

The Fifth Annual

GREAT Day

4·12·11

Geneseo Recognizing
Excellence,
Achievement
& Talent



Welcome to SUNY Geneseo's Fifth 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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Student volunteers: Mary Bock, Minh Bui, Katie Daly, Iwona Drapala, Abby Erker-Ferreira, Heather Ford, Kerri Friel, Brittany Gliboff, Natalia Gottschalk, Katrina Innamorato, Alice Kim, Abby Klutts, Sara Lewandowski, Sarah Mader, Kelly Nolan, Adam Reinemann, Megan Reynolds, Taylor Solano, Betty Sun, Derek Weng and Meghan Pipe.

Special Thank You:

President Christopher Dahl and **Provost Carol Long** for their support of GREAT Day.

Jack and Carol Kramer for their support of Geneseo and the Keynote address.

Dr. Thomas Seeley for delivering the Keynote address.

Erin Pipe for organizing the Chamber Music Festival.

Megan Pipe for serving as liaison to the Student Association.

The Student Association for sponsoring the Luncheon.

Anne Baldwin, Patty Hamilton-Rodgers, Andrea Klein, and Tammy Farrell for their special expertise and many hours devoted to planning this event.

Contributions to cover design by: Students from Michael Teres' Graphic Design classes: Carman Chung, Joanna Duel, Amy-Lynn Haller, Julianna Manning, Alison Perrino, Chad Bogar, and Jaclyn Vetrano

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http://www.geneseo.edu/great_day

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**Fifth Annual
GREAT Day**
Geneseo Recognizing Excellence, Achievement & Talent
Schedule at a Glance

8:00 – 8:30 AM	Registration and Continental Breakfast	MacVittie College Union Lobby
	Poster Presentation Setup	Milne Library First Floor Common Area and MacVittie College Union Ballroom
8:30 – 9:30 AM	Welcoming Remarks by Carol Long, Provost	Union Ballroom
	Artwork Exhibits	Kinetic Gallery, Union
	Poster Presentations	Milne Library and Union Ballroom
9:40 – 10:55 AM	Concurrent Presentations • Session 1	
	Session 1-A • Anthropology Mantled Howler Monkey Research on Isla de Ometepe, Nicaragua	Welles 115
	Session 1-B • Biomathematics	Newton 203
	Session 1-C • Chemistry	Newton 204
	Session 1-D • Communication Advertising campaigns for nonprofit organizations	Welles 119
	Session 1-E • Edgar Fellows Capstone I	Welles 121
	Session 1-F • Edgar Fellows Capstone II	Welles 123
	Session 1-G • Edgar Fellows Capstone III	Welles 128
	Session 1-H • English Fifteenth-Century Outlooks in Literature	Welles 131
	Session 1-I • English "Is Shakespeare's Henry V Guilty of War Crimes?"	Welles 132
	Session 1-J • English Beowulf, Boethius, and Bantering Shepherds: Voices from the Middle Ages	Welles 133
	Session 1-K • English Identity I: Families	Welles 134
	Session 1-L • History Identity, Ideology, and Vigilance: History Honors Theses on 19th Century American History	Welles 140
	Session 1-M • Mathematics and Physics	Newton 201
	Session 1-N • Mathematics Mathematics: Pure and Applied	Newton 214
	Session 1-O • Political Science & International Relations Political, Economic and Environmental Dimensions of Trans-nationalism	Welles 24
	Session 1-P • Psychology Campus Sexual Assault at Geneseo: Exploring the Problem and Possible Solutions	Welles 26
	Session 1-Q • School of Business	South Hall 338
	Session 1-R • School of Business-Economics SUNY Geneseo Fed Challenge Team Presents: An Economic Overview	South Hall 340

	Session 1-S • School of the Arts-Theater Student Produced Plays and Musicals	Robert Sinclair Theater (Brodie Blackbox)
	Session 1-T • Sociology Ritual, Religion and Spirituality: Studies in Transformative Experiences	Welles 138
10:00 – 1:30 PM	Chamber Music Festival Part 1	Fireside Lounge, Union
11:05 – 12:20 PM	Concurrent Presentations • Session 2	
	Session 2-A • Anthropology	Welles 133
	Session 2-B • Biomathematics	Newton 203
	Session 2-C • Communication	Welles 117
	Session 2-D • Computer Science	Newton 204
	Session 2-E • Edgar Fellows Capstone IV	Welles 121
	Session 2-F • Edgar Fellows Capstone V	Welles 123
	Session 2-G • English Transgender Theory and Literature - Part 1	Welles 131
	Session 2-H • English MeatCapitalBusiness: Three Words from the History of the English Language	Welles 132
	Session 2-I • Languages and Literatures and Scientific Ethics	Welles 115
	Session 2-J • History The Politics of Culture: The Cultural Revolution in China, 1966-76	Welles 138
	Session 2-K • Mathematics Mathematics Miscellany	Newton 201
	Session 2-L • Mathematics and Biomathematics	Newton 214
	Session 2-M • Political Science and International Relations Norms, Memory, and Human Rights	Welles 24
	Session 2-N • Political Science and International Relations American Public Policy Panel	Welles 134
	Session 2-O • School of Business	South Hall 338
	Session 2-P • School of Education	South Hall 340
	Session 2-Q • School of the Arts, Office of the Provost, and Center for Community	Welles 128
	Session 2-R • School of the Arts-Dance Making a Dance: A Look Inside the Choreographic and Creative Process	Robert Sinclair Theater (Brodie Blackbox)
	Session 2-S • Music History /Performance	Brodie 208
	Session 2-T • Women's Studies Sexual Violence, Sex Education, and Gender and Disability	Welles 119
12:30 – 1:30 PM	Artwork Exhibits	Kinetic Gallery, Union
	Dance Performance: Geneseo Bhangra	Union Ballroom Stage
	Poster Presentations	Milne Library and Union Ballroom
	Buffet Luncheon	Union Ballroom

1:45 – 2:45 PM	<p align="center">Keynote Address Dr. Thomas Seeley, Cornell University <i>Honeybee Democracy</i> <i>Introductions by Christopher Dahl, President and Jack and Carol Kramer</i></p>	Wadsworth Auditorium
2:55 – 4:10 PM	Concurrent Presentations • Session 3	
	Session 3-A • Anthropology	Welles 115
	Session 3-B • Biology	Newton 203
	Session 3-C • Communication	Newton 214
	Session 3-D • Communicative Disorders and Sciences Language Sample Analysis	Welles 119
	Session 3-E • Computer Science	Newton 204
	Session 3-F • Edgar Fellows Capstone VI	Welles 121
	Session 3-G • Edgar Fellows Capstone VII	Welles 123
	Session 3-H • English We Happy Few: Two Directors' Propaganda in Film Productions of Shakespeare's Henry V	Welles 131
	Session 3-I • English Autobiographical Places and Spaces	Welles 132
	Session 3-J • English Transgender Theory and Literature- Part 2	Welles 133
	Session 3-K • English Identity II: America	Welles 134
	Session 3-L • History US-China Relations	Welles 117
	Session 3-M • Applied Mathematics	Newton 201
	Session 3-N • Political Science and International Relations	Welles 24
	Session 3-O • Political Science and International Relations Service Learning Trip to Kakamega, Kenya: Serving and Empowering Disabled Communities	Welles 26
	Session 3-P • School of Business	South Hall 338
	Session 3-Q • School of Education Pre-service Students Engaged in Undergraduate Literacy Research	South Hall 340
	Session 3-R • School of the Arts-Studio Art Podcast Presentations on Notable Photographers and Computer Artists	Welles 138
	Session 3-S • Study Abroad & Humanities Student Panel Discussion on Humanities II in El Sauce, Nicaragua Study Abroad Program 2010	Welles 128
	Session 3-T • Women's Studies Multicultural and International Perspectives on Women and Gender	Welles 140
3:00 – 4:20 PM	Chamber Music Festival Part 2	Fireside Lounge, Union
4:20 – 5:30 PM	Concurrent Presentations • Session 4	
	Session 4-A • Biology	Newton 201
	Session 4-B • English George Orwell's Keep the Aspidistra Flying: A British	Welles 131

	Novel of the 1930s	
	Session 4-C • English Hot Bods on Earth and in Outer Space: Investigations of Gay and Lesbian Literature	Welles 132
	Session 4-D • English Ancient Authority: Western Humanities I	Welles 133
	Session 4-E • English Romantic Curiosities	Welles 134
	Session 4-F • Geography and Psychology	Welles 119
	Session 4-G • History American History on Film: Slavery, Suffrage, and the American Revolution	Welles 121
	Session 4-H • History and Political Science and International Relations	Welles 123
	Session 4-I • Political Science and International Relations Current Issues in International Security	Welles 24
	Session 4-J • School of Business	South Hall 338
	Session 4-K • School of Education	South Hall 340
	Session 4-L • School of the Arts-Theater New Work by Student Playwrights	Sturges Auditorium
5:30 – 6:30 PM	Reception Remarks by Christopher Dahl, President	Union Ballroom
	Artwork Exhibits	Kinetic Gallery, Union
	Poster Presentations	Milne Library and Union Ballroom

ARTWORK EXHIBITS

MacVittie College Union, Kinetic Gallery

Kaleb King

Faculty Sponsor: Elizabeth Hall, Education

Cameron and Belle

It's an abstracted piece of my nephew; Cameron King when he was a baby and my dog; Belle. I painted it in Fall 2009 when I audited an oil painting class here on campus. The media that I used for this art piece was oil paint. I chose this piece because it shows color; texture; contrast; and shape.

The L.I.V.E.S. Program's Concept Logo

It's the latest concept design of The L.I.V.E.S. (Learning Independence; Vocational; and Educational Skills) Program's logo. I worked on this piece in Fall 2010 for a graphic designing seminar. The media that I used for this piece was digital art. I chose this piece because it shows color; shape; rhythm; and line.

Kyle King's Caricature

It's a caricature of my brother; Kyle King. I made it for him on his birthday. The media that I used for this piece was multi-media. I chose this piece because it shows shape; color; value; form; and movement.

Aileen Connorton

Faculty Sponsor: Patrice Case, Studio Art

Living Ghosts

3' x 4' Oil on plywood, with attached pieces of fabric. Semi-translucent, fabric "deer" carefully navigate through textured oil paint across the picture-plane.

BabyZilla

4.5' x 4' Oil painting on canvas. Painted in an expressive style. Highly textured with thick paint. Baby having a tantrum destroys a colorful block "city".

Alison Perrino

Faculty Sponsor: Patrice Case, Studio Art

Wooden Treasure

This digital photograph shows the unexpectedly vibrant colors in a wooden stump.

The Falls

This digital photograph is a view of Niagara Falls through the metal railing. It has been edited to give a more antique appearance.

Sharon Woolever

Faculty Sponsor: Patrice Case, Studio Art

Colors of the Night

An abstract expressionist acrylic painting 3' x 4' with thin multiple layers of paint applied in an additive and subtractive manner.

I Love You ...But...!

Three hand carved foam torso's painted and adorned with various metals and mixed media materials to express the concepts of love; pain and life. The pieces are mounted on a large piece of black foam core and framed in wood.

Grieving and Loss

20" x 28" oil painting on canvas abstract expressionist conceptual piece about grieving and loss and the struggles with depression and getting back to the light.

Alex Spinello

Faculty Sponsor: Patrice Case, Studio Art

Religious Division

This oil painting represents how different religions have been an instrument of persuasion to fight against other humans. Entire armies were sent to die like cows go in slaughterhouses and the result was a division of races. As artist I represent the truth; I don't care to change the world but only to stimulate my viewers.

Religious Force

With this oil painting I want to display how the energy of the universe can be used to achieve specific goals. It emphasizes how the communication with the sky makes a human release invisible particles. These will interact with the chemistry of the universe and help to open new doors.

Religious Clash

It's a clay relief where all the religious icons are playing with each other. As more people in the contemporary society have been exposed to a multitude of traditions; cultures and exotic distant places via images; this artwork wants to summarize what can be a future reaction to all the religions' pressures.

Minerva Campbell

Faculty Sponsor: Patrice Case, Studio Art

Rust Formation

Steel fabrication.

If you could blow bubbles with steel

Steel

Ray Ferreira

Faculty Sponsor: Dan Dezarn, Studio Art

Communion 2

Much in the same way that wafers and wine become the literal body and blood of Christ in the Catholic tradition; the objects in this piece assume a different identity. Not only do they assume a gendered role; but by ingesting both; the artifice of gender is broken down in your body to the units that they both share.

Kate Cragg

Faculty Sponsor: Tom MacPherson, Studio Art

The Strangler

The sphinx from Egyptian and Greek mythology; with a modern twist; if she roamed the plains of California.

Portrait of a Cephalopod

The blue-ringed octopus, one of the world's most poisonous, can be quite cuddly at times.

Anjali Bermain

Faculty Sponsor: Patrice Case, Studio Art

Ms. Moth

11"x14" digital photography print.

Le Carrousel

New Orleans's abandoned six flags.

Teddy the Tiger

11"x14" digital photography print.

Claire Littlefield

Faculty Sponsor: Doug Anderson, Studio Art

No Homo

This is a study of the obvious undercurrent of sexual tension that pervades the relationship between presidents after their faces are carved into a mountain. Obviously, this is one of many.

Business Casual

A study of the effects of cotton candy on the countenance of the average filly.

Bush

Luckily, the man who is the (decidedly hairy) focal point of the painting always makes a point to never leave his house without his "good luck opossum".

DANCE PERFORMANCE

12:45 pm Union Ballroom Stage

Special Session • Geneseo Bhangra

Performers: Ishraq Kabir, Iris Huang, Nibin Pachikara, Michael Delduca, Hamza Murtaza, Andrea Diluglio, Asad Khan, Connor Burgevin, Eri Kurose, Hilal Arshad, Kayla Gurbacki, Lauren Aman, Reshma Nair, Shadman Sinha, Thomas Sochia and Yangchen Bhuti

Faculty Sponsor: Randy Kaplan, School of the Arts

Bhangra is a South-East Asian dance originated in the region in Pakistan and India known as the Punjab. Bhangra began as a dance to celebrate the spring harvest. Farmers gathered and would jump around to the beat of drum. The style began to evolve and spread across Asia to United Kingdom and then to the United States. Now many independent teams and collegiate teams compete against each other for large cash prizes. Geneseo Bhangra is a competitive team and we have performed in competitions in Buffalo, Syracuse, Ithaca, and Philadelphia. Our routine is approximately seven minutes long. We perform a wide variety of songs that are mixed together to form one continuous track. We perform wearing colorful costumes from Pakistan. We also use props in our performance. Hopefully you all enjoy!

Chamber Music Festival

Fireside Lounge, MacVittie College Union

10:00-10:20 POW Trio: Mendelssohn Piano Trio in D Minor, Movements 3 & 4

Piano: Emi Okada
Violin: Alison Petry
Cello: Kelsey Wood

10:20-10:40 Beethoven String Quartet: Op. 18, No. 4

Violin: Mike Cholodenko
Violin: Kristen Hadley
Viola: Emily Cirincione
Cello: Laura Duclos

10:40-11:00 American Folk Ballads

Violin: Sally Schaefer
Piano: Maeghan Dineen

11:00-11:20 The Saxophone Quartet: Sax O Fonic Intimations

Soprano Chair: Matthew Coyle
Alto Chair: Stephen Roff
Tenor Chair: Peter Ignacio
Baritone Chair: Michael Perrone

11:20-11:40 IRIS Quartet: Schubert Quartet in A Minor: Op. 29

Violin: Hannah Garfield
Violin: Marie Kalet
Viola: Alyson Bittner
Cello: Erin Pipe

11:40-12:20 Flute Choir: Selections from Carnival of the Animals: Saint-Saens

Abby Besch, Alexis Mazzeo, Alicia Jeffers, Angela Klineczar, Ashley Holmes, Caitlin Bast, Devin Grau, Eileen Hayes, Elizabeth Hoffman, Erinn Kehoe, Heather McCormack, Jamie Jaquay, Kady Romig, Kaitlyn Curtis, Kelly Brunscheen, Laura Victor, Liane Colangelo, Elizabeth Thorp, Samantha Yelle, and Sandy Bender

12:20-12:50 Geneseo String Band

Tom Robinson, Rachel McGee, Chris Keegan, Kristen Hadley, Charles Turner, Stephen Kowalewski, Lily Wheeler, Sally Schaefer, Maeghan Dineen

12:50-1:30 Jazz Combo

Sean Douglas, Matthew Coyle, Joe Bergan, Jonathan Schultz, Joe Pelton, Christopher Pike, Joanna Duell

1:45-2:45 KEYNOTE ADDRESS Wadsworth Auditorium

3:00-3:30 Exit 8 A Cappella

Kristin Eckert, Amelia Millar, Shelly Massachi, Leah Randazzo, Casey Sears, Marriah Hibit, Julia Masotti, Ali Niemiec, Mary Ragus, Elyssa Ramirez, Nicholas Cotrupi, Patrick Daniels, Zac Dubois, Paul Kaleka, Russell Allen, Bennett Marano, Jonathan Mushock, Alex Szczepanski, and Jeffrey Zeitler

3:30-3:50 Menotti Trio: Suite for Two Cellos and Piano by Gian Carlo Menotti

Cello: Sara Wigderson

Cello: Elizabeth Weybright

Piano: Louis Lohraseb

3:50-4:20 Mozart and More

Piano: Louis Lohraseb

POSTER PRESENTATIONS

Milne Library, First Floor Common Area

Communication and the Ghana Project

1 • The Ghana Project

Megan Leahey, Sarah Ackerman, Bella Masotti and Hannah Schmidt

Faculty Sponsor: Thomas Matthews, Center for Community

The poster will include a description of the project goals, past events, future events, what we hope to accomplish, and why we have chosen Ghana as our target school. The poster will feature photographs of members at various events. Each section will be concise and clearly state the topics previously mentioned.

