSAN BANDONI MUENCH, BIOLOGY

HIV/AIDS remains a prevalent disease that afflicts many developing countries, especially in the Caribbean region of the world. In Haiti, more specifically, there is a 1.8 percent prevalence rate of HIV/AIDS, among the highest percentage-wise in the Caribbean region; it also has the most overall cases of HIV/AIDS in the region. This poster will explore the various factors that serve as barriers to the elimination of HIV/AID in Borgne, Haiti, as well as examining current prevention programs supported by the Haiti Outreach Pwoje Espwa (H.O.P.E.) and Alyans Sante Borgne (ASB). Also, by drawing on my interviews with doctors, community health educators, and other integral stakeholders in Borgne, Haiti, I plan on proposing possible solutions that can help eliminate HIV/AID in Borgne, Haiti.

TESLA HOUSE

217 • What's in Your Water?

EMILY HAUF, HARRISON ANGELINI, NATHAN PEMBROOK, REBECCA GLASER

FACULTY SPONSOR: MEG REITZ, TESLA HOUSE

Water quality and availability is rapidly becoming one of the most talked about environmental and social justice issues around the world. From the drying climates around the world to the Flint Water Crisis to the local conversations about the effects of fracking on our water supply, more and more people are starting to think about what is in their water. This study investigates the water quality of buildings on the Geneseo campus to quantify what is in our water now, so we can better understand what and how external changes may affect Geneseo's water quality. We collected drinking water samples from buildings where students live or travel to frequently on the Geneseo campus. We compare fifteen different elements from the samples to EPA water standards. Contamination could come from the pollution of the water source or the breakdown of pipes. If any of the samples do not meet the standards, we will be able to report the contamination and look into a source for that contamination. If all samples meet EPA standards, then we will have a baseline for each of these elements in the campus water supply to which we can compare future samples.

218 • Indoor Aeroponic Geneseo Gardens

JENNY BYUN

FACULTY SPONSOR: MEG REITZ, TESLA HOUSE

The purpose of this study is to demonstrate novel technologies for high-performance plant growth and identify its optimal conditions in order to incorporate it into the SUNY Geneseo Campus. Aeroponics is the process of growing plants without the use of soil and other mediums. It is a new technique that opens new doors for cultivating plants. Aeroponic gardens can be grown vertically and be grown in portable pots, making it easier to move throughout campus. The eGarden Research Team, headed by Professor Padalino, is studying the optimal conditions for aeroponic growth. We are researching in the Geneseo Greenhouse to test different levels of sunlight and temperature, types of artificial lighting, nutrient solutions, and more to see which conditions result in the most efficient plant growth. With this data, we will build aeroponic gardens on a larger scale and implement them in building around campus. Specifically, the gardens will be in MJ, RJ, and Letchworth dining halls, providing fresh ingredients for CAS cooking.

219 • Art is Not What You See, but What You Make Others See

SARAH WELHOUS, FRANCES VALINSKY

FACULTY SPONSOR: MEG REITZ, TESLA HOUSE

Art is a creative process that allows people to express themselves and realize art is around us in different forms. This project is aimed towards students to increase visual art on campus and make students aware of how different forms of art can be simple but still powerful simultaneously, by

displaying quotes around specific academic buildings. The quotes are temporary for this semester, but we hope it impacts students to continue the project in the future. This could happen just by taking the class and coming up with another way to increase visual art on campus. With motivation and time, the college will be able to express an increase in art around campus, as well as impacting students. We plan on hanging banners with the quotes around trees near the buildings, Newton, Brodie, Sturges, Milne, Welles, ISC, and South Hall. The banners will display the designated quotes for each building in an artistic and metaphoric way as well as being artistic themselves, displaying designs and representations of the quotes. Hopefully, the students around campus will appreciate and recognize the quotes as an artistic and motivate people to keep art in their lives.

GREAT Day would like to acknowledge our partners:

CHAMBER MUSIC FESTIVAL
HUNT ROOM, MACVITTIE COLLEGE UNION

SESSION 1• 10:20 – 11:15 AM

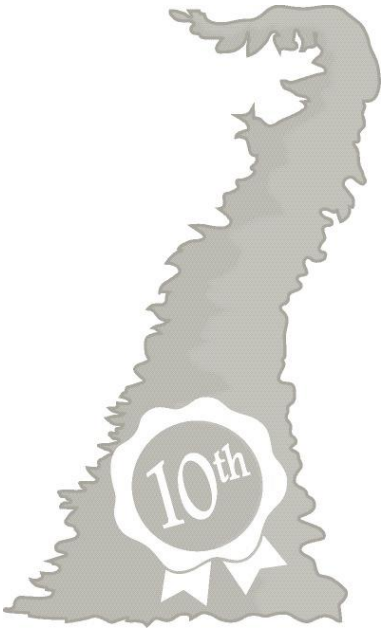
Emmelodics 10:20 – 10:40 AM
VICTOR BORGES, ALEXANDER WEBBER, ANTHONY GAUDINO, AUDREY HOWARD, AUSTIN TAYLOR, BRIANNA BROOKS-MILLER, BRYCE GEBHARDT, CHRISTOPHER JONES, GAGE MATYASOVSZKY, CAROLINE HOUSE, JACK MCALEVEY, JASON HANDY, JEREMY JACKSON, JONAH GOLDSTEIN, JULIE ECKERT, KAILA MCKIERNAN, KELLY KULAKOWSKI, MACKENZIE HINTZE, MEAGHAN BARRY, SHAYNA HELD, SAM NICHOLS
FACULTY SPONSOR: GLENN MCCLURE, ENGLISH

Madi and Sarah 10:45 – 11:00 AM
That's What's Up, Lennon and Maisy
SARAH BISSELL, MADISON KEMLER
FACULTY SPONSOR: IRENE BELYAKOV, ENGLISH

Geneseo Flute Choir 11:05 – 11:15 AM
CAILIN SOFKO, NICOLE ROUNTREE, MARIANNA SHEEDY, NAOMI IWAMOTO, DYLAN FISCHERA, JACKIE PFALTZ, CATHERINE BLASZAK
FACULTY SPONSOR: GLENNDA DOVE-PELLITO, MUSIC

COLLEGE UNION LOBBY 12:00 PM

Geneseo String Band
STEPHANIE SCHECHTER, RUSSELL BRINKMAN, LEEANN BRUETSCH, MIKE GOLE, STEPHEN HANRAHAN, SHELBY INGERICK, CHRISTOPHER JONES, ARIANA LIPPI, MATT MCCLURE, MORGAN MCDONNELL, AMELIA MINDICH, JENELLE NYITRAI, CARRIE POTTER, NICOLE ROUNTREE, MARIA SAITTA, NATHAN SMARCZ, HUNTER TROGE, PAIGE WALSH, MICAH WIESNER, STEVEN WILLIAMS
FACULTY SPONSOR: JAMES KIMBALL, MUSIC



SESSION 2• 2:15 – 3:15 PM

Saxophone Quartet 2:15 – 2:30 PM
Quartet for Four Saxophones, movement III. Scherzo by Edvard Moritz
Paranoid Saxophrenia by Denis DiBlasio
Sax Quartet (from Cowboy Bebop) by Yoko Kanno.
ALEC FRIEDMAN, JAMES MATTSON, BROOKE WALKER, AUSTIN MAITLAND
FACULTY SPONSOR: ERNEST LASCELL, MUSIC

Geneseo Clarinet Choir 2:35 – 2:55 PM
All Too Soon, Lennie Niehaus; Difference of Opinion, Robert Roden; Capriccio , Philip Gordon; St. Paul's Suite, mvt. 4: Finale (The Dargason), Gustav Holst, arr. Matt Johnston
PAUL GARING, ANDREA AMITRANO, JOSHUA GALLARO, EMILY BUCKLEY-CRIST, HANNAH HARRISON, JASON HANDY, ERIN HOGAN, LENA EVERS-HILLSTROM, JAMES ARCIDIACONO, FRANCESCA BOVE, ELENA KLEINHENZ, ALEC FRIEDMAN, NICHOLAS DINIELLI, JAMES MATTSON
FACULTY SPONSOR: ERNEST LASCELL, MUSIC

Exit 8 3:00 – 3:15 PM
NICOLE PEINKOFER, ALLISON ALTSCHILLER, RYAN ANDREWS, SARAH BISSELL, MATT CRAWFORD, ALEX DECKER, SAIGE HORVATH, PAT HURLEY, KATE KELLER, MADISON KEMLER, NINA LACOMBE, MIKE MASETTA, EMILIOS PAPAS, NICOLE PEINKOFER, SEAN RYAN, COLIN SUGRUE, LAUREN THURBER, SAMUEL WEINSTEIN
FACULTY SPONSOR: ERIC HELMS, CHEMISTRY

SESSION 2• 3:45 – 4:20 PM

The Italian Wind Quintet 3:45 – 3:55 PM
Suite from Ancient Airs and Dances, Ottorino Respighi, arr. Adam Lesnick
PAUL GARING, HANNAH GARTY, ADELE ANTELEK, VICTORIA KOMPANIJEC, KATHERINE ZASLAVSKY
FACULTY SPONSOR: MARTHA SHOLL, MUSIC