2 • LIVE Magazine

Megan Flinn, Angela Snook, Andre McDuffie and Alex Rozzi

Faculty Sponsor: Mary Mohan, Communication

Cover design, sample articles.

3 • Social Media in the Food Service Industry

Margaret Hagan

Faculty Sponsor: Ginni Jurkowski, Communication

Within the past few years, the use of social media sites, such as Facebook, Twitter, and Groupon has exploded. The food service industry, in particular, has benefited from the increased presence of social media in people's lives. Restaurants and food suppliers have taken advantage of mobile marketing and other opportunities to market their products and services to customers, provide customer service, and offer exclusive deals. As social media continues to evolve, it will influence the way customers make purchase decisions and interact with food companies. Food service companies must continue to utilize new social media technology in their marketing, public relations, and advertising efforts in order to succeed in the industry.

4 • Social Media in Journalism

Peter Wayne

Faculty Sponsor: Ginni Jurkowski, Communication

Social media have become an unavoidable force in today's media world. For aspiring journalists, it is imperative to understand how to utilize them and also the reasoning behind their use. By interviewing professional journalists about their social media use and logging their patterns of response in an actual social medium (blog), students will be better prepared for a professional career in journalism.

5 • Social Media in Tourism and Travel

Colleen Knopeck

Faculty Sponsor: Ginni Jurkowski, Communication

The popularity of social media is on a rise in most aspects of society. As people continue to rely more heavily on social media, its purpose expands. One such expansion has reached the travel industry and advertising for tourist locations. The purpose of

the research was to see where and how social media are used in relation to travelers and their destinations. Travel social media in England, Ireland and the United States were compared.

6 • The Importance of Understanding College Student Discourses in Communication with Parents

Roseann Pluretti

Faculty Sponsor: Meredith Harrigan, Communication

As young adults transition to college, their perspectives, wants, and personalities undergo a redefinition and re-framing to fit the new critical time of their lives. Some of these meaning revisions include increased autonomy and decreased reliance on others, such as their parents. These new systems of meanings ultimately affect their relationship and communication with their parents. Framed by relational dialectics theory, this study investigated the discourses college students voice when talking about their wishes, experiences, and regrets in their relationships with their parents. The researcher conducted a semi-structured interview with one college student and used qualitative thematic analysis for the research findings. The researcher found 12 discourses the participant voices, five pairs of these being contradictions, opposing discourses interpenetrating. Two of the five pairs of discursive struggles include absence vs. presence and independence vs. control. The discourses of trust and prior knowledge were voiced without an opposing discourse. The importance of the findings are discussed, highlighting the multiple discourses that communicatively exist between college students and their parents. Knowledge of these discourses can provide pertinent information to communication researchers and college students and their parents on how to manage discourses and discursive struggles in this vital interpersonal relationship.

7 • English's Hegemonic Rise to Lingua Franca and its Critical Effects

Roseann Pluretti

Faculty Sponsor: Atsushi Tajima, Communication

This poster examines the rise of the English language to a lingua franca through hegemony. This study displays the history of the English language while exploring the social and educational affects this has had on non-English speaking nations and speakers. Further analysis found hegemony regarding American English preference over other World Englishes. This analysis found native English speakers' views on English to be skewed by media agenda setting and ethnocentrism. Major themes include English-speaking nations using English as a form of linguistic imperialism. The researcher calls for change by both non-English and native English speaking nations to end this hegemony.

8 • Experiences, Wishes and Regrets: Analysis of a College Student's Disclosure Patterns between Parents and Friends through the Framework of Communication Privacy Management Theory

Laura Marrin

Faculty Sponsor: Meredith Harrigan, Communication

As college students adjust to great distances from their close personal relationships at home, specifically those between them and their parents and friends, their relationships take on new contexts, and as such, inhabit new communicative patterns. Grounded in communication privacy management, this study searches to understand how an individual student navigates and copes with this new landscape for interpersonal relationships, as what criteria helps them to determine what to reveal and conceal in these relationships. The researcher describes the patterns of boundary coordination described by college students as they adjust and develop communicative patterns despite vast geographic distances from their friends and parents at home. Implications of these findings include that as communication becomes more limited, college students' friendships do not experience a great change in disclosure patterns as they are just as expressive as always, while relationships between students and their parents evolve and involve greater disclosure than when living together.

9 • Poetic Legacy of Flanders Fields - Memorials Across Time from the 21st Century

Collette Spagnolo

Faculty Sponsor: Mary Mohan, Communication

Students in Western Humanities II abroad in Paris, Belgium and Normandy participated in a transformational learning project that allowed them to experience the emotional underpinnings of World War I youth involved on the major battlefronts and in their homelands. Each student took a creative stance in assuming a particular character from the WWI era and then wrote either a letter or a poem reflecting on a unique experience. Background for this activity was drawn from selected prose and poetry of World War I (1914 – 1918) and also from on-site visits including Ypres, Belgium, the Menin Gate, the In Flanders Fields Interactive Museum, the Historial de la Grande Guerre Museum in Peronne, France, and a screening of the internationally acclaimed film, *Joyeux Noël*. The poster displays selected student poetry and prose, along with photographic and historic images of the era.

10 • No Fat Moms! Celebrity Mothers' Weight-Loss Narratives in People Magazine

Emma Bedor

Faculty Sponsor: Atsushi Tajima, Communication

This project critically examines how People magazine uses celebrity postpartum weight-loss as a primary tool in assessing motherhood and womanhood competency. The predominant norm is for these women to lose their "baby weight" extremely quickly. This creates a high standard not only for other celebrity mothers to achieve, but also sets an example for readers to emulate. Specific choices in framing these narratives, as well as encouraging reader involvement, are just two of many elements that lead readers to identify with these women and therefore replicate their example. This study employs social

cognitive theory as well as parasocial relationship theory to explore this identification, which occurs despite the fact that celebrities have access to resources that the majority of readers lack. Therefore, modeling one's own postpartum weight-loss goals and strategies after those of celebrity mothers is likely to result in failure and dissatisfaction.

11 • The Celebrity Phenomena: A (Reality) Star is Born

Emma Bedor

Faculty Sponsor: Atsushi Tajima, Communication

New Internet technologies have led to the creation of social networking websites. These, in turn, have affected the ways that people relate to one another. Not only do social media enable users to keep in contact with friends and family, they also offer a unique opportunity to monitor the behavior and activities of celebrities and other prominent figures. This leads to feelings of pseudo-intimacy, otherwise known as parasocial relationships. Additionally, converging technologies have changed the ways viewers are affected by television content. With an increasing number of reality television programs, as well as the fact that many of them are available for on-demand viewing on the Internet, audiences feel closer to media figures than ever before. This empirical research project explores changing concepts of celebrity amongst college students, a social media-fueled demographic, by employing an interview protocol that explores perceptions of proximity. It concludes by revisiting Gerbner's cultivation theory and suggests revisions to make it more applicable today.

12 • Pushing Through the Pain: Using Communication to Promote Self-determination and Increase Motivation in Physical Therapy Clients

Bridget Denicola

Faculty Sponsor: Andrew Herman, Communication

This poster examines how physical therapists use communication to promote self-determination and increase motivation in their clients. Self-determination theory argues that feelings of autonomy, competence and relatedness are integral for people to be motivated. Promoting self-determination has been found to be effective in numerous contexts such as student learning, oral hygiene, exercise programs, and office settings. For this study, trained physical therapists were interviewed to explore the communication methods they used to promote client self-determination and enhance their client's adherence to rehabilitation programs.

13 • Improved Translation of Anime Over the Years: A Case Study of How Translations of Bleach Show Improvement over Translations of Sailor Moon and How this Promotes Japanese Culture in America

Kimberly Showalter

Faculty Sponsor: Atsushi Tajima, Communication

This poster discusses the importation of Japanese anime to America, and the unique reasons why it has become so popular with audiences here. Due to Orientalism, the original Japanese cultural content of anime was edited when first imported to America. Recently, a desire for more authentic anime has grown, giving rise to both the practice of fan-subtitling and anime distribution companies doing a better job of translating anime for American consumption. This paper compares the translations of two popular anime from different decades, Sailor Moon and Bleach, and contrasts how the translation accuracy has improved over the years. Through improved translation and the inclusion of cultural references, American audiences have gradually become exposed to Japanese culture. This exposure has helped to foster an interest for it. In turn, this growing interest has increased the popularity of Japanese cultural trademarks and helps illustrate America as participating in a reverse of cultural imperialism. By learning about Japanese culture through anime, America is slowly shifting away from being perceived as a country interested only in its own culture and anime has been a key medium that has helped to spark this change.

POSTER PRESENTATIONS

MacVittie College Union, Ballroom

Anthropology

14 • Cinderella: A Cross Cultural Linguistic Comparison

Erin Steinwachs

Faculty Sponsor: Denice Szafran, Anthropology

Oral folklore, oral tradition, folklore, and oral culture all contain bits of culture or cultural material transmitted from one generation to another. Oral tradition makes up a significant part of linguistic anthropology. Specifically, it is a reliable resource for understanding culture around the world and obtaining information from the past that would otherwise be lost in the archaeological record. Oral Tradition also highlights societal values and customs of the time, while passing educational information from generation to generation. Cinderella, a well known story in America, has many cultural variations which prove the importance of oral tradition in linguistic anthropology while highlighting specific information from past societies that can be obtained through folklore.

15 • A Comparative Study of Mantled Howler Day Range Length

Benjamin Sapadin

Faculty Sponsor: Barbara Welker, Anthropology

Mantled howler monkeys (*Alouatta palliata*) spend relatively low amounts of time traveling. When they do move, they are generally prompted to do so by hunger and thus travel to find food. My research on the island of Ometepe, Nicaragua involved the daily tracking of two monkey groups in different forest areas, locally known as the Coffee Plantation and the Waterfall area. Data were collected from 3-I-11 to 13-I-11, from 7 to 11 am, yielding 24 hours and 12 hours of data, respectively. The objective of the research was to compare the day range length for the two groups in relation to assumed differences in home range size and resource composition/distribution. A GPS was used to track and record the howlers' movements. The Waterfall group traveled an average of 36.7m each morning, while the Coffee Plantation group traveled an average of 23.7m. Morning travel time does not differ significantly between the two groups ($t = -.738$, $df = 7$, $p = 0.49$). More data would be needed to determine if true differences exist between the groups and how those differences are related to group size and environmental conditions.

16 • Census of a Howler Monkey Group on Ometepe Island, Nicaragua

Meagan Wheatley

Faculty Sponsor: Barbara Welker, Anthropology

Mantled howler monkeys (*Alouatta palliata*) are a wide-ranging New World species. They typically form multi-male/multi-female groups of about 10-20 individuals and inhabit relatively small home ranges. A census was taken of the howler population of a small portion of secondary forest on the island of Ometepe, Nicaragua. This area has been gradually recovering from its previous use as a coffee plantation and thus presents an interesting opportunity to examine the impact of this fragmented environment on the howler population. Our goals were to determine (1) how many groups inhabited the area and (2) the size and composition of the group(s). Data was collected for approximately 2 ½ weeks from 30-XII-10 to 13-I-11 between 7:30 and 11:00am. We determined that all animals in the area belonged to one large group consisting of 7 males, 13 females, 6 juveniles, and 2 infants. We concluded that the large size of the group suggests that although this is a fragmented environment, there must be enough food resources available year round to support a group of this size.

17 • Resting Postures and Site Selection in Mantled Howler Monkeys, *Alouatta palliata*

Lucas Fredericks

Faculty Sponsor: Barbara Welker, Anthropology

While nocturnal sleeping postures and site selection are well studied in howler monkeys, little has been published about daytime resting postures and site selection. This study examines daytime site selection in one group of mantled howler monkeys, in relation to age and sex, as well as posture and weight-bearing preferences. Sixteen individuals were classified into age and sex categories (e.g. adult male). Due to sexual monomorphism in juveniles, individuals who had not yet developed secondary sexual characteristics were classified according to approximate age. Using ad libitum data collection (yielding 25 hours of data), individuals were observed in an area governed by the Maderas Rainforest Conservancy, on the island of Ometepe, Nicaragua. Results indicate that males tend to rest closer to the trunks of trees, away from vision-obscuring foliage. This finding was compared with published data on site selection and predation avoidance tactics in howler monkeys and other closely related primate species. While conclusions are tentative, results suggest that males rest on large branches closer to the trunk in order to better guard against potential aerial predators.

18 • Prehensile Use in Mantled Howler Monkeys

Monica Yoo

Faculty Sponsor: Barbara Welker, Anthropology

Research was conducted to observe prehensile tail use in a group of mantled howler monkeys (*Alouatta palliata*), on the island of Ometepe, Nicaragua. Data were collected from 30 December 2010 to 14 January 2011. Tail use was divided into the following categories: bridging, suspension, suspension +1 limb, and suspension +2 limbs. Males spent most of their time bridging, likely due to their larger size and weight. Females spent most of their time either bridging or suspending. They were likely capable of hanging by their tail, i.e. suspending, due to their smaller size. Juveniles spent a majority of the time suspending, as they weigh less than an adult monkey. Prehensile tail use thus differs according to gender and age, due to size and weight differences. Juveniles and females have an easier time hanging by their tails because of their lower weights relative to adult males.

19 • Bilingualism and Code-switching of International Students

Emma Loe

Faculty Sponsor: Denice Szafran, Anthropology

When international students make linguistic decisions about whether to speak their native language, to speak English, or to code-switch, they both consciously and subconsciously weigh certain factors in an attempt to optimize their ability to properly convey their meaning and to meet the expectations of their audience. Code-switching, which is the use of more than one language during a single conversation, becomes an important tool for the international student by allowing the student to maintain, change, or break the barriers that a language imposes. Issues of competence, confidence, comfort, privacy, and the negotiation of identity are the main factors at play in decisions on language choice and code-switching. I will demonstrate the patterns these factors create in linguistic decisions through the application of personal statements collected from several international students at SUNY Geneseo to research presented in published works and scholarly articles.

20 • Oil and Water Don't Mix: A Case Study of Water Access in Nigeria

Erica Smitka and Mekal Ogbeab

Faculty Sponsor: Rosemarie Chierici, Anthropology

Only 17 percent of Nigerians in the Niger-Delta have access to clean water. Lack of sanitary water has led to an enormous increase in water borne diseases such as cholera, malaria and dysentery. By thoroughly analyzing the water situation in Nigeria, it becomes increasingly apparent that the lens of structural violence can be applied to understand and establish a conceptual framework around the multi-layered and varied factors contributing to the deplorable water and consequent health situation. In a negative feedback loop controlled by a corrupt government and profit-driven, often morally bankrupt multinational oils corporations, the consequences of the neglect of social responsibility are endured by the Nigerian people. In response to this imposed set of problems, Nigerians have developed different local techniques—such as borehole use—to adapt to their needs. However, without considerable structural correction working from both top-down (government and MNC reform) and bottom-up (grassroots sustainable development), it is unlikely that Nigeria's current crisis will subside any time soon. The complicated situation calls for an all-encompassing response that effectively breaks the cycle and provides for sound development of social and economic infrastructure in the Delta.

21 • Forensic Data on Skeletal Collection

Danielle Orsini

Faculty Sponsor: Barbara Welker, Anthropology

A forensic work up on 5 human skeletal remains was conducted. Sex, age, stature, ethnicity, pathologies, and dentition aspects were analyzed. Fordisc 4.0 software was used to determine ethnicity through osteometric measurements. A detailed forensic account was made and recorded.