Katherine and Jenelle 4:00 – 4:05 PM
Londonderry Air, Arranged by Katherine Zaslavsky
KATHERINE ZASLAVSKY, JENELLE NYITRAI
FACULTY SPONSOR: ANDREW BERGEVIN, MUSIC

Geneseo Brass Quintet 4:10 – 4:20 PM
In the Hall of the Mountain King, From Peer Gynt, Edward Grieg; Shenandoah, Arranged by Terry Vosbein; Sonata from Die Bankelsangerlieder, Anonymous, edited by Robert King
KATHERINE ZASLAVSKY, TORY WELSCH, ANNE KELLY, ROBERT MARINO, TIMOTHY SNYDER
FACULTY SPONSOR: JIM TILLER, MUSIC

THE GREAT BATTLE OF THE ARTISTS

MACVITTIE COLLEGE UNION KINETIC GALLERY 9:00 AM – 6:30 PM

The GREAT Battle of the Artists is a multi-media art contest that is a partnership between GREAT Day, GCAB Arts & Exhibits and Nassau Hall. Winners were selected by a panel of faculty staff and student judges and will be announced at 6:00 pm.

ABBY GOLFO

Human-Computer Interaction: Human-computer interaction is a field that explores how humans use technology. This piece of art is 3D printed. It is a 3D re-creation of Discobolus of Myron (also known as the discus thrower). This ancient Greek sculpture represents movement, athleticism, power, and strength. However, when I first 3D printed it, it did not turn up as such. Because of the way that the code went in, the print "failed" and appeared frayed. This fraying represents the fragility of both the human and the computer. There will be at least three other iterations, each showing how 3D printing interacts with human design.

Focus on One: Four squares displaying the four same images - however, there is only one unique focus of each picture. It is almost a game to find the other three images somewhat hidden within.

AMY LIANG

Cerulean Morning: Digital Photography Saona Island, Dominican Republic

Tibetan Prayer Flags: Digital Photography MeiLi Snow Mountain Yunan, China

Stone Forest: Digital Photography Zhangjiajie National Forest Park Hunan, China

AMY PATEL

Kiss Of Eternal Bliss

The Woman Behind The Painting

Embrasse-moi

ANGELA JOHNSON

Split personality: Newspaper covered board with printed photos on it.

Bio-portrait: Clear picture frames with 3 item inside. Each has a microscope slide, a photo and a water color painting.

Chinese market: Acrylic on canvas

ARIANNA BUTTARAZZI

Vague Expression: It is a painting from my imagination and it is an expression coming from within.

CAITLIN CASTELLETTI

Peacock: Photography of a peacock with a blurred background taken at the Utica Zoo.

Keuka: Photograph of the sunset in Keuka in early August.

Exit: Light Painting Photograph

CAITLIN CORRIC

Berlin: While studying abroad in Berlin there were many opportunities to take photographs and this was by far my favorite. It was taken inside of the Kaiser-Wilhelm Memorial Church in West Berlin. The original, built in the 1890's, was bombed during WWII. The new church stands directly beside the ruins of the old, reminding Berliner's of the past and looking forward to the new.

CASEY VINCELETTE

Our Dear Leader: This is a portrait of my friend Will Barnes. He is a Geology major from Bethlehem, which is near Albany, and is one of the finest human beings I know. I painted this piece over the summer as a gift to him and his suitemates. It now hangs on the wall of their suite and surveys their lives. I tried to evoke an austere and imperious mood with the grayscale background and the business casual dress of my subject. The meticulously mixed skin tones represent the best work I have ever done in that regard, and I am inordinately proud of this. You may notice a layer of grime overcoating the surface: this is because the painting has been on many adventures. It has been paraded around residence halls, it has galavanted to the chowhound, and it has shared in the consumption of pizza at Mama Mia's (all very late at night). This painting has shared in my college experience, and while I don't expect it to win anything, I am excited to share it with the world.

CHANDRA LABONTE

Avengers Assemble: Painting of various Marvel's Avengers characters.

EMMA BELSON

Fun House Mirror Church: A black and white photograph of a striped church using a panorama shot.

Blooming Flower After The Rain: A black and white photograph of a blooming flower after a rain storm.

Through the Windshield: A full color photograph of the George Washington Bridge taken while driving in the front seat of a car at night.

FEI LANERI

Untitled: Wood burning with watercolors

GIOVANNINA BRUNO

Cricket: You hear them chirping during late summer nights or when someone makes a bad joke. They constantly elude us, teasing us with their calls but not allowing us to find them. Here's one I did find, and quickly put under the lens of my camera.

Garden Goddess: Butterflies are constantly portrayed in media: children's books, TV, movies, artwork. They may seem like dainty accessories for flowers or a simple cutesy thing that goes with stuff like rainbows and unicorns in our minds. But do we ever really stop and look at one up close? How intricately beautiful their structure and design is? The power in their painted wings that propel them through the sky, across miles and miles, high above the ground? Fascinating and beautiful, they are incredible creatures dwelling in our gardens.