Biology

22 • Progress Toward Identification of Bacterial Symbionts Associated with Clonal Sea Star Larvae from the Open Ocean

Grace Savoy-Burke, Matthew Coyle, Paul Sandell and Elizabeth Reilly

Faculty Sponsor: Isidro Bosch, Biology

In 1989, Dr. Bosch discovered asexual reproduction among sea star larvae of the Gulf Stream and Sargasso Sea, a phenomenon since observed in other species of echinoderms. This asexual reproduction in may be aided by symbiotic bacteria, which are found between the epidermis and cuticle of the larvae (Bosch 1992). Burnett and McKenzie (1997) found the subcuticular bacteria of brittle stars, another echinoderm, to be closely related to nitrogen-fixing Proteobacteria. It is likely, therefore, that the subcuticular bacteria of sea star larvae in this study also utilize nitrogen fixation in their metabolic pathway, and that the sea star larvae take advantage of this ability of the bacteria for nourishment. In return, the bacteria feed on nutrients derived from the larval gut. Students working in the lab of Dr. Isidro Bosch have studied the diversity of these symbiotic bacteria and worked to identify the different species or strains found on larvae using genetic sequencing techniques on DNA obtained from both cultured bacteria and the larvae themselves.

23 • The Effect of Climate Change on Tree Populations in the Northeast

Angela Klinczar and Jeffrey Geisendorfer

Faculty Sponsor: Ray Spear, Biology

The Neoglacial (3000 yr - present) culminating in the Little Ice Age (c. 1600-mid 1800 AD) and the Mid-Holocene (c. 6500-5500 yr BP) are two periods when climate change may have caused changes in tree populations. The increase of Spruce (*Picea*) and the decrease in Pine (*Pinus*) in the Neoglacial, and the decline of Canadian Hemlock (*Tsuga Canadensis*) in the Mid-Holocene are the two major changes in tree populations in the northeast. Pollen samples from sediment core samples taken at Lost Pond, New Hampshire provide a record of these changes. Analyzing pollen and other data, it may be possible to correlate the changes in tree populations with known climate change.

24 • Does Exocytosis Regulate Tube Formation of the *Caenorhabditis elegans* Intestine?

Corey Hoffman

Faculty Sponsor: Elisabeth Cox, Biology

The mechanism of tube development is not well understood in the field of biology. Tubes play an important role in human development, since many organs such as the heart, liver, and kidneys contain tubes. *Caenorhabditis elegans*, a soil nematode, is a great model system for studying tube development. The *C. elegans* intestine is made up of 20 cells with a fluid filled lumen that forms via a cord hollowing mechanism. Cord hollowing involves formation of vesicles in each cell which are exocytosed to the apical surface to form the lumen. Tropomodulin/TMD-1 is an actin binding protein that regulates the slow growing end of actin filaments. TMD-1 appears to play a critical role in tube development since in knockout worms, the intestinal lumen is misshapen and it has a loss in volume. This suggests that there may be an issue with exocytosis in the intestine. CHE-14 acts to sort certain vesicles to undergo exocytosis to the luminal surface. *C. elegans* with decreased expression of che-14 also have a misshapen lumen and show similar vesicular defects to the TMD-1 mutants. This data will be presented along with future directions aimed at more directly investigating the potential role of TMD-1 in exocytosis.

25 • The Interaction Between Bim1 and Sumoylation Proteins is Not Enhanced by Cell Stress

Nate Cornish and Rachael Scott

Faculty Sponsor: Harold Hoops, Biology

In yeast cell division the position of the spindle is organized by spindle-positioning proteins to ensure daughter cells each get their own nuclei. The functional roles of many spindle-positioning proteins are known, but what regulates their behavior is not understood. In some other systems, a protein's behavior is controlled by the enzyme-dependent addition of SUMO to the target protein. The yeast two hybrid (Y2H) approach, using nutritional markers, has shown there is an interaction between spindle-positioning proteins and sumoylation proteins. In principle, the Y2H interaction can also be measured quantitatively using a β -galactosidase assay but we have been unable to measure interactions between the spindle-positioning protein Bim1 and SUMO or Bim1 and an E3 enzyme using this method, perhaps because the interaction is weak. The literature suggests sumoylation events are enhanced by cellular stress. However, neither 2M NaCl nor 5 to 10% ethanol enhanced the Y2H effect between Bim1 and these sumoylation proteins as determined by the β -galactosidase assay.

26 • Using Microsatellites to Assess Relatedness Within and Among *Formica Subintegra* Ant Colonies

Sarah Dzara

Faculty Sponsor: Jennifer Apple, Biology

Formica subintegra and *F. pergandei* are parasitic slavemaking ants that periodically conduct raids upon a host species, *F. glacialis*. During these raids, the slavemakers capture the immature *F. glacialis* ants, which are subsequently raised as slaves in the slavemaker nest, where they perform nest maintenance, forage for food, and care for the slavemaker brood. We used several microsatellite loci to assess inter- and intranest relatedness for *F. subintegra* colonies. We genotyped six individuals from each of the eleven *F. subintegra* colonies in the 8-hectare Spencer J. Roemer Arboretum on the SUNY Geneseo campus. The genotype data were then used to estimate the relatedness coefficients within colonies as well as the genetic distance between colonies. The intranest relatedness coefficients allow us to determine the structure of the *F. subintegra* nests: whether an individual colony is monogynous, with one singly mated queen, or polygynous, with either a single queen repeatedly mated or multiple queens. Additionally, the genetic distances among the *F. subintegra* colonies enable us to assess the spatial genetic structure of this local population. These data contribute to a long-term investigation of the interactions between slavemaking ants and their hosts.

27 • Mate Choice and Gender Preference for Resistant and Susceptible Strains of *Biomphalaria glabrata*.

Jonathan Schultz

Faculty Sponsor: Susan Bandoni-Muench, Biology

Schistosomiasis is a parasitic disease that affects 200-300 million people globally. Although typically not fatal, its economic impacts are enormous, especially in poor countries, forcing many people to miss many days of work and school. *Biomphalaria glabrata* is a hermaphroditic freshwater snail that is an obligate intermediate host for the infective human schistosomes. Various strains of *B. glabrata* are naturally resistant or susceptible to infection. Although infection negatively affects the fecundity of the snails, susceptible snails have a higher overall fitness. The reason for the persistence of the resistant snails may be a result of mate choice amongst the snails (i.e. resistant snails mating with susceptible snails) resulting in the maintenance of a polymorphism. The BS-90 strain of *B. glabrata* has been preserved as a resistant line of snails in the laboratory that were originally selected from the wild. This means that they provide a better representation for snails found naturally resistant and provide a means to test the relationship between resistance, mate choice, and gender preference. Lastly, resistance is often related to reduced female function (this requires more energy than male function) and the BS-90 strain may show a preference for the male role.

28 • Investigation into the Combined Affects of Tumor Necrosis Factor-Alpha, Tamoxifen and 5-Azacytidine on HTB-26 Breast Cancer Cells

Gregory Roloff and Jessica Bosch

Faculty Sponsor: Robert O'Donnell, Biology

The anticancer affects of Tumor Necrosis Factor Alpha and Tamoxifen have been widely recognized. Our preliminary experiments have revealed that HTB-26 breast cancer cells are nonresponsive to Tamoxifen due to low expression of the estrogen receptor. Other studies have shown that the 5-Azacytidine can stimulate the presence of the estrogen receptor. Experiments were carried out in an attempt to re-stimulate the sensitivity of breast cancer cells to Tamoxifen and measure the death-inducing properties of Tumor Necrosis Factor Alpha. Ideal results would include an increased susceptibility of Tamoxifen after a 5-Azacytidine treatment along with an increase in apoptosis, or programmed cell death.

29 • A Preliminary Inventory of Ant Diversity in Roemer Arboretum, Geneseo, NY

Alexander Kulp

Faculty Sponsor: Jennifer Apple, Biology

This study aimed to quantify the diversity and species composition of ants that exist in the 8 ha Roemer Arboretum located on the SUNY Geneseo campus. Pitfall traps were set to collect ground-dwelling ants, and arboreal ants were sampled through collections by hand on vegetation. A total of 32 pitfall traps were set up in two transects spanning the Arboretum. Hand sampling was performed in four 5m x 5m plots. In addition, ants that were found to be tending Homoptera were sampled. Different ant genera were observed in the pitfall trap and vegetation samples, as pitfall traps failed to capture some ant species

commonly observed on foliage. The species composition of the ant community in this secondary successional forest will be compared to inventories from other New York and Northeast sites.

30 • A Possible Driver of Size-Assortative Mating in *Gammarus pseudolimnaeus*

Michelle Marks

Faculty Sponsor: Kristina Hannam, Biology

Gammarus pseudolimnaeus is a freshwater amphipod that inhabits springs or spring-fed streams throughout the Great Lakes region. These creatures resemble small shrimp, and grow to lengths of 11-18 mm. Prior to mating, males will select and hold a female in amplexus, a form of mate guarding behavior. Previous work has shown a positive correlation between male and female size in mating pairs (size-assortative mating). The goal of this project is to test the viability of the timing hypothesis in explaining this correlation. The timing hypothesis predicts that large males select large females because these large males can afford to enter amplexus earlier in the female molt cycle than smaller males. Based on this hypothesis, it is predicted that size assortment will break down when males are prevented from making decisions based on time until female molt. We will eliminate this choice by separating females based on whether they are near or far from molt, then allowing males to choose mates within these two groups. Lengths of each individual in mated pairs will be measured to look for deterioration in the normal pattern of size assortment.

31 • Effects of Plastics On Oviposition of *Biomphalaria Glabrata*

Mohammad Iqbal and Shadman Sinha

Faculty Sponsor: Susan Bandoni-Muench, Biology

Schistosomiasis is a chronic disease caused by several trematode species that belong to a genus of parasitic flatworms known as schistosomes. The schistosome species most prominent in human infection is *Schistosoma mansoni* (*S.mansoni*). It is responsible for intestinal schistosomiasis, which can result in debilitating effects on infected humans. Since drug treatments have been ineffective, the current focus on reducing infection rates has been to reduce the population size of snails (King, 2006). Since snails are an obligate host for the Schistosome to develop in and they are a vector for transmission to humans, reducing snail numbers could reduce infection rates. During a previous study on the snail species *Biomphalaria Glabrata* (*B.Glabrata*) which is an intermediate host for *S.mansoni*. It was observed that snails exhibited reduced oviposition in plastic dishes as compared to glass dishes, suggesting a possible link between plastic materials and reduced oviposition. To test this relationship, several *B.Glabrata* have been placed in glass dishes with samples of different plastics. The snails have laid eggs over the past week and data is still being observed to identify trends and relationships. If a link does exist, this knowledge could provide an avenue for snail population control in endemic regions.

32 • Comparative Analysis of Potential Disease Resistant Gene Expressions in *Vitis aestivalis* cv. Cynthiana and *Vitis vinifera* cv. Cabernet Sauvignon

Emma Gorman and Joel Johnson

Faculty Sponsor: Ming-Mei Chang, Biology

Many NBS-LRR (nucleotide-binding site – leucine-rich repeat) proteins have been known to be associated with disease resistance in plants. By analyzing nbs-*lrr* gene expressions in *Vitis aestivalis* cv. Cynthiana, a resistant grape, and *Vitis vinifera* cv. Cabernet Sauvignon, a susceptible grape, we hoped to determine the relationship between their expressions and disease resistance to a necrotrophic pathogen, *Botrytis cinerea*. Through real-time RT-qPCR, PCR primers corresponding to five previously cloned partial NBS-containing sequences, C2, C3, M2, T1 and T6, were used to study changes of their mRNA expressions in leaves inoculated with *Botrytis cinerea*. Our results show that for Cynthiana, there were decreases in C2 and M2 mRNA expressions after *Botrytis cinerea* infection whereas neither gene was expressed at a noticeable level in Cabernet Sauvignon. In contrast, the expression of the gene corresponding to T1 was up-regulated for both species. No obvious expression pattern was observed for C3 or T6. The down-regulation of C2 and M2 mRNA expressions in Cynthiana infected leaves suggests a possible disease resistance response associated with a decrease in hypersensitive response (HR) triggered by the *Botrytis cinerea* that prevents further advance of the pathogen.

33 • Analysis of Isothiocyanate Production in *Brassica Rapa*

Benjamin Peterson

Faculty Sponsor: George Briggs, Biology

Members of the mustard family have a secondary metabolite system in which the myrosinase enzyme catalyzes the cleavage of glucosinolates into isothiocyanates, among other products. While the myrosinase-glucosinolate system behaves as a defense mechanism, particularly in providing defense against herbivory, many functions of the system are yet unknown. This study focused on the destination of the isothiocyanates in *Brassica rapa* under differing conditions of stress. First, *B. rapa* plants were grown in agar and submitted to simulated herbivory, while a control group was grown under normal conditions. The agar, leaves, and headspace of both groups were then sampled and analyzed by GC/MS or LC/MS for the presence of isothiocyanates. Different amounts and types of isothiocyanates produced under certain conditions of stress suggest specific roles for each isothiocyanate. Future research will continue to focus on the effects of stimuli, particularly sulfur deprivation, on the production and release of isothiocyanates.

34 • 5-Azacytidine Effects on Breast Cancer/Melanoma

Kristen Giugliano and Kelli Connolly

Faculty Sponsor: Robert O'Donnell, Biology

5-Azacytidine is a drug that inhibits DNA methylation, via inhibition of methyl transferase. To measure cytotoxicity an MTT assay was used to determine the concentration at which the drug caused a decrease viability of 50%, and an apoptosis kit was used to measure the apoptosis induction. The preliminary results show that the 50% lethal dose of the drug was at a concentration of 0.004 mg/mL. The mechanism of cell death will be tested using an annexin assay of apoptosis. Literature has shown that 5-Azacytidine induces apoptosis at concentrations as low as 2.44×10^{-5} mg/mL.

35 • Techniques for Determining Airborne Allergens in Geneseo

Srikant Patel, Michael Hoy and Jeffrey Levine

Faculty Sponsor: Ray Spear, Biology

Aerobiology is the study of organic particles in the air. Our lab which focuses on airborne pollen in Geneseo uses a Rotorod sampler on the roof of the ISC. The sampler works by spinning adhesive rods one minute out of ten over 24 hours to pick up particles in the air as small as two microns. On heavy pollination days accurately counting all pollen grains collected on the sampling rod can take several hours. One objective of our project is to develop a method of estimating pollen counts quickly without sacrificing accuracy. Rods from spring and fall 2010 were counted in full and then 18% of the same rods were counted, extrapolated and compared to the full count. These estimates took much less time to count, but were statistical different from the actual number, however, preliminary data show that good estimates may be possible by counting another 6% of the rod. This improved methodology will help achieve a second objective of the study, which is to determine the daily concentrations of pollen for the 2010 season and correlate peak concentrations with medical allergy incidence.

36 • Assessing a Role for Tropomodulin in the Ultrastructure of the *C. elegans* Intestine

Clarence Ling, Megan Pogemiller, Joe Vollo and Ian Perry

Faculty Sponsor: Elisabeth Cox, Biology

The *Caenorhabditis elegans* intestine is made of twenty clonally derived cells, and it forms by a cord hollowing mechanism, similar to one by which some smaller tubes in human organs form. TMD-1/tropomodulin is a minus-end actin-capping protein that plays a role in regulating the length of filamentous actin. Through preparation and examination using transmission electron microscopy we have found that TMD-1/tropomodulin may play an important role in the ultrastructure of the *C. elegans* intestine. Synchronous populations of early larval stage *C. elegans* were studied and notable differences were found between wild type worms and those with mutations in *tmd-1/tropomodulin*. Preliminary work suggests that there is decreased microvillar density and decreased thickness of a structure called the terminal web, which is made up of intermediate filaments and surrounds the apical surface of the intestinal cells. These ultrastructural defects may in part account for the decreased growth rates and sickly phenotype exhibited by *tmd-1* mutants.

37 • Effects of Soap with Orange Oil on *Biomphalaria glabrata* and Possible Use as a Molluscicide and Repellent

John Nichols

Faculty Sponsor: Susan Bandoni-Muench, Biology

Schistosomiasis is a parasitic infection caused by schistosomes, flukes that use snails as intermediate hosts. One way of controlling the spread of schistosomiasis is to control snail populations. Orange oil is known to have molluscicidal properties. My research is focused on testing the effects of soaps made with orange peels have on snails. Since natural soaps are used extensively in surface waters where schistosomes are endemic, soaps containing orange oil have the potential to serve as a molluscicide or repellent. The current experiments have been mixing concentrations of soap with distilled water to test their effects on the freshwater snail, *Biomphalaria glabrata*. The snails are given fifteen minutes to adjust to their environment, and then the sponges or cotton balls soaked in the soap solution were placed into the tank for sixty minutes. Observations are taken on the behavior of the snails. After this time, the snails are removed and placed in resting tanks with lettuce. After a day, the amount of living and dead snails is counted. A control experiment is being done using soap without orange oil. Results are pending and more experiments are underway to find an effective concentration and means of dispersal.