Bead or Berry?: I found this outside and at first was honestly not sure what it was. It was a dreary, rainy day and it seemed like Nature had just given me this small gift of strange beauty amid the grayness. It was kind of a challenge too - are you going to appreciate this strange, tiny, but beautiful thing on the wet concrete, or are you going to walk on cursing the rain?

HANA MOKONUMA

ZINE !!: This is a compilation of all the zines I've made during my time here so far at Geneseo. The zines are personal in that they talk about my experience with love, friendship and general things I worry about!! So many things are stressful! I just want to share a plate of eggs with someone who loves me! This piece consists of all of my zines unfolded and folded to create one BIG collage of zines!

HANNAH FABINY

Nassau Gothic: A lovingly photoshopped photo of what it means to be an artist in Geneseo's arts community, Nassau Hall.

HANNAH MRAKOVCIC

Taking in the light: Jennifer Boody ('16) amidst the garden flora and afternoon sunlight, Taken at Jardin Botanique de Montreal, March 2015

The Riviera: Taken at the Geneseo Riviera, February 2016

Another Dimension: Reflection through my bedroom window on a snowy blue evening, February 2016

JACOB YATSKO

Tea (2015), Charcoal on Paper: "Tea" is my first portrait study and was submitted as one of five concentration works for my AP Studio Art class in 2015. The subject is one of my first and long-lasting friends from my hometown in Dryden, NY. I felt like commemorating her in a piece of artwork would be fitting since she also was enrolled in the class and shared my artistic passion. Because this was my first portrait piece and also my first charcoal piece, I was extremely worried about the results, but this quickly faded as I progressed

through the painting. I had her pose in a way to bring out the intensity of her eyes, which would provide a focus point that draws the viewer's attention there, but to also make it appear that my friend was also focused in on the eyes of the viewer. I felt this two-way connection very strongly as I was working on the project, and it was an interesting, if not slightly unsettling, feeling to have her face in front of mine for hours on end. I was very pleased with the results and I hope that you, as a viewer, find the same impact that I did.

Portrait Study (2015), Acrylic on Paper: The subject of "Portrait Study" Is one of my classmates from my hometown of Dryden, NY. We graduated together and she is also a student here! However don't be fooled; her hair is actually blonde. This painting was a reaction to many thoughts and concerns I have about the daily misuse that water experiences on a global scale from human pollution. I portrayed the water as a sweeping force by using broad curves across the painting, but tainted it black with thick acrylic paint to portray pollution and to contrast the clear purity we expect from water. The jellyfish represent animal life in the oceans, and are probably the most water-like in nature themselves. They idly float around the human subject embossed with the alchemical symbol for water, whose hair mirrors the jellyfish. The human subject at once represents the beauty of water but also the pain and mistreatment it has endured for many decades, represented by the tears. I had not intended for this work to be a conservation statement of any sort, but every time I review it I am reminded of the beauty and terror water contains, and how I can contribute to help ease it's pain.

The Exit (2015), Charcoal on Paper: Inspired by a story told over ten years and ten computer games by Polish artist Mateusz Skutnik, "The Exit" is my interpretation of the conclusion of a story of science fiction and human morality. In the story, known by its game titles as "Submachine", a lone unidentified human awakens in a strange world with all of his memories gone. He must navigate through ancient structures, abandoned laboratories, crumbling religious buildings, and activate a range of mechanical devices that span time periods from those of ancient Egypt to the age of electricity's discovery to advanced supercomputers, and everything in between. Along the way he collects scraps of paper that describe a large science project that failed on a global scale; it tore holes in space-time and destroyed matter itself. After many days of exploring the depths of these buildings the character finally approaches a holy temple where he gains understanding from an artificial intelligence that shows him the way to return to the rest of the world. The drawing includes various devices and objects found throughout the game series that quite literally hang over the explorer's head as he prepares to face his final challenge and escape the entire structure itself.

JANNA NUNZIATO

Time Approximately 18x18, colored pencil on paper drawing. This drawing depicts with great detail the lines, wrinkles, and colors of aged hands. It is made in the style of photorealism, so this drawing aims to imitate reality - but with colored pencil.

JESSICA LISI

Open Hand Theater: The Castle: This piece is a Plexiglas intaglio print, meaning it was carved into Plexiglas, gone over with an oil-based ink, and pressed onto paper. The piece features a local building in Syracuse known as The Castle, owned by the local theater company Open Hand Theater. I have worked for Open Hand Theater for many years and was given special permission to use their building in one of my pieces. This piece has a strong focus on detail, rather than color as with this sort of print, I could only use one color. As a result, I focused a lot of the texture and detail in the building, focusing on the structure and the bricks that make it up. The building is older, so I tried to incorporate the little bits and pieces of nature and wear that show the history and magnitude of the building.