38 • Comparison of Slavemaking Ants and Their Hosts in Expression of a Gene Linked to Foraging Behavior

Morgann Clark and Dan Kane

Faculty Sponsor: Jennifer Apple, Biology

The slavemaker species *Formica subintegra* is a social parasite that exploits the workers of the host species, *Formica glacialis*. The slavemakers conduct raids on the host species to take brood back to the slavemaker colony and raise them to serve the slavemaker species. Host ants do the conventional foraging for the colony and slavemakers generally remain at the nest except for raids. Foraging behavior in ants, *Drosophila*, and honeybees has been linked to a cGMP-activated protein kinase encoded by the foraging gene. The purpose of this study is to determine if there is any correlation between expression of the foraging gene and the degree of foraging behavior in each of these species. We synthesized cDNA from RNA isolated from brain tissue we dissected. We used real-time PCR to quantify the expression of the foraging gene in the host species and slavemaker species using the expression in immature workers as a baseline. Previous delta-delta-CT analysis indicated that the host species has a greater fold difference from the baseline expression of the foraging gene than the slavemaker species. We are performing additional replication of this experiment to confirm if this pattern of expression is consistent among independent ant colonies.

39 • BPA (Bisphenol A) and Plant Growth

Bethany Kwarta

Faculty Sponsor: George Briggs, Biology

Bisphenol A (BPA) is an organic compound that can be found in plastics with recycle codes 3 and 7. It was found in many plastic water bottles prior to their recall in 2008 due to concerns of adverse effects of BPA on human health. The possibility that BPA affects the growth of plants was studied. Non-BPA free water bottles were filled with water and microwaved to promote the leaking of BPA from the plastic. Wisconsin Fast Plants, *Brassica rapa*, were grown and watered with either water from non-BPA free water bottles or regular tap water. Several factors contributing to plant growth rate were measured including plant height, number of leaves, age of presence of true leaves and age of emergence of flowers. Although results are still pending there seems to be a relationship between watering plants with BPA contaminated water and increased plant size and total leaf area.

40 • Analysis of Micro RNA Expression in Recurrent HCC After Liver Transplantation

Yang Ran

Faculty Sponsor: Robert O'Donnell, Biology

Hepatocellular Carcinoma (HCC) comprises the fifth most common cancer worldwide, and is the third most common cause of cancer deaths. HCC is an aggressive tumor of the hepatocytes, that often occurs in the setting of chronic liver disease and cirrhosis. Due to the high malignant potential, there is often extensive disease present at diagnosis and mean survival is only eight months. We propose to study miRNA expression profiles to determine the risk of HCC recurrence after OLT. First identified in 1993, miRNAs are endogenous ~22 nt RNAs that play important regulatory roles in animals by targeting mRNAs for degradation or translation. Although they escaped notice until relatively recently, miRNAs comprise one of the more abundant classes of gene regulatory molecules, and it is estimated that up to 30% of human mRNAs may be controlled by miRNA. miRNA are small noncoding, single-stranded RNAs that work by base pairing to partially complementary sites of mRNA, predominantly in the 3' untranslated region. Their expression patterns, function and regulation are still being investigated, however many publications now show that miRNAs play a role in tumor initiation, proliferation, invasion and metastasis.² Our understanding of miRNA and their complexity has been improved by the advent of global microarray technology which allows for the molecular profiling of changes in gene expression that are associated with particular phenotypes. Particularly relevant to this proposal is the discovery that both individual miRNAs and compound miRNA expression signatures are associated with survival and metastasis. Many studies have now demonstrated the prognostic potential of individual miRNAs or miRNA signatures in different tumor types in much the same way that mRNA profiles were first described in the early 21st century. Based on the current literature and our preliminary data involving miRNA in esophageal adenocarcinoma, we believe that the functional analysis of miRNA expression signatures may enhance our biological understanding of HCC metastasis, improving our ability to offer OLT and other interventions to the subgroups of patients who will receive the greatest benefit. My focus in this project will be to conduct the miRNA array analysis and to correlate the miRNA signature with the clinical outcome data. I hypothesize that miRNA expression profiles can predict the likelihood of HCC recurrence after liver transplantation.

41 • The Effect of Isothiocyanates on the Cell Cycle of MDA-MB 435 Breast Cancer Cells

Jennifer Nortz and Peter Tunkey

Faculty Sponsor: Robert O'Donnell, Biology

Isothiocyanates are a group of chemicals produced by cruciferous vegetables, such as broccoli and cauliflower. Our experiment looks particularly into two isothiocyanates, sulforaphane (SFN) and allyl-isothiocyanates (AITC), and their effect on the cell cycle of MDA-MB 435 breast cancer cells. Different concentrations of each drug were used, based on experimental determination of a 50% survival rate, and incubated with the cells for 48 hours. The cells were then fixed, stained, and run through a Flow Cytometer to determine the percentage of cells in G1, S, and G2/M. Preliminary experiments have shown that the ratio of G2/M:G1 increased from the control cells to the cells incubated with the highest concentration of drug. This is in concordance with previous studies that have shown isothiocyanates are mitotic inhibitors and arrest the cell cycle in G2/M.

42 • Non-stomatal Limitations of Photosynthesis in Radish

Kyle Blum

Faculty Sponsor: George Briggs, Biology

Stomates are regulated pores in the surface of leaves that permit carbon dioxide entry into plants. Photosynthesis may be limited by stomates restricting carbon dioxide entry and consequently causing lowered carbon dioxide concentrations inside the leaf (Ci) and reduced rates of photosynthesis (Ps). We measured stomatal opening (G), Ci and Ps in radish plants during a drought cycle while changing external carbon dioxide concentrations. Under non-drought conditions increased carbon dioxide concentrations did little to increase photosynthesis, indicating little stomatal limitation of Ps. During drought Ps and Ci declined but Ps was still little affected by increased external carbon dioxide concentrations. Drought does limit photosynthesis but it does not appear that it is the result of drought induced stomatal closure.

43 • Clobetasol Promotes Loss of E-cadherin and Gain of Vimentin Expression in A431 Vulvar Carcinoma Cells.

Mark Lambert, Choo-Hyun Kim and Arwen Tisdale

Faculty Sponsor: Jani Lewis, Biology

Cells that become tumorigenic undergo an epithelial-to-mesenchymal transition (EMT), which is characterized by a loss in epithelial cadherin (E-cad) and gain in vimentin expression. The loss of E-cad is linked with a more aggressive cancer phenotype, and thus, a useful marker in determining the stage of cancer. Through previous research, it has been demonstrated that the treatment of A431 vulvar cancer cells with a synthetic corticosteroid called dexamethasone (dex) causes downregulation of E-cad and upregulation of vimentin. This suggested that dex may promote a more aggressive cancer

phenotype and may not be suitable for treating vulvar diseases such as lichen sclerosus. Another treatment for lichen sclerosus utilizes the corticosteroid called clobetasol. It was suggested that there would be a loss in E-cad and gain in vimentin expression in A431 cells treated with clobetasol based on the similarity between dex and clobetasol. We have found that clobetasol does cause the loss of E-cad and gain of vimentin expression in A431 cells in a similar time frame as that seen for dex.

44 • The Mechanism of Artesunate

Lindsey Picard and Matthew Stryker

Faculty Sponsor: Robert O'Donnell, Biology

Artesunate is a known anti-malaria drug. However, recent research has elucidated it as having anti-cancer capabilities. The mechanism of Artesunate's anti-cancer abilities will be tested using three assays, Cyquant assay to test for cytotoxicity, apoptosis and cell cycle analysis. Cell cycle analysis will employ flow cytometry to distinguish cells in different phases of the cell cycle. Before analysis, the cells are permeabilized and treated with a propidium iodide (PI), which stains DNA quantitatively. The fluorescence intensity of the stained cells at certain wavelengths will therefore correlate with the amount of DNA they contain. Preliminary results indicate that Artesunate is cytotoxic to MDA-MB435 melanoma cell line and HL-60 leukemia cell lines. However, Artesunate does not induce cell cycle arrest or any other differences in distribution of cells in G1, S or G2/M stages of the cell cycle in either of the two cell lines. Further tests will be conducted to determine Artesunate's ability to induce apoptosis.

45 • Non-stomatal Limitations of Photosynthesis in Radish

Kyle Blum

Faculty Sponsor: George Briggs, Biology

Stomates are regulated pores in the surface of leaves that permit carbon dioxide entry into plants. Photosynthesis may be limited by stomates restricting carbon dioxide entry and consequently causing lowered carbon dioxide concentrations inside the leaf (C_i) and reduced rates of photosynthesis (P_s). We measured stomatal opening (G), C_i and P_s in radish plants during a drought cycle while changing external carbon dioxide concentrations. Under non-drought conditions increased external carbon dioxide concentrations did little to increase photosynthesis, indicating little stomatal limitation of P_s . During drought P_s and C_i declined but P_s was still little affected by increased external carbon dioxide concentrations. Drought does limit photosynthesis but it does not appear that this is the result of drought induced stomatal closure.

46 • The Role of TMD-1/tropomodulin in Tubulogenesis: Contributions of LET-502/ROCK to Acto-myosin Contractility in the Terminal Web.

Gary Mantione

Faculty Sponsor: Elisabeth Cox, Biology

Caenorhabditis elegans is a small, transparent nematode, whose intestine provides an effective model system for studying tubulogenesis. The *C. elegans* intestine is a simple endothelial tube composed of only 20 cells, which strongly resembles human capillaries, as well as structures in the kidneys and lungs. Regulation of tubulogenesis is essential for proper functionality, however, little is known about this process. Tropomodulins are proteins that regulate actin filament length at the minus end. *C. elegans* TMD-1/Tropomodulin localizes to a cytoskeletal network known as the terminal web, which lines the intestinal lumen. We have found that *C. elegans* with mutations in the *tmd-1* gene have areas where the normally oval intestinal lumen is flattened, and there is a 51% decrease in total lumen volume. One hypothesis predicts that tight regulation of terminal web contraction is needed to maintain proper lumen morphology. To gain insight into this, we have been examining the phenotype of *let-502/Rho* kinase mutants, which are predicted to have less actomyosin contractility. Our current data shows that *let-502* mutants have abnormal intestinal morphology, but display only a small (8.2%) decrease in lumen volume. Further analysis is necessary, and should help us determine the mechanisms by which tubulogenesis is regulated in *C. elegans*.

Center for Community

47 • Higher Educational Resource Opportunities in Schools

Theresa Montenarello, Ally Taveniere, Kara Johnson and Valerie Lynn

Faculty Sponsor: Kay Fly, Center for Community

H.E.R.O.S (Higher Educational Resource Opportunities in Schools) is a mentoring program established by the collaboration of SUNY Geneseo's Center for Community, AmeriCorps Vista and local guidance counselors. The program was designed to eliminate the cycle of poverty within Livingston County. H.E.R.O.S matches college students with local middle and high school students to serve as role models and a resource for social and educational development. Within the past four years, the program has tripled the amount of active mentors creating more connections with surrounding schools, such as Mt. Morris Junior High School, Keshequa Central School, Geneseo Central School and Dansville Middle School. In an attempt to create a sustainable program, H.E.R.O.S has successfully organized and implemented various fundraisers to support the monetary needs of a growing organization. Additionally, H.E.R.O.S is furthering the link between SUNY Geneseo and Livingston County through various community service projects that promote group unity. In the future, we hope to maintain the current structure and expand the organization and its connections.

Chemistry

48 • Acetylenase Gene Detection in *Anaphalis margaritacea*

Elizabeth Hoffman, Timothy Barr and Eunwoo Shim

Faculty Sponsor: Eric Helms, Chemistry

Anaphalis margaritacea, commonly known as Pearly Everlasting, has been found to contain a 13 carbon-chlorine containing polyacetylene. Similar polyacetylenes have been found to be pharmacologically important due to antitumor, antibacterial, and immunosuppressant activities. Most research into the acetylenase enzymes has focused on the biosynthetic pathways of compounds containing one triple bond. However, the compound isolated from *A. margaritacea* has three triple bonds. Given this, our research seeks to determine whether there is one acetylenase or three different acetylenases in *A. margaritacea*. In order to understand the pathway of formation of this polyacetylene, the enzymes needed for synthesis must be identified. First, genomic DNA isolation and PCR amplification will be performed to confirm the presence of acetylenase genes. Several techniques will be used to ensure isolation of a pure sample of DNA from the plant. Once the gene or genes have been found, they will be sequenced to determine if divergent forms of FAD2 acetylenases are present. The eventual goal is to find the acetylenases and eventually the halogenase enzymes that make this compound.

49 • Electron Microscopy Study of the Amyloid Beta Protein on the Surface of Gold and Silver Colloidal Nanoparticles

Makaia Papasergi, Jeffrey Ma and Giang Nguyen

Faculty Sponsor: Kazushige Yokoyama, Chemistry

Our research involves the investigation of the nanoscale aggregation of the Amyloid Beta Protein (A- β 1-40) under interfacial conditions. A- β 1-4040 is involved in the process of fibrillogenesis which is a trademark of Alzheimer's disease. Through research of the reversibility of A- β 1-40 aggregation, it may be possible to find a process to reverse Alzheimer's disease. We have succeeded in characterizing microscale properties of 20 nm – 60 nm gold and silver colloids by using Transmission Electron Spectroscopy (TEM) for various pH conditions. This study enabled us to determine the behavior of A- β 1-40s seen through its interaction with gold and silver colloid nanoparticles, respectively.

50 • Analysis of the dimerization of plant extract apocynin via liquid chromatography - mass spectroscopy

Joseph Boshers

Faculty Sponsor: David Johnson, Chemistry

The plant extract apocynin has been shown in recent studies to be an NADPH oxidase inhibitor. NADPH oxidase is an enzyme partially responsible for LDL cholesterol build-up and atherosclerotic plaques due to cholesterol deposition. The effects of this extract are quite promising, rabbits with high cholesterol diets were shown to exhibit substantially less atherosclerotic build-up when the diet was paired with apocynin. This has significant therapeutic implications, but the mechanism of this inhibition is of particular importance. One proposed mechanism is that apocynin dimerizes to become diapocynin and that this dimer inhibits NADPH oxidase. This semester, using Liquid Chromatography – Mass Spectroscopy, and under the guidance of Professor Johnson, I have performed a number of reactions characterizing the conditions and products of the dimerization of apocynin, notably through the enzyme horseradish peroxidase. This helps further research regarding apocynin in hopes that one day a reliable mechanism of NADPH oxidase inhibition will be discovered.

51 • Encapsulation of Cyclometalated Platinum Compounds in Self-Assembled Molecular Cages

Curtis Jones and Toky Andriamaherimanana

Faculty Sponsor: James McGarrah, Chemistry

Several cyclometalated organometallic platinum complexes were prepared, including 2-phenylpyridyl platinum (II) acetylacetonate, 2-(2-thienyl)pyridyl platinum (II) acetylacetonate, and cis-bis(2-(2-thienyl)pyridyl platinum (II). The structures of these compounds was confirmed with proton NMR spectroscopy, and their photophysical properties were determined using UV-visible spectroscopy, fluorescence spectroscopy, and fluorescence lifetime spectroscopy. These compounds were then encapsulated inside self-assembled molecular cages so that stacking effects could be inspected. The encapsulation consisted of a simple two-step synthesis, and encapsulation was confirmed using proton NMR and LC-MS. The photophysical properties of these encapsulated compounds were then determined using UV-vis, fluorescence, and fluorescence lifetime spectroscopy.

52 • Effect of oxidative stress on mitochondria in human cells bearing elevated levels of a large-scale deletion in mitochondrial DNA

Sarah Kaufer and Matthew Siegenthaler

Faculty Sponsor: Wendy Pogoelski, Chemistry

In recent years, it has become increasingly clear that mitochondria are exceptionally dynamic organelles involved in energy production, thermogenesis, steroid synthesis, and cellular signaling. Defects in mitochondria and mutations in mitochondrial DNA (mtDNA) have been linked to a number of medical conditions including mitochondrial encephalomyopathies, myoclonic epilepsy with ragged-red fibers (MERRF), and diabetes. Like nuclear DNA, mtDNA can be deleteriously mutated. One well-studied mutation of mtDNA involves the deletion of a 4,977 base pair portion of the mitochondrial genome. This is known as the Common Deletion. Human lymphoblasts with high levels of this deletion exhibit signs of respiratory and metabolic compromise. Oxidative stress induced via radiation of these cells and controls cells with gamma rays appears to exacerbate these markers of respiratory distress. Furthermore, analysis of the mtDNA content of these cells via techniques such as RT-PCR

suggests that gamma radiation promotes large-scale deletions of mtDNA. These results suggest that one mechanism by which oxidizing agents mediate their harmful effects on cells is through the promotion of large-scale deletions of mtDNA from mitochondrial genomes.

53 • Synthesis of New N,N,S,S Tetradentate Ligand

Leo Williams

Faculty Sponsor: David Geiger, Chemistry

A number of transition metal complexes with diimine ligands in which the coordination sphere is completed with good sigma donors have been shown to exhibit interesting photophysical properties. These properties make them of potential use in a number of applications including chemical sensors and optical displays. We wish to report the synthesis and characterization of a new N,N,S,S tetradentate ligand formed by the AlCl_3 catalyzed Schiff-base condensation of 1,2-diaminobenzene and two equivalents of 2-thiophenecarboxaldehyde. The proposed product, 1,2-di(iminocarboxy-2-thiophene)benzene, DITB, has been shown to undergo an unexpected intramolecular cyclization. Single crystals of the cyclized product were grown and the molecular structure was determined using the chemistry department's new X-ray diffractometer. Our efforts are currently focused on a new synthetic route to DITB employing a template synthesis. The synthetic details, a proposed mechanism for the cyclization, and the results of the structure determination will be described.

54 • pH and Temperature Dependence of Diffusion through a Sol-Gel Matrix: A Study Utilizing Ethyl-Violet Dye Reversibility

Jocelin Kalish, Jisu Ryu, Dan Mark and Bryan Carnes

Faculty Sponsor: Kazushige Yokoyama, Chemistry

Sol-Gel matrices have multiple applications, including thermal insulation, biochemical sensing and membrane simulation. With the intention of studying the pH and temperature effects of diffusion across a membrane, sol-gel was utilized as a medium for this study. Addition of ethyl-violet dye to the matrix provided a UV-visible light emission that could be analyzed by ultraviolet-visible spectroscopy. Its pH-dependent color reversibility made ethyl-violet ideal. Under basic conditions (pH 10, ethyl-violet is violet in color, while under acidic conditions (pH 2), it is light blue in color. Initially, the sol-gel sample was exposed to an acidic buffer solution (pH 2) for a period of one hour, during which the absorption was analyzed by Ultraviolet-Visible spectroscopy in five minute intervals. Afterward, the same process was repeated with a basic buffer solution (pH 10). From the acquired data, the diffusion rates of acid and base through the matrix were determined. The diffusion of base was found to be higher at temperatures above 25°C. Diffusion of acid was observed to be independent of temperature (constant), whereas diffusion of base was dependent. The activation energy for acid penetration was determined to be 0 kJ/mol, while the activation energy for the base penetration was 34.2 kJ/mol.

55 • Spectroscopic and Calorimetric Studies of Congo Red Dye-Amyloid Beta Peptide Complexes

Amanda Amori, Jacquelyn Reynolds, Jared Pilbeam and Bareeqah Ahmad

Faculty Sponsor: Kazushige Yokoyama, Chemistry

Thermodynamic properties of complexes of Congo Red (CR) dye with amyloid beta, (AB)peptides were studied by both absorption spectroscopy and isothermal titration calorimetry (ITC). Based on the absorption spectrum for the formation of CRAB complexes in phosphate buffered saline solution (pH 7.4), van't Hoff plots over a temperature range of 10 °C to 70 °C were created for CR-AB1-40, -AB12-28, and -AB1-42. The plot for CR-AB12-28 complex showed a relatively linear feature within the given temperature range with $\Delta H = -10.1 \pm 0.6$ kJ/mol and $\Delta S = +0.128 \pm 0.002$ kJ/(mol K). However, the plot for CRAB1-40 and CR-AB1-42 complexes exhibited two distinct linear regions with opposite slopes centered at a specific temperature, T_s , which was 54.7 ± 0.2 °C and 34.8 ± 0.2 °C, respectively. The ITC experiments conducted at 25 °C in water exhibited quite a different situation from the above mentioned spectroscopic approach. The ITC studies yielded a ΔH of -85.3 ± 0.2 kJ/mol for the CR-AB12-28 complex with negative entropy change -0.152 kJ/mol K. For CR-AB1-40, the ITC studies indicated the presence of two binding sites with $\Delta H_1 = -81.8 \pm 0.3$ kJ/mol and $\Delta H_2 = -119.5 \pm 0.2$ kJ/mol with $K_1 = 5.5 \pm 0.7 \times 10^6$ (1/M) and $K_2 = 6.9 \pm 2.4 \times 10^8$ (1/M), respectively. These binding constants are consistent with the model suggested by several studies. Both binding sites showed negative entropy changes suggesting that the formation of the complex is enthalpically driven. The disagreement in thermochemical values between two different methods confirmed that the enthalpy and entropy are heavily dependent on temperature and buffer/salt environment.

56 • Development of a “Green” Synthesis of Menthol Enantiomers and Subsequent Analysis by Circular Dichroism to be introduced into the Chem. 313 Curriculum

James Donohoe

Faculty Sponsor: Cristina Geiger, Chemistry

In our modern world green is no longer a color, it's a movement. Renewable and sustainable have become the jargon of a new generation of scholars. Under the guidance of Professor Cristina Geiger I developed a green experiment for introduction into the Chem. 313 curriculum and submission to the Journal of Chemical Education. One of the primary goals of this experiment is to make students consider the sustainability of their actions in the laboratory. The students will employ circular dichroism, a powerful analytical technique typically overlooked in the undergraduate curriculum. The experiment consists of a simple oxidation of the two enantiomers of Menthol, a secondary alcohol. This transformation is usually accomplished using toxic or expensive reagents that produce large amounts of organic waste. To overcome this limitation, $\text{Na}(\text{OCl})$ and $\text{Ca}_2(\text{OCl})_2$, were tested to find the most effective method. $\text{Na}(\text{OCl})$ is the active ingredient in bleach. $\text{Ca}_2(\text{OCl})_2$ is another source of the same chemical. Both were tested along with a steam distillation separation technique to lower the amount of organic solvents used by

students. The synthesis and analysis were effectively carried out by this method with little organic waste. The experiments introduction will increase the sustainability of Geneseo's chemistry department.

57 • Investigation of Intermediates in Alzheimer's Disease by Nanomaterials: The Conjugation of Amyloid Beta Protein on the Gold Colloidal Nanoparticles' Surfaces

Winnie Eng, Queeny Pan and Giang Nguyen

Faculty Sponsor: Kazushige Yokoyama, Chemistry

The conjugation of various sequences of amyloid beta, protein (AB), AB12-28 and AB1-40 with gold colloidal suspension of 20nm size was studied. Absorption spectroscopy was used to identify changes in the optical properties of gold colloid for pHs, ranging from pH 2 to pH 10. Color changes were seen for all tested proteins in this study at a higher pH than where bare gold colloid exhibits its color change pH=3.09 +0.02. All tested AB sequences except for AB1-42 exhibited color changes around pI values of AB1-40, about pH 5.2. The change color change observed at a pH lower than 5 is attributed to the unfolded AB1-42 monomer units around the gold colloidal surface. Interestingly, only AB1-40-coated gold colloidal nanoparticles exhibited a reversible color change as the pH was externally altered between pH 4 and 10. This reversibility is an important implication of the observation of a reversible step reported for the fibrillogenesis. It was interpreted that the reversible process takes place when hydrophilic AB possesses a three-dimensional network containing both beta-sheet and alpha-helices. Currently, circular dichroism (CD) spectroscopy is being used to obtain the secondary structure of the protein with varying temperature.

58 • The Effect of Temperature for the Formation of Intermediates in Alzheimer's Disease

Miriam Barnett, Vipul Chandhok, Jeffrey Ma and Michael Annese

Faculty Sponsor: Kazushige Yokoyama, Chemistry

The absorption spectrum of the amyloid beta 1-40 peptide (AB1-40) conjugated to gold colloidal suspension of 15, 20, 30, and 40 nm size were studied under temperature ranging from 5 to 50 degC. As the pH was externally altered repetitively between pH 4 and 10, AB1-40-coated 20 nm gold colloid nanoparticles exhibited a reversible color change at the entire temperature range tested in this study except for 5 +/- 0.2 degC. This reversible change may be due to the fact that hydrophilic AB1-40 evolves between a three-dimensional network containing mainly B-sheet and R-helices, and an intermediate of this process implies a reversible step reported as initiation of the fibrillogenesis in Alzheimer's disease. When other nanosize particles were examined, AB1-40-coated 30 and 40 nm colloids exhibited the reversible color change when temperature was lowered to 18 +/- 0.2 and 6 +/- 0.2 degC, respectively. This specific and unique size and temperature dependence in reversible color change strongly suggests that the noncovalent intrinsic intermolecular potential formed between the nanocolloidal surface and each AB1-40 monomer conjugated at the surface drives the process.

59 • Oxidation of Fluorene to Fluorenone

Benjamin Swanson

Faculty Sponsor: Eric Helms, Chemistry

The purpose of this research project is to refine an oxidation reaction of fluorene to fluorenone to be used in Organic Chemistry Labs at Geneseo. The reaction is known to be effective, but the procedure needs to be modified to be conducive to use in a learning lab. The research to presented for this poster is the optimization process of this experimental procedure.

60 • Development of a Long-Extension PCR Assay to Detect Large Scale Deletions in Mitochondrial DNA of Human Lymphoblasts Exposed to Ionizing Radiation

Michael Siegenthaler

Faculty Sponsor: Wendy Pogozielski, Chemistry

It has been shown that mitochondrial DNA is susceptible to large-scale mutations that produce deletions of several thousand base pairs. These mutations can result in a variety of diseases that compromise the metabolic efficiency of the cells in which they are found. We have begun to show that these large-scale mutations can be brought about through exposure to high-energy radiation. Using Long-Extension PCR, fragments of human lymphoblast mitochondrial DNA several thousand base pairs in length are amplified. The banding patterns of these large fragments are observed as the cells from which the DNA is derived are exposed to increasing doses of radiation. It is expected that we will observe increased fragmentation of the DNA with increasing doses of radiation. This will lend support to the suggestion that radiation can trigger the deletion of DNA from the mitochondria. The banding patterns will also allow for a rapid determination of the location of these deletions within the mitochondrial genome and can help identify susceptible sites.

Communicative Disorders and Sciences

61 • Systematic Replication of the Effect of Vowel Environment on Fricative Consonant Duration in Speech Produced During Simultaneous Conversation by Inexperienced Signers

Katrina Benson, Sarah Holmes, Isaac Lebwohl-Steiner, Kelsey Ogden and Jennifer Rhoades

Faculty Sponsor: Linda Spencer, Communicative Disorders and Sciences

The purpose of our research is to determine if differences exist between speech produced alone versus speech produced during simultaneous communication (SC) in critical parameters that influence the intelligibility of speech. We are testing the null hypothesis that there is no difference between production and perception parameters of speech alone (SA) versus speech produced during SC. Specifically this research will examine the effect of the vowel environment on fricative duration when a signer is inexperienced. We tested 19 participants who had completed one class in manual communication. Participants produced a carrier phrase under SA and SC condition. All utterances were recorded via cassette tape. The acoustic signal from

the audio recording of each sentence was digitized with 16-bit precision at a sampling rate of 20 KHz using a Kay Elemetrics Computerized Speech Lab (CSL Model 4300B). Results revealed that while overall sentence duration and absolute fricative duration was longer in SC, there was no difference between relative fricative duration as measured by a 2X2 Factorial ANOVA. These results indicate that even with an inexperienced signer, speech parameters important for intelligibility are preserved during SC.

62 • Voice Onset Time in Speech Produced by Inexperienced Signers During Simultaneous Communication: A Systematic Replication

Megan Buresch, Meghan Duffy, Emily Henderson, Tamar Massen and Lauren Palumbo

Faculty Sponsor: Dale Metz, Communicative Disorders and Sciences

The purpose of our research was to determine if differences exist between speech produced alone versus speech produced during simultaneous communication in critical parameters that influence the intelligibility of speech. We tested the null hypothesis that there is no difference between production and perception parameters of speech alone versus speech produced during simultaneous communication. Specifically this research examined the acoustic parameters of voice onset time (VOT) in normally produced speech and speech produced during simultaneous communication. Nineteen volunteer Geneseo students who had recently completed CDSc 320 (Manual Language Systems) in the Department of Communicative Disorders and Sciences served as participants in this study. Speakers produced tape-recorded speech samples in two speaking conditions (1) speech alone, and (2) simultaneous communication. The audio tapes were digitized and measured using digital signal processing software that enabled the acoustic measurement of the VOT interval in plosive consonants during the two speaking conditions. A two x two factorial ANOVA revealed no differences in measured VOT intervals across the two speaking conditions. These results were consistent with previous research indicating that simultaneous communication does not perturb normal speech acoustic cues.

63 • Speech and Language Therapy Materials: Original Student Works

Tamar Massen, Carly Feiner, Nicole Levy, TJ Harrison, Jessica Tornatore, Casey Williamson, Emily Diduro, Briana Dunton, Shannon King, Abigail Hartnett, Colleen Prendergast, Christine Stasiw, Alyssa Csendom, Adam Reinhardt, Katrina Benson, Kristin Hauser, Jessica Raes, Holly Schimpf, Brooke Amari, Kelsey Ogden and Stephanie Sturgis

Faculty Sponsor: Linda House, Communicative Disorders and Sciences

Displayed speech-language therapy materials were constructed by CDSc students in their first semester of clinical experience for use with clients in the Geneseo Speech and Hearing Clinic and off campus sites. The materials are highly individualized, based on each client's speech and language goals and interests. Students used these materials to motivate their clients during therapy sessions and teach new communicative skills. It is important to note that these materials can be adapted for use with a variety of disorders and populations.

64 • ADHD and It's Effect on Communication

Fallon Nardi

Faculty Sponsor: Linda House, Communicative Disorders and Sciences

I will be explaining what ADHD is and how it affects a child's communication skills. I will highlight techniques that classroom teachers, speech language pathologists and families can utilize in the treatment of communication difficulties. A brochure and a hands on manipulative will also be on display.

65 • Neurogenic and Psychogenic Dysfluencies

Katrina Benson

Faculty Sponsor: Linda House, Communicative Disorders and Sciences

This project will focus on the differences and main components of psychogenic and neurogenic dysfluencies. Possible etiologies for these disorders, in addition to diagnosis, and treatment procedures will be outlined. Furthermore, implications for treatment, specifically from a speech language therapy perspective will be discussed.

66 • Speech Pathologist's Working with Children With a Hearing Loss

TJ Harrison

Faculty Sponsor: Linda House, Communicative Disorders and Sciences

The following poster informs viewers about Speech- Language Pathologists (SLP) specializing in working with children that have a hearing loss. Information includes the role of the SLP working with the individual, methods of their teaching, skills and knowledge needed, and SLP's working with cochlear implants and their intervention role.

67 • The Importance of a Speech-Language, and Hearing Clinic in an Undergraduate Communicative Disorders and Sciences Program

Carly Feiner, Amanda Leonard, Nicole Levy and Jessica Tornatore

Faculty Sponsor: Linda House, Communicative Disorders and Sciences

The implications of this presentation are to educate the public on the benefits and necessity for a speech-language and hearing clinic in an undergraduate Communicative Disorders and Sciences Program. The following topics will be covered: key statistics from the Speech-Language and Hearing Clinic at SUNY Geneseo, comparisons of the advantages vs. the

disadvantages for programs with or without undergraduate clinics, and statements from students, clientele, and faculty from both this institution and others. Curriculum information from both public and private institutions will be included to highlight Geneseo's academic excellence and significant community involvement compared to its competitors. Some of the key statistics will include: number of clients served, types of clients treated, number of clinical hours practiced, the school intervention program, age range of clients, etc. All of the aforementioned information will highlight the invaluable services provided to both the CDSc students and members of the community.

68 • Do You Want It? Is It Worth It? The Graduate School Degree Decision for Speech Pathology: To Put in More Time and Conduct Research for a Doctorate or Have Less Opportunities with a Master's Degree

Brooke Amari and Jillian Swimmer

Faculty Sponsor: Linda House, Communicative Disorders and Sciences

As the daunting task of applying to graduate school looms, students in the Speech Pathology major must decide whether to pursue a doctorate or master's degree in the field. Our poster presentation would address the differences between the two degrees, including the amount of schooling necessary, description of the coursework, and what specific occupations each degree prepares you for, as well as the need for employees in those occupations now and expected for the future. The main difference discussed will be the heavy focus placed on research for one's Ph.D. The coursework is often related to the student's area of interest and allows the individual to pursue a career in teaching and conducting research at the college level. It is also advantageous for work in many hospitals where research is part of the mission, and in private practices. The anticipated shortage of Ph.D.s in the field over the next decade and beyond makes this degree especially desirable from a job opportunity perspective. A Ph.D. alone, however, does not prepare students for clinical practice. In order to assess and treat children and/or adults with speech- language disorders a master's degree, which prepares students for application of their knowledge, is required.