Evening Sunset: This piece was done in soft pastels. It wasn't based on a specific picture taken, but rather a collection of pictures, creating a general sunset image. In this piece, I mainly focused on color perception. I used a blend of a variety of warm colors to reflect the soft, warm feeling an evening sunset gives off. I used a multitude of layers so that you're never looking at just one color, but a multitude mixed together. With the use of perception, I wanted to give off the feeling that the viewer was there, in the picture, looking at the sunset as if it was just over the horizon.

Red Tricycle: This piece is a still life drawing of an older tricycle done in Prismacolor Colored Pencils with a watercolor wash background. Here, I also had a strong focus on color, as well as texture as I wanted to portray the smooth, metallic surface of the tricycle as well as the less smooth, more rustic parts of the decaying metal. I also wanted the red to pop out as the object itself was very bright red, and thus I wanted to be able to capture someone's eye with the bright, flashy color of the tricycle.

JONATHAN NIEVES

Passing Down: This work was originally done as a pencil study of one hand, but I liked the way it looked so much that I wanted to elaborate. Both studies are of my own hands, but done at different angles and shot lengths, so it looks as if one is older than another. Although the intent was not originally to create something especially meaningful, the final piece suggests a hypothetical "passing of the torch", albeit with a daisy, to denote the passing on of faith from one generation to the next.

Old Man Sitting Beneath A Tree: This piece is actually not quite finished, as much of the work is blank space. It was originally a pencil sketch of a figure many assumed to be Gandalf, from the book series "Lord of the Rings" by J.R.R. Tolkien. When I did this pen drawing, I was hoping

The Lighthouse: Through this work, I just wanted to capture the wonder of creation, by God and man. A beautiful, amorphous sky; a simple, yet spectacular lighthouse, guiding ships to the shore. It was not meant to awe or amaze, but simply inspire some to reflect on being lost and being found.

JULIA KINEL

Bubbles: An acrylic painting on canvas. Traditional blowing bubbles were used in the creation of the painting.

Wind: An acrylic painting on canvas.

KATE BERDAN

Happy (but cold) little trees.: This oil painting is one I created for my brother. It depicts one of his favorite places to go camping (a small cabin in the Adirondacks) at sunset in the winter. It uses Bob Ross's wet-on-wet technique. This is the second painting I've ever done, which just goes to prove that if Bob Ross can do it, so can you!

KYLIE GRIFFITH

What you taught me: This piece is a tribute to my mom for being such an amazing person in my life.

Half Full

MADISON SECULES

Hello, It's Me: Self Portrait using Conté Crayons

MEGAN HILLIS

Autumn Morning: A study in contrasting colors. Acrylic paint on canvas board.

Untitled: Watercolor and ink on mixed media paper.

MEGAN SCHWARTZ

Keep Your Eyes Open, and Let Your Experiences Awaken You: Double exposure photo using two of my original photographs of my own eye and a snow covered field on a sunny day

My Escapes: Mosaic of two horses using only paper out of magazines, newspapers etcetera.

Imagination: A mix of glass mosaic as well as a drawing of different objects with diamond glaze covering it making the piece come together beautifully.

MICHELLE SORIA

Weekend Blur: The image is a girl from her back with a high pony tail. She is on a bed looking throughs the room which is meant to be a guy's room. The room has a desk with alcohol bottles, poster, and door. The girl's back shirt says "Number ?" with the idea that in college guys see girls as a number when having sex.

ROSE LIPTON

Tornado: Image of a tornado created on Adobe Illustrator CS5.5

SAM ALTERI

Untitled: A mixed media piece made of paint, photographs, colored pencil, and cloth flowers. Inspired by love and the moon.

SARAH ALFONSO

a winter momento: Drawing mixed media

SARAH DYAL

Why?

SARAH KOWALSKI

Imperfect Cyrcles: These circles were created at the Ephemeral Arts Festival last October in the Spencer J. Roemer Arboretum. They were constructed by braiding ash leaflet stems together into strands, weaving them into circles, and then attaching them together using more ash leaflet stems. Once assembled, the piece was hung in a cedar tree along a trail in the Arboretum, and colored leaves were stuck between the woven stems. I spent all day walking around and weaving stems, and inspired by the Native American Medicine Wheel philosophy of circles and the cycles they create, assembled my piece. This teaching uses the example of a group of people sitting around the edge of a circle and observing an object at its center. Each person sees the object from a different perspective, whether it be due to differing angles, senses, or emotional attachment. We all go through life with our own circles and cycles, slowly changing and evolving, and no circles are perfect; each viewer saw my piece from different perspective as it naturally changed and evolved, just as they themselves do, never to be the same again.