69 • Examining Effective Listening and Observing Technological Impacts on Communication Exchanges

Diahann Cuevo, Alexis Mazzeo, Mary-Clare Stokes, Tara Gervera, Nicole Kenney, Kristin DiDonato, Lisa Martinez, Abigail Long, Rene Lehman, Heidi Robinson, Patrick Beylo, Kathryn Makowiec, Lauren Smith, Dani Mansi, Erin Bonthron, Katherine Joyce and Elizabeth Johnson

Faculty Sponsor: Beverly Henke-Lofquist, Communicative Disorders and Sciences

SUNY Geneseo Communicative Disorders and Sciences undergraduate students learned about "Seven Laws of Better Listening" from The Art of Listening DVD published by The Learning Seed Corporation. Students enrolled in the Fundamentals of the Clinical Process class during the fall of 2010 and spring of 2011 submitted individual reports including personal observations and reflections regarding their day practicing the "Seven Laws of Better Listening." To research more current cultural trends in communication and the recent impact that technology may have on the quality of listening skills during conversational exchanges, students in the spring CDSc 238 class answered survey questions pertaining to their listening behavior and its relationship to technological devices. Supplementing this data collection were live observations conducted by a core group of students, who collected data on interactions between students in the College Union and other public settings. This core group analyzed the findings of the individual reports, survey questions, and live observations to formulate updated techniques for better listening in today's technologically distracting world.

70 • Factors Affecting Spelling Proficiency in College Students

Isaac Lebwohl-Steiner

Faculty Sponsor: Linda Deats, Communicative Disorders and Sciences

There exists a group within college students that consider themselves to be poor spellers. When asked, these students often say "I am just a bad speller" or "I have always been a bad speller." This is an intriguing perception as these same students are currently enrolled in a four year college with mean scores for admission being: SAT - 1340, ACT - 29 and a high school average of 94 (SUNY Geneseo, Fall 2010). This study was created to identify factors that influence actual or perceived spelling proficiency in otherwise literate, educated college students.

71 • Brochures for Parents of Children with Articulation and Phonological Disorders:

Assessment and Speech Therapy

Sarah Flannery, Kathryn Makowiec, Gretchen Freudenheim, Mackenzie Fahey, Alyssa Cavallari, Mandy Olevnik, Amanda Garcia, Andrea Chinnici, Jennifer Costanza, Stephanie Verdino, Lexi Williams, Stephanie Abreu, Sean Fuster, Rene Lehman, Kate Mootz, Megan Buckingham, Melissa Madarasz, Heidi Robinson, Katie Kreidler, Emily Oswald, Jamie Sharratt, Erin Bonthron, Lauren Smith, Kristin DiDonato, Jaime DeFazio, Abigail Long, Eric Tyler, Marilyn Yang, Natalie Adiletta, Katie Samuelson, Jacquelyn Bosworth, Diahann Cuevo, Dani Mansi, Anne Feldman, Samantha Pick, Lydia Jeong, Alexis Mazzeo, Zoe Kaier-Green, Mary-Clare Stokes, Katherine Joyce, Tara Gervera, Tamika Hayes, Karen Dinse, Megan Olscamp, Patrick Miskell, Katy Pinkham, Nicole LeFever, Nicole Zupo, Kaitlyn Risberg, Stephanie Halvax, Elizabeth Johnson, Kayla Walsh, Melanie Doroski, Nicole Kenney, Lisa Martinez, Molly Allen, Rebecca Reginald, and David Schweizer

Faculty Sponsor: Irene Belyakov, Communicative Disorders and Sciences

Students will present for display the brochures they have made for parents and other caretakers of children with articulation and phonological disorders: from dysarthria and childhood apraxia 29 to craniofacial syndromes, to hearing loss, and other causes. The students' main focus was presenting Speech Language Therapy (assessment and therapy) for children with these disorders and what parents can do to assist in this process. Presenters will also display games and other assistive devices they created to go along with their brochures.

72 • Bilingual Acquisition in Children

Rebecca Reina

Faculty Sponsor: Irene Belyakov, Communicative Disorders and Sciences

According to the National Center for Educational Statistics, more than one in five school-aged children speak a language other than English at home. Therefore, it is not uncommon for a speech-language pathologist to assist clients who are proficient in more than one language. In order to provide optimal services, a speech-language pathologist must be able to define the components of bilingualism for those who acquire two languages simultaneously and also successively. As a professional, it is also important for a speech-language pathologist to research the languages spoken by his or her bilingual client. The speech-language pathologist must understand the pronunciations, frequency of sounds, and the grammatical rules of the language. English sounds the bilingual client may express difficulty with may not have an equivalent in the client's first language. Other sounds may have phonological, morphological, and syntactic differences in comparison to the English language. The speech-language pathologist will work with the client, aiming to increase the client's quality of language while preserving his or her identity as a bilingual.

73 • The Importance of Speech-Language Pathologists in New York State

Kerry Haugh, Amy LaFleur, Tamar Massen and Morgan Rinck

Faculty Sponsor: Linda House, Communicative Disorders and Sciences

Speech-language pathologists (SLPs) assess, diagnose, evaluate and treat people of all ages who have a communicative disorder, related to speech, language, communication modalities, voice, swallowing, and fluency. SLPs also assist speakers of whom English is a second language with accent modification. By counseling clients and their families, SLPs provide coping strategies and offer guidance in understanding the disorder. According to the Bureau of Labor Statistics, employment growth is faster than average and job opportunities are pervasive. As the baby boomer generation continues to age and more birth defects are prevalent, the need for SLPs is constantly on the rise. In New York State, SLPs work in clinics, hospitals, schools, rehabilitation centers, nursing homes, and private practices.

Computer Science

74 • Frogger – A Classic Game Implemented Using Java's Abstract Windowing Toolkit & Swing Set

Joe Storm

Faculty Sponsor: Christian Shin, Computer Science

Java is an object-oriented programming language where programs are written by creating "objects" that contain state (descriptive data) and behavior (actions or operations that these objects can perform). These objects communicate with each other by sending messages to accomplish a program task. Java also comes with a rich set of library classes that is the basis for building programs that have fancy graphical-user interfaces (GUIs). In our project, we developed a classic game program of Frogger where a user controls a frog and attempts to navigate through a crowded highway and travel across a river to get to lily pads in order to score points. Our game provides ability to choose many different colored frogs as well as a game difficulty level that ultimately determines the speed of the cars and logs. Using Java's Abstracting Windowing Toolkit (AWT) our program performs the event handling, and it also builds the GUI & graphics by using Java's Swing components. In our presentation, we describe our program including the intricacies of creating the GUI, graphics programming, and event-handling using Java.

75 • Sudoku – Game Design in Java with Graphical User Interface and Event Handling

Thomas Fisher

Faculty Sponsor: Christian Shin, Computer Science

Java's Abstract Windowing Toolkit (AWT) communicates all actions between the user and the application to the programs using events and event handling. Through the use of the AWT, programs written in Java have event listeners to handle user events such as keystrokes or mouse clicks. These event listeners then decide what action should take place for each event. In our project, we used the Java event handling to create a program to simulate a Sudoku game. A Sudoku board is a 9-by-9 square grid where each of the boxes requires a number 1 through 9. One must fill the boxes with numbers, but only certain numbers can go into each of the squares. Each row must contain all numbers 1 through 9, as does every column, and every 3-by-3 square. Our game stores game boards for four different difficulties with 25 different boards saved for each difficulty and each board is randomly chosen from files based on the difficulty the user chooses. The game also has the solutions for every board so the user can check his board to see if he made any mistakes or to check to see if he solved the game. Our program also stores high scores so that a user can save his name and time into a file for every game. The game also allows the user to save a game and then open it without losing any information of time from the clock.

76 • Putting the “Mobile” in Mobile Application Development: Location-Based Applications on the Android Platform

Alicia Jeffers

Faculty Sponsor: Christian Shin, Computer Science

Mobile Devices represent a unique development platform which carries particular challenges related to power consumption, limited computing power and space, restricted screen size, and the need for swift, accurate responses to user input. These challenges are of particular concern with applications that utilize location-based services. By nature, these kinds of applications are complex and have a significant rate of power consumption. However, high power consumption in an application may drain the battery more than the user is willing to tolerate. The purpose of application development is to create a useful product. During development, it is vital to ensure that the application is as efficient as possible or it will be useless in a mobile setting. Concerns of power must be balanced against application response times. Location-based applications are especially time sensitive. Locational data must be retrieved and processed quickly enough to be relevant to the user. Further problems of locational accuracy and efficient, aesthetically pleasing cartographic display on a small screen were explored in the course of this project.

77 • Building Internet Applications for Mobile Devices Using Web Service

Bien Ngo

Faculty Sponsor: Christian Shin, Computer Science

With the growth of 3G/4G network, Internet applications for mobile platform are becoming increasingly popular. For example, there are many applications for reading news, getting weather information, updating stock prices. In addition, there are mobile applications simply designed for your traditional websites. In order for the mobile devices to interact with the Internet data, we will have to create a web API (Application Programming Interface) that generates the data into a common format such as XML (Extensible Markup Language) or JSON (JavaScript Object Notation), and we can then build a client in the mobile platform to read the data, parse them into objects and display them to the user interface. In this presentation, we will describe how to implement a REST (Representational State Transfer) API using the Zend Framework and build an Internet application specifically for the Android platform. Additionally, we will compare the performance of several implementations of JSON parsers using different libraries (Native Android, GSON and Jackson).

78 • Visualizing an Image Matching Stochastic Diffusion Search on a Parallel Computing Cluster

Herbert Susmann

Faculty Sponsor: Homma Farian, Computer Science

Stochastic Diffusion Search (SDS) is a swarm based search algorithm in which individual agents work together to cooperatively locate the best solution to a problem. We examine a specific application of an SDS algorithm as it applies to image matching. Our implementation searches for the closest match to an image within a larger image. The application is written in C++ and is distributed over a computing cluster. The cluster is made up of sixteen computers with individual monitors arranged in a four by four grid. The SDS is parallelized by distributing agents to each computer in the cluster. As such, each computer is responsible for searching a smaller subset of the larger search image. As the SDS runs the monitors display a visualization of the algorithm's progress. The overall search image is displayed over all the monitors, each individual agent is shown as it searches for the closest solution. The visualization allows observers to watch as the agents converge on the best solution. Parallelization of the program allows both a physically larger visualization and faster execution of the algorithm. By combining parallelization with graphical visualization we have created an intuitive, engaging way to communicate the SDS algorithm.

79 • Grocery Shopping Aid Application on Mobile Devices Using the Android Platform

Christopher Zorn

Faculty Sponsor: Christian Shin, Computer Science

In the past few years, personal use of smart phones has increased significantly. The release of iPhones and Android based mobile devices furthered this growth by providing consumers with phones that could do much more than simply make telephone calls. As illustrated by Apple's trademark "There's an app for that", the number of applications available for smartphones is astronomical, thousands of applications are available and chances are that an application exists for any

functionality that can be thought of. We have developed an application for the Android platform that seeks to simplify grocery shopping, specifically for Wegmans as a case study. Our application does this by providing users with visual representation of the store which illustrates where in the store specified items can be found and the best path to follow in order to finish shopping. Users can create multiple grocery lists and cross off items as they shop. Beyond functionality, we have attempted to create user-friendly interface that is straightforward and easy to use.

80 • Rendering Geometric Shapes Using Volumetric Constructive Solid Geometry

Hieu Quang Tran

Faculty Sponsor: Douglas Baldwin, Computer Science

Constructive Solid Geometry (CSG) is a technique used to model complicated three-dimensional geometric shapes. The essence of the technique is to apply Boolean operations on simple shapes to create complex geometric objects. However, rendering CSG models efficiently has always been difficult. Under Professor Baldwin's guidance, I successfully implemented a technique called Volumetric Constructive Solid Geometry, which draws CSG models using three-dimensional texture mapping. We build the texture by analyzing intersections between "sampling lines" and the model. In order to further improve the performance of the technique, we added features, such as sampling line sharing, positive and negative surfaces, and a quad tree. The technique is implemented in a program called Volumetric CSG Renderer. This program runs efficiently and produces very good image quality. The technique has also been integrated into a bigger program called Interactive Visualizations in Particle Physics (IvPP), allowing us to test the technique with bigger CSG models. The project is funded by the Laboratory for Laser Energetics at the University of Rochester.

81 • "Casino Kingdom" – Mobile Casino Games Platform On the Android Devices

Thomas Harrigan

Faculty Sponsor: Christian Shin, Computer Science

Android is the fastest growing platform in the mobile market. Casino Kingdom is a game application written for Android devices. Casino Kingdom will offer multiple casino games from one application. Additional aspects of the game will include trophies and leader boards. Due to its modular design, it can initially be released with a limited number of games and include additional games over time. Allowing players to purchase additional in-game chips can achieve monetization goals. In addition, a future monetized release of a tablet-based version is planned. Areas researched in the development of this app include game theory and touch screen user interfaces.

82 • Rootbuzz: Group Collaboration Software Development and Entrepreneurial Effort

Thomas Harrigan

Faculty Sponsor: Christian Shin, Computer Science

Rootbuzz allows anyone to create a discussion driven community around an organization, company, hobby, etc. The Rootbuzz social discussion platform utilizes a karma point system and a badge system, similar to that of Xbox achievements. This system allows communities to be self regulated, allowing for minimal moderation and maximizing quality content. Users gain additional site privileges by reaching certain point levels. The Rootbuzz platform is built using the Django framework, built on top of the Python programming language. Rootbuzz has since grown into a company with products emphasizing group collaboration. Areas researched include community building, cloud storage and game theory.

83 • Virtual Pet in a Mobile World

Michael Weachock

Faculty Sponsor: Christian Shin, Computer Science

Computationally powerful mobile devices are quickly becoming an integral part of many of our daily lives. Without quality software, however, all that new technology is meaningless. Our project is to find what makes a mobile application a successful and appealing product. With mobile devices, there is a whole new set of constraints to be concerned with such as limited battery, expensive network use, and relatively short usage intervals which make designing for mobiles platforms particular challenging. With that in mind we developed, on Android, a modern rendition of a wildly popular mobile product from a decade ago: the virtual pet. We used an approach that runs minimally in the background, uses a very simple interface and, at this time, no network or other expensive lookups, and is designed to be played in short intervals in order to appeal to those who use their mobile devices while actually on the move.

Geography

84 • Stone Faces, Jesus Trees and Bosomed Buttes: Symbolic Forms in the Landscape

Cara Kowalski

Faculty Sponsor: David Robertson, Geography

Elephants and Virgin Marys. Dead presidents, mittens, and bawdy body parts. In the natural environment, symbolic forms abound. Within woodlands and mountainous regions, coastal communities and desert domains, a diverse phenomenon pervades the symbolic landscape. From Croc Rock to Big Stoney, Girty's Face to George Washington's Profile, Nellie's Nipple to The Miracle Tree, symbolic features expose curious amalgamations of mind and material environment. This research explores symbolic forms in the natural landscape. These perceptual features, most commonly exemplified by human form in rock and stone, have been overlooked in academic inquiry. Therefore, the word "terrormorph" is introduced to represent these previously unnamed phenomena. In addition to examining the cognitive and cultural context of terrormorphs, an extensive inventory of terrormorphic features is presented. Compiled primarily from online data sources, the catalogue contains nearly

five hundred examples of these symbolic landscapes. From this catalogue, a typology was created offering insight in to the diversity and range of the phenomena.

85 • Green Roofing and Carbon Sequestration on SUNY Geneseo Campus

Evelyn Cilley and Ben Wunder

Faculty Sponsor: Jim Kernan, Geography

The installation of green roofing and allowing mowed fields to revert to forest on the SUNY Geneseo campus could reduce energy use and our carbon footprint. We evaluated these options in a sustainability study using a geographic information system (GIS). The green roofing analysis calculated the area of campus rooftops and compared estimated conversion costs with potential savings from reduced energy use. The data for energy savings came from the EPA and the Urban Heat Island Group from the University of California at Berkeley. This data was adjusted to approximate savings in Western New York. It was found that approximately \$22 million could be saved each decade with an installation cost of \$16 million. The field-to-forest analysis involved mapping existing fields and calculating areas for locations that could revert to forest. We then estimated how much more carbon would be sequestered if the selected plots were reverted to Geneseo's native forest composition, and estimated savings from maintenance reduction. Results suggest that 46.5 tons of carbon could be sequestered and \$7500 saved per year. These sustainability initiatives could garner media attention and also create a positive image to prospective students while saving the college money.