Love in Plain Sight: This piece was part of an assignment in a 2D design class last fall. The purpose was to create different patterns and designs to fill the squares, without an obvious connecting theme. I decided to link the squares with a simple cursive word "love," inspired by the sanskrit phrase, "baba nam kevalam" or in short, "love is all there is." To this day I do not think my professor knew of the hidden word in the piece, but maybe you can find it.

SARAH SIMON

negative space: compliment the cleavages of pointers at rest you stare through my fingers in the dark suspension of your bed; "they are so lovely you are so elegant and blameless" yes I've heard that before

when you say you feel a spark: lying next to me. amphetamines really what can it mean without that eternal feeling which really comes just to remind you that you are not going to live forever and should probably get copulating soon

others/thyself: in order to live for others, you must first live for yourself. in order to live for yourself, you must first live for others.

SHUXING LIN

Childhood Jar: Pinch pot with lid. Hand painted design.

Whimsical: Glazed coil pot

Transcendence: Watercolor painting.

SOPHIE BOKA

; continuing. I. Am.

SPECIAL PRESENTATIONS

GEO's Dumpster Dive 10 AM – 12:30 PM Patio Between College Union and Mary Jemison

JASON PHILLIPS, NICHOLAS LAVIGNE, SARAH KOWALSKI, SUMMER STRATTON, MATTHEW VIGLUCCI, CAROLINE SECHE, VICTORIA ROBERTS, DEBORAH PIERSON, ALISON COOK, DEMETRIOS GIANNIOS

FACULTY SPONSOR: MARGARET REITZ, RESIDENCE LIFE

Geneseo Environmental Organization will be performing a live, interactive performance art installation and reflection of consumption and waste disposal in Geneseo. This live installation will involve sorting through one bag of trash from each residence hall and academic building on campus and determining how much of that waste could have been recycled. The sorting process will be open to audience participation, and proper protective gear such as gloves, goggles and protective suits will be provided to anyone who wishes to participate. The bags will first be weighed as-is, and then reweighed once all the items in the bag have been properly sorted as landfill, paper, or glass/plastic/metal. This performance will be followed by an analysis of how much "trash" could have been recycled in our sample selection. This data analysis is not intended to be a highly accurate or scientific process, but rather the objective of this interactive art performance is to create a visual impact of consumption and waste at Geneseo. By doing so we seek to promote positive environmental action on an individual level by encouraging students and faculty in attendance to reevaluate their personal consumption and recycling habits.

Sláinte Irish Dance 12:40 PM College Union Ballroon Stage

FACULTY SPONSOR: SHARON O'RILEY, STUDENT LIFE

Founded in 2011, Sláinte (slahn-chə) Irish Dance has already grown tremendously on the SUNY Geneseo campus, as well as in the Geneseo Community. The dancers are varied in level, including several regional, national, and World Champion dancers. Unique choreography and dedication to dance enable us to provide entertainment for any event throughout the year.

Saphire Winter Guard People Help the People 5:10 PM College Union Plaza (outside)

MADISON WAYLAND, ERICA SCHLOTT, JANE FENG, STEPHANIE BROWN, SAMANTHA JAYNE, JASMINE BELOY, FRANCESCA D'AMBRO, BRITTANI JOPSON, BROOKE MONFALCONE, HEATHER TROMBOLI, JASMINE WEED, KAYLAN RUIZ, LESLIE INGALLS, SHELBY SCHMIGEL, VICTORIA SOLEY

FACULTY SPONSOR: LISA SMITH, MATHEMATICS

Sapphire Winter Guard at Geneseo is completely student-run and is under the direction of captains Erica Schlott, Madison Wayland, and Jane Feng. A fairly new and blossoming team on campus, the commitment and diligence has of our members has led our team to almost double in size over the past year, taking on eight new members, some of whom were completely new to the winter guard world. We compete in the North East Colorguard Circuit and have won first, second, and third place trophies during our first and second seasons. This season's show, entitled "People Help the People," emphasizes the idea of hidden baggage; the fact that you never know what the people around you are carrying, whether it be emotional, such as loneliness, or something more tangible, like hunger or unemployment. Our story portrays how important it is to lift each other up and to spread kindness through small acts. All it takes is one person to help another person, to show sympathy, and the ripple will soon spread. In the end, you truly never know what your neighbor carries with them each day, but we can have a tremendous impact on each other.