86 • Patels and Hotels: Exploring the Influence of Gujarati Entrepreneurs in American Hospitality

Priya Patel

Faculty Sponsor: Darrell Norris, Geography

Gujarati hotel owners are dominating a significant share of the American hospitality industry, and have enjoyed exceptional success in the business. Patel, the most common Gujarati surname, is typically shared by the most of the immigrant business owners. The Patels travelled from the state of Gujarat in India primarily for business opportunities since the 1970s. When they immigrated they looked for businesses which they would be able to enter into and profit from immediately. In little more than a single generation, the Gujarati owned share of American hotel and motel establishments is close to 40%. Most Gujaratis come with little money, but high hopes and the willingness to work hard. They are willing to resettle in isolated and/or socially stressed milieus and acquire marginal motel properties on the first rung of the ladder of success. This study explores the Gujarati experiences and motivations among the large extended and geographically dispersed community of Patels. I am currently surveying close to 100 Patels throughout the United States. This presentation of my ongoing project features the survey itself and contextual background. My goal is to contextualize what appears to be a process of increasing immigrant geographical concentration that is clearly distinct from the stereotype of cultural assimilation and dispersal.

Geological Sciences

87 • Chemical and Mineralogical Analysis of Tuffs from California and Arizona

Brittany Ostertag and Amanda Schmitt

Faculty Sponsor: Dori Farthing, Geological Sciences

Samples of three volcanic tuffs were collected from California and Arizona: the Peach Springs Tuff, the Wild Horse Mesa Tuff, and the Bishop Tuff. Tuff can be defined as consolidated or cemented volcanic ash. The Peach Springs is 18.5 million years old, the Wild Horse Mesa is 15.8 million years old, and the Bishop Tuff is 0.75 million years old. The Peach Springs Tuff is visibly more welded than the other two tuffs, with the Wild Horse Mesa Tuff being the least welded. Our research investigated the link between this property and mineralogical content. To confirm the mineral differences, the samples were made into thin sections for microscopic analysis. As well as using thin sections, powdered and beaded samples were analyzed using x-ray fluorescence ("XRF"). The thin sections allowed for determination of mineral habit, while the "XRF" determined the elements present. The data collected from the samples provides information about mineral and chemical composition, which was then used to infer the conditions at the time of each individual ash flow deposition.

88 • Chemical Analysis and Age of Ash in Upper Peach Springs Wash, AZ

Alisa Kotash

Faculty Sponsor: Jeffrey Over, Geological Sciences

The Hualapai Plateau, in the western region of the Grand Canyon is a stratigraphic marvel that contains a comprehensive record of geological activity in northern Arizona. The distinctive lithologies in the exposed sections of the region indicate the paleoclimate and tectonic activity of the Plateau. Volcanic rocks amongst the diverse terrestrial sediments found in the region allow regional chronology of northern and central Arizona. This study will focus on an Oligocene ash bed located in the upper Peach Springs Wash that has not been chemically analyzed and has only yielded a single radiometric date. The purpose of this study is to determine the age of the ash bed from additional crystal types and determine the chemical makeup of the ash in order to correlate volcanics in other areas to better constrain the age of local and regional strata.

89 • Chemical and Mineralogical Analysis of a Pegmatite Intrusion: Locating a Possible Origin

Eric Watson and Alisa Kotash

Faculty Sponsor: Dori Farthing, Geological Sciences

Samples were collected from a 1-meter thick pegmatite intrusion in the Mojave Desert as well as a granitic outcrop at Granite Pass, California. The two outcrops lie 2.49 miles from each other suggesting that the pegmatite intrusion was fed by the granitic magma chamber located at Granite Pass. The main goals of this research were to describe the chemical variation within the pegmatite in reference to its contact with the schist country rock and to determine a possible origin of the pegmatite body. Textural and mineralogical variations within the pegmatite can be observed in hand sample. The pegmatite boundary contains a margin of coarse quartz grained crystals while the core of the pegmatite body displays a higher concentration of feldspars and an abundance of phlogopite. Samples were analyzed using X-ray Fluorescence (XRF), thin sections, and Scanning Electron Microscopy (SEM) to identify similar minerals and chemical signatures to relate the granite and the pegmatite intrusion. This data analysis provides an insight into pegmatite formations and their relationship to surrounding rocks.

90 • Locating the Bishop Tuff Caldera using Anisotropy of Magnetic Susceptibility

Samantha Nemkin and Neil Swanson

Faculty Sponsor: Scott Giorgis, Geological Sciences

Located in Owens Valley, California the Bishop Tuff is an extrusive igneous rock that erupted 760,000 years ago. We used anisotropy of magnetic susceptibility to determine if the Long Valley Caldera is a possible source for the Bishop Tuff. We collected a sample in situ from the top and middle section of the tuff from an outcrop about ten miles northwest of Bishop, California. Each sample was oriented and then removed. In the lab, each section was cored and oriented using the field orientation marks. The samples were then analyzed for anisotropy of magnetic susceptibility using a MFK-1A Kappabridge. Each core was run in three different orientations producing a three-dimensional ellipsoid, with the long axis representing the trend and plunge of the magnetic lineation of the tuff. During flow minerals are preferentially aligned with a trend and plunge oriented towards the source. The long axes for both sections were plotted on a stereonet, centered over our sampling location, and a shadow was cast along the 95% confidence interval. The shadow was oriented northwest, encompassing the Long Valley Caldera indicating that our data is consistent with the Long Valley Caldera as a possible source for the Bishop Tuff.

91 • Evolution of *Polygnathus linguiformis linguiformis* (Conodont) Hamilton Group, Middle Devonian of New York State.

Nicholas Hogancamp, Jennifer Cramer, Marah Dahn, Jennifer Georgek, Jennifer Kohn, Megan Putnam, David Duhamel, Lauren Humphrey, Michael Kedenburg, Amanda Lanik, Alexandra Popolla, Douglas Steen, Rebecca Steinke, Ryan Mann, Noah Seifert and Megan Stetson

Faculty Sponsor: Jeffrey Over, Geological Sciences

The Hamilton Group is a package of marine shales and limestones deposited during the Middle Devonian noted as a time of general evolutionary stasis for 3.5 million years. Samples from the Cherry Valley Limestone at the base, Centerfield Limestone in the middle, Windom Shale near the top, and North Evans Limestone at the very top were processed for conodonts, the microscopic phosphatic tooth-like remains of an extinct eel-like organism, to determine if there were detectable changes in the fauna. Different areas of the conodont *Polygnathus linguiformis linguiformis* were measured. Stratigraphically there are changes in the posterior end and platform margins.

92 • Stratigraphic Correlation of the Hurley/Cherry Valley-Purcell, Marcellus Subgroup, Middle Devonian, Based on Fossils and Lithology from Cherry Valley, New York and Washingtonville, Pennsylvania

Ashley Swede-Grakowsky

Faculty Sponsor: Jeffrey Over, Geological Sciences

The Purcell Formation outcrops in Chillisquaque Creek in Washingtonville, Pennsylvania and the Hurley/Cherry Valley members, part of the Marcellus Subgroup, outcrop in Cherry Valley, New York. These localities are within the Appalachian Foreland Basin which was situated on a tropical belt during the Middle Devonian. These strata are considered to be the same stratigraphic unit by comparison of the fossils and lithologies. By comparing these characteristics throughout the units it is possible to distinguish and correlate individual beds within each member, including the Hurley Member which is overlain by the Cherry Valley Member. The Purcell Formation that outcrops in Washingtonville is 5 meters of interbedded shale and limestone. The Hurley/Cherry Valley beds located in Cherry Valley are 1.5 m thick and are argillaceous limestones with interbedded shale and discrete limestone beds.

93 • Inferring Climate During the Tioga Glaciation from Reconstructions of Sierra Nevada Glaciers

AnneMarie Glose and Ashley Swede-Grakowsky

Faculty Sponsor: Benjamin Laabs, Geological Sciences

During the Pleistocene, Convict Lake and McGee Creek drainages, located in the southern Sierra Nevada, were glaciated. The glacial features that formed during the Tioga glaciation are well preserved in the region. In order to infer the paleoclimate of the southern Sierra Nevada the glacier extents were reconstructed using topographic information in ArcGIS. With this information, the Equilibrium Line Altitude (ELA) of each glacier was found by using the Toe-to-Headwall Altitude Ratio (THAR), Cirque Floor Altitude, and Accumulation Area Ratio (AAR) methods. We found an ELA range of 2725-3050 m at Convict Lake and 2710-2960 m at McGee Creek. Because ELA is dependent on precipitation and temperature, the ELA can be used to

approximate paleoclimate using empirical data from ELA and energy-balance measurements of modern glaciers. From our calculations, we determined that temperature depression was 4.8°C to 8.2°C colder at Convict Lake and 5.8°C to 8.4°C at McGee Creek. These values correspond to a range of precipitation changes from -580 to +560 mm at Convict Lake, and -200 to +640 mm at McGee Creek. This compares to the modern climate in the region of 3.5°C and precipitation rates of 1550 mm a year.

94 • Paleomagnetic Analysis of a Basaltic Intrusion from Milkweed Canyon, Western Grand Canyon, AZ.

Katherine Dominguez and Peter Scharfschwerdt

Faculty Sponsor: Scott Giorgis, Geological Sciences

Milkweed Canyon, a western Grand Canyon tributary on the Hualapai Plateau, contains several Tertiary sedimentary rock formations. These rock layers constrain the age of the Grand Canyon to less than 18 million years old. Intruding these layers and surrounded by the Peach Springs Tuff is a darker basaltic igneous rock. Paleomagnetic data from a sample of the basalt should preserve the position of the earth's magnetic pole at the time the basalt was intruded. Preliminary results indicate that the magnetism in the basalt is characterized by an internally consistent, strong, single vector component of magnetization. Additional data will likely yield the orientation of the local magnetic field at the time of the intrusion. These data may also constrain the age of the intrusion, which will be corroborated by a radiometric age determination.

95 • Paleontological and Lithological Analysis of the Lower Nopah Formation (Cambrian), Inyo County, California.

Rebecca Kreuzer

Faculty Sponsor: Jeffrey Over, Geological Sciences

Shales and carbonate beds of the Nopah Formation (Cambrian) outcrop in the Panamint Mountains of Inyo County, California. A carbonate bed from the base of the Nopah is a recrystallized (dolomitized?) intra-bio-oo grainstone that contains palmetozoa, trilobites, and inarticulate brachiopods. Due to recrystallization, much of the original fabric of the ooids has been replaced, notable where the trilobite fragments that form the nuclei are relatively well preserved. 2 kg of the Nopah was dissolved for phosphatic remains, only minor poorly preserved inarticulate brachiopods were found. The Nopah was deposited in a warm, shelf environment with agitated waters, similar to that of the present day Florida platform.

96 • Reconstruction of Water Conditions at Furnace Creek, California Based on Ripple Mark Analysis

Julia O'Brien and Rachel Adams

Faculty Sponsor: Richard Young, Geological Sciences

An experiment was conducted using the wave tank of the geological sciences department at SUNY Geneseo to determine the conditions which formed oscillatory ripple marks found in rocks near Furnace Creek, Death Valley, California. The ripple marks are believed to have been formed on the shoreface of Lake Zabrieski, a Pleistocene lake that once covered the Furnace Creek area. Komar's equations have been used in past studies to determine the maximum horizontal velocity of the wave action that forms ripple marks (Komar, 1974). In this study multiple non-measurable variables such as wave length, wave height, and water depth exist because the lake is no longer present. As a result of these variables, Komar's equations cannot be used to solve absolutely for the horizontal wave velocity. A wave tank was used to simulate the ripples observed at Furnace Creek to determine the wave velocity. This velocity is representative of the water conditions that created the ripples in Lake Zabrieski.

97 • Analysis and Significance of Chemical Variations within the Bishop Tuff, Mono County, California

Meghan Guild and Katherine Cooke

Faculty Sponsor: Dori Farthing, Geological Sciences

The Bishop Tuff erupted from the Long Valley caldera in Mono County, California about 760 thousand years ago. It is believed to have been deposited from a single eruptive body that produced material, which covers 2,200 square kilometers and ranges from 150 to 200 meters in thickness. Tuff is a pyroclastic rock characterized by igneous clasts welded within volcanic ash matrix. Large crystals from this locality consist of pumice, glass, quartz, and feldspar stringers. Five samples of tuff were taken from various heights at an outcrop just outside of Mono Craters National Park. The top portion of the outcrop was heavily welded, whereas the lower portion was moderately to poorly welded. X-Ray Florescence was used to obtain major oxide and trace element chemistry of the samples. The major elements show an abundance of SiO₂ (72-75 weight percent), as well as Al₂O₃ (14-15 weight percent). Scanning Electron Microscopy provided small-scale chemical gradation data for the individual samples. All of the chemical data helps to indicate how the Bishop Tuff's source evolved during its eruption.

98 • Lack of Mineable Resources in the Keystone Thrust Fault in the Valley of Fire, Nevada

Andrew Ginter and Benjamin Hocking

Faculty Sponsor: Jeffrey Over, Geological Sciences

Samples of an unnamed brecciated Paleozoic Limestone and Jurassic Aztec Sandstone were collected from above, on the fault plane, and below a thrust fault in the Valley of Fire area of Nevada. Similar faults in the area have been found to be rich in mineable resources such as silver, gold, and other mineral deposits. The mineralogical makeup was determined using the Energy Dispersive System (EDS) function of a Scanning Electron Microscope (SEM) for any potentially valuable or mineable resources. No such resources were found in any of the samples indicating that the Keystone fault would not be an economically

viable location to mine. In addition to lacking mineable resources the fault shows no evidence of mineralization. No leeching of minerals has occurred from the overlying limestone into the fault plane or Aztec sandstone. Leeching may have taken place between the fault plane and sandstone but because the sample of the fault plane was composed primarily of the sandstone it is impossible to determine.

99 • Stratigraphic Interpretation of Middle Devonian Environment from Microfossils in the Middle Devonian Stafford Member of the Skaneateles Formation, Lancaster, New York

Megan Carey

Faculty Sponsor: Jeffrey Over, Geological Sciences

Numerous macrofossils have been described in the Middle Devonian Stafford Member of the Skaneateles Formation, a limestone that outcrops across western New York. Neither conodonts, the phosphatic remains of the mouthparts of an extinct eel-like organism, nor ostracodes, microscopic crustaceans with calcareous shells, have been reported from the Stafford. A broken ramiform element of an unidentified conodont and the ostracode *Paegnium* were recovered from the Stafford in Lancaster, New York. Using what is known about the thermal alteration of conodonts, the Wanakah Member in the Ludlowville from which *Paegnium* was first described, and macrofossils in the Stafford, the depositional environment and thermal history are interpreted as regression phases in epeiric cyclothems with little tectonic deformation nor great burial after deposition, which is in agreement with the timing of the Acadian Orogeny and the deformation of the Appalachian Basin.

100 • A Comparison of Physical and Mineralogical Differences in Ancient and Modern Sand Dunes from the Southwestern United States.

Elizabeth Huss and Megan Carey

Faculty Sponsor: Jeffrey Over, Geological Sciences

Aeolian environments have distinct characteristics that are manifested on individual sand grains. These characteristics include the presence of frosting—a texture that is the result of sandblasting—as well as distinct grain sizes, which are indicative of the wind strength of the environment in which the sands were deposited. Four samples were collected from the American Southwest. Two samples were taken from modern sand dunes, one from California's Kelso Dunes in the Mojave Desert, and one from the Mesquite Dunes in Death Valley, California. The remaining two samples were collected from rock formations that record historical aeolian environments. The first sample was taken from the Triassic Chinle Formation, and the second sample originated from the Lower Jurassic Aztec Sandstone. Using a scanning electron microscope (SEM) and x-ray diffractometer (XRD), the samples were analyzed for grain size, mineralogical composition, and grain surface features to detect physical differences. The modern sands from the Mojave and Death Valley was compared to the samples from the Triassic and Jurassic to examine the differences between modern and ancient sand dune systems.

101 • Determining Age of Cinder Cones Through Morphological Analysis: San Francisco Volcanic Field, AZ

Sean Sanguinito and Dana Smith

Faculty Sponsor: Benjamin Laabs, Geological Sciences

The relationship between the age of a cinder cone and its degree of degradation is well established. Dohrenwend et al. (1986) quantitatively linked age with cone height, width, and crater dimensions, and flank angles in the Cima Volcanic Field of the Mojave Desert. The San Francisco Volcanic Field (SFVF), located near Flagstaff, Arizona, lies on the Colorado Plateau and contains over 600 cinder cones, many of which have not been dated. Solving of equations derived from best-fit lines of the Dohrenwend et al. (1986) data to SFVF cinder cone morphological values yield ages, but with great margins of error. This error is attributed to the initial scatter from which the best-fit lines were constructed in the Dohrenwend et al. (1986) data, the disparate climates of the Mojave and Flagstaff regions, as well as unaccounted for temporal changes in paleoclimate, which affects degradation rates. Eastward decreasing age trend in the SFVF, however, corroborates previous hypotheses of stationary hotspot-generation of the field on the southwesterly trending North American plate.