Gajjda Bhangra Dance Performance 5:15 College Unoin Lobby

JASLEEN KUNDLAS, SWETHA SATHASIVAM

FACULTY SPONSOR: RANDY KAPLAN, THEATRE/DANCE

Gajjda Bhangra is a co-ed dance team that performs at on-campus events, competitions and various local and off- campus events. Bhangra is a traditional dance that comes from the Northern Punjab region of India. This is a co-ed and high energy team that dances at on-campus events, local events in the Geneseo community as well as competitions in the local area.

Zines & Libraries: Conversations with Milne's Reference Librarians Milne Library 1st Floor

MICHELLE NITTO

FACULTY SPONSOR: BONNIE SWOGER, MILNE LIBRARY

This presentation will focus on zines created in collaboration with Milne's Reference Librarians. Zines function as an accessible medium to document and share personal experiences, conversations, and narratives. Zines are handmade booklets which are extremely cheap to print and circulate. The zines I will be sharing are ones which I created over the course of the semester. The conversations I will share within each zine are from interviews conducted with each Reference librarian. Potential issues which may surface in these interviews include; the future of libraries and librarianship, the function of libraries as community spaces, the role of an academic reference librarianship, the importance of opensource sites, how technology affects librarianship, and how librarianship influences literacy rates.

/gəˈrilə/ Throughout Campus

KALLIE SWYER, EVAN GOLDSTEIN, JAY GUISAO, DIEGO BARCACEL PENA, PAM HAAS, SARAH SIMON, SARA MUNJACK, CHLOE FORSELL, OLIVER DIAZ

FACULTY SPONSOR: LYTTON SMITH, ENGLISH

Taking part in irregular writing and non-traditional publishing, Guerrilla is a collective effort to make local writing and art visible locally through installation and performance. We accept and review poetry, short fiction, nonfiction and visual art for immediate publication: displaying student works all over campus and the surrounding town. We publish work anonymously (unless otherwise requested), so that artists can feel safe publishing something political, confrontational, or controversial. Membership in Guerrilla is as simple as agreeing to collaborate with us: we use a simple and democratic voting process to select work, so each member will have a say in what gets published. If you submit, we encourage you to come to meetings and join in our endeavor. We view the term publication as more than just putting writing and art in a journal: artistic expression is a vital part of our community, and we will make local art visible.

Geneseo Insomnia Film Festival

6:30 PM reception, 7:00 PM screenings Wadsworth Auditorium

The Fifth Annual Geneseo Insomnia Film Festival took place on April 1st-2nd (NO JOKE!) Participants had 24 hours to write, shoot, edit, and post a video no longer than 3-minutes in duration using a set of elements provided. Teams competed for prizes against other SUNY Geneseo students in an attempt to create the wittiest, most interesting, and creative video. This was a chance for students of all talents to flex their creative muscles and demonstrate their skills, whether they be writers, actors, videographers, or editors. Submissions were judged blindly by a panel of Geneseo faculty and staff. Now we're inviting you to come see the videos during this special GREAT Day screening and awards ceremony! The event is open to all Geneseo community members and we encourage you to bring family, colleagues, and friends as we recognize the excellence, achievements and talent of our 2016 Insomniacs!

GIFF Teams and Participants

Asskickers United
TIMOTHY BLOMQUIST
DIEGO BARCACEL PENA

Reel Team 6
SAMANTHA CLOWES
ANNA SAMS

PBS Kids
TRAVIS BURNS
ETHAN BROWN
LUCIO ACCORSO
JAMES WADE

Team Rocket
MICHAEL MACDONALD
MCKENNA MILLER
SHANNON HAYES
CON ROCHE

Filmic Brilliance
ALPHA BARRY
NANA BOAKYE
SARAH SIMON

Southside 69ers
WALKER BRADSHAW
CAROLINE TARANTINO
BENJAMIN BURDETT

For the Honor Of [Team Name]
AARON WEINTAUB
NADIR MAHMOOD
KADIN FAWCETT
JULIA CAMERON

19th Millennial Wolf
TIMOTHY WILLIAMS
MUSTAFA AMINALHAQ

Am I Right Ladies?
ABBY GOLFO
EMILIE SCHMELZER
EMILY WARNKEN
CAITLYN MULLOOLY

The Cold Cuts
AUDREY FROATS
DYLAN HORCHER
GIL CRUZ
CAROLYN ENGELHARDT

Cat's Pajamas
ERIN SHEEHAN
VICTORIA ELLIOTT
WILLIAM ANDRADE
MATT TYLER

Campus Auxillary Productions
WILLIAM MORRIS
ARIANNA BUTTARAZZI
DANIEL KING
BRITTANY RODRIGUEZ

Hyuk
JAWAD TAZARI
THEO DIBEI

Newton's Knights
IAN COSTLEY
NICK LAURELLI
CODY ESPOSITO
DAVID BONE

The Reel MVP'S
JULIA CUMMINGS
MOLLY DOWNING
HANNAH MRAKOVCIC
SI YING LIN

The Harlem Globe Trotters
BRITINA CHENG
KATHLEEN MANEY
KEVIN CALLERY
SARA PROUD

Index of Student Participants and Faculty/Staff Sponsors

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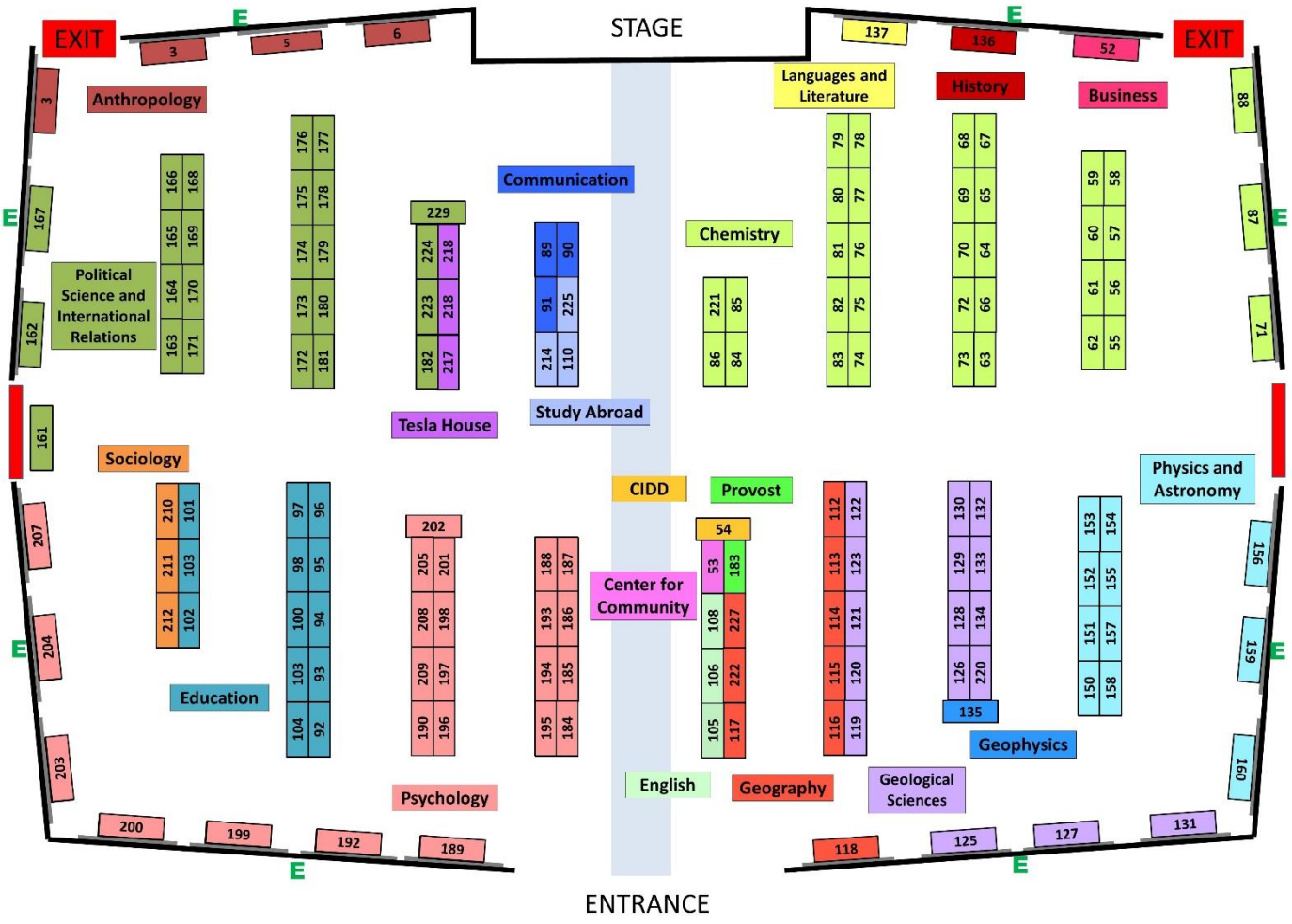
POSTER SESSIONS: POSTER CENTRAL – COLLEGE UNION BALLROOM, 3RD FLOOR, STARBUCKS STAGE

11: 15 AM – 12:45 PM with Lunch and the Geneseo String Band performance at noon

5:15 PM – 6:30 PM with Bhangra, Reception, Keynote Speaker Booksigning, and Closing Remarks by President Battles

Ballroom Poster Locations



College Union 3rd Floor

Balcony