102 • Petrogenesis of a Basic Intrusion in the Lower Peach Springs Canyon, Arizona

Brandon DeFilippis and Luke Halter

Faculty Sponsor: Scott Giorgis, Geological Sciences

Mineralogical and chemical analysis of a mafic intrusion found in the lower Peach Springs Canyon, Arizona, provides a record of the origin, cooling history, and effect on country rock by basic, intrusive, magmatic processes. A study was done to determine if the coarse grained unit identified in the field was native to the magma that formed the dike or a xenolith – i.e. foreign, included material. The outcrop is vertically stratified into three distinct groups separated by thin contact lines: a coarse grained mafic intrusion, a fine grained mafic intrusion, and granitic country rock. Thin sections of the contact zone between the fine grained intrusion, the country rock, and the coarse grained intrusion, along with XRF analysis, suggest the difference in grain size between the two intrusives represents a difference in cooling rate rather than a difference in origin. Photomicrographs of the contact between the intrusion and the country rock show the formation of epidote, suggesting a thin zone of contact metamorphism. The mineralogical and chemical data from this outcrop demonstrate characteristics consistent with a mafic intrusion from the lower lithosphere with chilled margins and baked contacts.

103 • Chemical Analysis of Evaporite and Lacustrine Deposits near Death Valley California

Brendon Quirk and Michael White

Faculty Sponsor: Jeffrey Over, Geological Sciences

Lacustrine and evaporite deposits often have varied mineralogical and chemical constituents that can be of economic value, for example most commercial bromine, iodine and lithium are recovered from evaporites. Five samples from the Southwest United States were collected from: Middle Basin Salt Flats, Death Valley CA, Lower Basin/Salt Creek, Death Valley CA, Panamint Valley, Inyo County CA, and Mono Lake CA. The crystal form and chemical composition of the samples were determined using a SEM (Scanning Electron Microscope) with energy dispersion system.

104 • Reconstruction of the Glacier in the Thomas Edison Drainage Basin during the Tioga Glaciation

Charles Krueger and Patricia Gregory

Faculty Sponsor: Benjamin Laabs, Geological Sciences

During the Tioga Glaciation of the Late Pleistocene, the southwestern Sierra Nevada mountains were extensively glaciated. The drainage containing Thomas Edison Lake was occupied by a large mountain glacier (137 km²). Glacial geomorphic features such as cirques, lateral moraines, and end moraines were used to reconstruct the extent of the glacier in the Thomas Edison lake drainage basin. These reconstructions were created in a geographic information system (ArcGIS). With this information the Equilibrium Line Altitude (ELA) of the glacier was estimated using three techniques. These include cirque floor elevation (3304 m asl), maximum altitude of lateral moraines (2865 m asl) and accumulation area ratio (3597 m asl). These ELA reconstructions were compared to the ELA's of modern glaciers (3938 m asl) to estimate an ELA depression during the Tioga Glaciation. ELA is a function of temperature and precipitation, therefore ELA reconstructions can be used to estimate temperature and precipitation that accompanied a known ice extent. Based on an ELA depression range of 341-1073m, the temperature depression during the Tioga Glaciation was 3.6-11.3 °C and precipitation was .453-3.4m greater.

105 • Water Budget and Use of Historical Shorelines of Mono Lake

Albert Kim and Jonathan Brotsch

Faculty Sponsor: Benjamin Laabs, Geological Sciences

Abstract Mono Lake is located in the Eastern Sierra of California. Prior to stream-flow diversions in the lake water shed, the shoreline elevation of the lake was much higher than its current level of 6382 ft. Historical shoreline-elevation changes are known based on documented declines in lake level and from evidence surrounding the lake. We computed area and volume changes of the lake using topographic information in a geographic information system. The volume of water necessary to restore Mono Lake to its pre-diversion shoreline elevation is determined by the area of the ancient shoreline and the difference in elevation between the previous and modern shorelines. Although stream flow into the lake has been restored to prevent further regression of the shoreline elevation, the recovery of Mono Lake to its pre-diversion shoreline may be limited by greater evaporative losses coupled with long-standing drought in its basin. We discuss the impacts of recent climate change on the water budget and ecology of Mono Lake.

Gold Leadership

106 • Box Tops for Education: Getting SUNY Geneseo Involved

Lorie Ames

Faculty Sponsor: Tom Matthews, GOLD Leadership

Awareness of the Box top program. This is a project birthed from the GOLD Leadership program (Diamond Certificate). The challenge was for each student to think of a way to volunteer their services and create a project not currently active on campus. I worked in the Perry Central School district implementing this program for 5 years. I heard of the Geneseo School district wanting to utilize the campus in helping their school collect box tops. Collecting box tops is a non invasive way that students can be involved without committing too much time to a cause. Resident halls, Greek organizations and Clubs can participate easily. Spreading the word and making collection sites available is the goal for this year. Help us support the Geneseo School district. With looming budget cuts, this is a way to provide the school with funding they need. Stop by and hear more about how to participate or help out in this project.

History

107 • Panda Diplomacy

Rachel Miller, Stephanie Rondo and Danielle Metz

Faculty Sponsor: Tze-Ki Hon, History

We will be doing our poster on the Panda Diplomacy in China. We will cover how it works, as well as important times it has been used in History. The Panda Diplomacy is China's use of Giant Pandas as diplomatic gifts to other countries. This practice exists all the way back to when Empress Wu Zetian sent a pair of pandas to the Japanese emperor.

108 • We Spell Black Power in Rochester with Capital Letters--FIGHT: The Development of Black Power in Rochester, NY, 1965-1967

David O'Donnell

Faculty Sponsor: Emilye Crosby, History

My project focuses on the development of the FIGHT (Freedom, Integration, God, Honor, Today), founded in Rochester, NY after a race riot in 1964. Community groups within the African American community in Rochester, NY, with the assistance of organizer Saul Alinsky and the Industrial Areas Foundation, established FIGHT to use the black community's numerical strength to overcome structural barriers to racial inequality. Although FIGHT did not initially use the term "Black Power," by 1967, the organization had demonstrated key themes of Black Power organizing – self-determination and racial pride in a number of organizing efforts—as it tackled issues like job and housing discrimination and established community development organizations. FIGHT was able to organize for community representation on Rochester's anti-poverty board, and to have black communities included in the process of urban renewal. FIGHT also fought to have major employers in Rochester change hiring practices. Using a local studies approach to understand Rochester's history helps clarify FIGHT's activism in the mid-1960s and helps refine an often overly simplified view of Black Power. Furthermore, it helps reexamine structural and racial inequality, which remain important issues today.

109 • When College and Community Make History: Geneseo Interns at the 'HAG'

Michael Terreri, Nick Fenik, Dana Besmanoff and Ian McPherson

Faculty Sponsor: Kathleen Mapes, History

This poster will describe the History Club's ongoing service project at the nearby 1941 Historical Aircraft Group Museum and showcase some of the innovative and low-cost solutions engineered by History and Anthropology Interns and Volunteers. The Poster and Project will be of special interest to students interested in history, museum studies and service learning.

110 • Restoration of the 1941 Historical Aircraft Group Museum's Warren Jenks Exhibit

Sherry Leung, Brianna Greene, Kim Boland, Rebecca Pullano and Vincent Nicolosi

Faculty Sponsor: Kathleen Mapes, History

This poster display will highlight the restoration and expansion of a display area in the 1941 Historical Aircraft Group Museum. Photos will be shown of the area before and after, and presenters will be on hand to discuss how this particular exhibit re-design project plays into a much larger, student led initiative.

111 • The Effects of Milk Poisoning in China

Jennifer Lato

Faculty Sponsor: Tze-ki Hon, History

A description of the chemical contamination of milk in China that has increased death rates among babies and young children.

112 • The Great Firewall of China

Christopher Gory, Sarah Graham and Courtney Kain

Faculty Sponsor: Tze-Ki Hon, History

The purpose of this poster is to educate the public on the problems of censorship that Chinese citizens are facing today. This poster will help investigate the efficacy of 'internet' policing within China as well as the ability of the government to prevent any revolutionary ideas from surfacing. The comparison between China's strongly policed technology and the freedom we are allowed within the United States is a relevant issue within today's day and age.

113 • Chain Stores in China vs. America

Vincent Nicolosi and Laura Niederhofer

Faculty Sponsor: Tze-Ki Hon, History

This poster will compare the fast food chains in China (KFC, McDonald's and Walmart in particular) to their American counterparts. Research will be based on sociology articles that discuss this subject. Differences between American and Chinese chains will be based on differences between cultures.

114 • Xi Jinping - A Profile of China's Heir Apparent

Robert Krisel

Faculty Sponsor: Tze-Ki Hon, History

This poster will give a general overview of Xi Jinping. He is considered likely to emerge as the new top leader in the Chinese Communist Party when the 5th generation of Chinese leadership is expected to ascend to top posts due to many current high ranking leaders set to retire from political office in 2012. It will examine his political history, personal character, and what kinds of policies to expect from his regime.

115 • The Modern Woman in China

Amanda Thorpe, Leslie Palomeque and Emily Wagenhauser

Faculty Sponsor: Tze-Ki Hon, History

For our presentation, we will each be incorporating varying elements in modern Chinese history that contributed to create the modern Chinese woman identity today. We will include the woman's liberation movement itself, a study of the female politician Madame Chiang Kai-shek and focus on the abolition of foot-binding within Chinese society. We are interested in how prominent historical figures, widespread movements, a dramatically changing culture, and differing political organizations contributed to the liberation of the previously subjugated women. We are also interested in presenting information on the plight of the modern woman in today's China, including her struggles and victories.

116 • The Censorship of Wikipedia in The People's Republic of China

Matthew Sherman

Faculty Sponsor: Tze-ki Hon, History

The Chinese government is very strict when it comes to censorship of internet material. Wikipedia was first banned by China from June 2, 2004 to June 21, around the 15th anniversary of the Tiananmen Square protests of 1989. Wikipedia was again blocked for four days from September 23 to September 27 2004. Wikipedia was blocked in China for a third time on October 19, 2005. China would sporadically unblock some aspects of Wikipedia temporarily over the next couple of years but Wikipedia would not be fully unblocked again until July 31 2008 with the influx of foreign journalists to cover the Olympic Games. Wikipedia has remained unblocked by Chinese authorities since the 2008 Olympics with only a couple of articles, considered dangerous, blocked by the government. China has yet to reveal why any of these bans on Wikipedia occurred and although Wikipedia is no longer banned some other similar websites are.

117 • The 2008 Sichuan Earthquake

Morgan Byrne, Caitlin Brennan and Amy Klymkow

Faculty Sponsor: Tze-Ki Hon, History

We will be doing a poster presentation on the 2008 Sichuan Earthquake in China. We will explore the collapsing of the schools, the rescue efforts, and the propaganda created by the government. This poster will serve as a way to see how this earthquake affected the Chinese people and how the government responded.

Mathematics

118 • Numerical Methods for Laplace Transform Inversion

Alexandra Dabek

Faculty Sponsor: Andrzej Kedzierawski, Mathematics

Numerical Methods for Laplace Transform Inversion Alexandra A. Dabek Dr. Andrzej W. Kedzierawski SUNY Geneseo The Laplace Transform method is one of the most important and frequently applied integral transforms, used when solving initial value problems for ordinary differential equations. The main idea of the Laplace Transform method is to convert ordinary differential equations into algebraic equations and to then solve the resulting equations. The Laplace inverse transform of the obtained solution is the solution of our original problem. The process of finding the inverse transform is difficult since it may result in an ill-conditioned problem. In our presentation we discuss several theoretical and numerical methods to calculate Inverse Laplace Transforms. In particular, our main result is to consider the inversion problem as a Fredholm integral equation of the first kind and to apply methods for solving this equation to our problem. We illustrate our numerical method using several Maple and Matlab programs.

119 • An Inverse Problem in Finance: Finding the Interest Rate Function from the Value History

Jessica Jaroszko

Faculty Sponsor: Andrzej Kedzierawski, Mathematics

Given a variable interest rate, and the initial value of an investment, we consider the problem of determining the value history of the investment as a direct problem. On the other hand, finding the interest rate function from the value history is an inverse problem. Note that solution of the direct problem involves integration, a stable process, while the solution of the inverse problem employs differentiation, an unstable process. We present several solutions of our inverse problem and visualize our results using Matlab and Maple programs.

Music

120 • The Joseph Rathbun Manuscript: An Allegany Songster

Sally Schaefer

Faculty Sponsor: James Kimball, Music

Milne Library houses an early 19th Century manuscript considered to be of local folk music history importance because it contains multiple song texts transcribed by one Joseph Rathbun of Centre Almond, Allegany County, New York. In researching these song texts, my faculty sponsor, Mr. James Kimball, and I found that many of the Rathbun song texts were similar to, and in some cases almost exactly the same as, popular American and British broadside ballads. Because Rathbun did not include written music in his manuscript, Mr. Kimball and I set some of the texts in the manuscript to the tunes of corresponding broadside ballads for performance purposes. Short excerpts from the manuscript and a description of the origins of song texts

in the manuscript are included in the poster presentation. Maeghan Dineen and I are also set to perform a selection of ballads from the manuscript in a presentation entitled "American Folk Ballads."

Physics and Astronomy

121 • Calibration of a Thomson Parabola Ion Spectrometer Using Proton Beams from a Pelletron Accelerator

Andrew Lombardo, Collin Stillman, Gavin Graeper and Mike Canfield

Faculty Sponsor: Charles Freeman, Physics and Astronomy

The position-to-energy calibration of a Thomson parabola ion spectrometer (TPIS) was measured using proton beams from the 1.7 MV tandem pelletron accelerator at SUNY Geneseo. The TPIS was designed for use on the multiterawatt (MTW) laser facility at the Laboratory for Laser Energetics (LLE). The TPIS implements parallel electric and magnetic fields to separate ions of a given mass-to-charge ratio onto parabolic curves on the detector plane. The position of the ions along the parabola is used to determine the ions' energy. Monoenergetic proton beams with energies between approximately 1 and 3 MeV were directed into the TPIS. Both radiochromic film (RCF) and Fujifilm imaging plates (IP) were placed at the rear of the TPIS and were used to detect the protons. The horizontal deflection due to the electrostatic plates and the vertical deflection due to the permanent magnetic field were studied as a function of the proton energy. This research was funded in part by DOE.

122 • RaPToRS Delivery System

Robert Hennen, Kye Shibata and Michael Krieger

Faculty Sponsor: Ed Pogożelski, Physics and Astronomy

At various labs (NIF, LLE, NRL), activated material samples are used to measure reaction properties. The Rapid Pneumatic Transport of Radioactive Samples (RaPToRS) system quickly and safely moves these radioactive samples through a closed PVC tube via airflow. The carrier travels from the reaction chamber to the control and analysis station, pneumatically braking at the outlet. A reversible multiplexer routes samples from various locations near the shot chamber to the analysis station. Also, the multiplexer allows users to remotely load unactivated samples without manually approaching the reaction chamber. All elements of the system (pneumatic drivers, flow control valves, optical position sensors, multiplexers, Geiger counters, and release gates at the analysis station) can be controlled manually or automatically using a custom LabVIEW interface. A prototype is currently operating at NRL in Washington DC. Prospective facilities for RaPToRS systems include LLE and NIF. Funded in part by the US Department of Energy through the Lab for Laser Energetics

123 • Multi-Detector Array for Measuring Tertiary Neutron Anisotropies in DT ICF Targets

Lee Gabler, Danae Polsin and Megan Russ

Faculty Sponsor: Stephen Padalino, Physics and Astronomy

A nuclear diagnostic is being developed to ascertain if tertiary neutrons are distributed anisotropically during a DT ICF shot at the NIF. The system will use 8 ultra pure carbon disks as detectors. These disks will be strategically placed around the equatorial plane and polar regions of the NIF target chamber. Due to the high neutron activation threshold for carbon only tertiary neutrons will contribute to the $^{12}\text{C}(n,2n)^{11}\text{C}$ reaction. After the shot each disk will be placed between a matched pair of NaI detectors such that the 511 keV gamma rays produced by radioactive ^{11}C can be measured in coincidence. The entire system will consist of eight pairs of detectors. A partial detector array with three NaI detector pairs encased in lead has been constructed at SUNY Geneseo. The optimal detector configuration, which reduced accidental coincidences, minimized background gamma counts and maximized geometric counting efficiency, was determined with this test bench in preparation for the construction of the full array. Funded in part by the DOE.

124 • Photometry of Open Cluster NGC 581

Evan Losh

Faculty Sponsor: Aaron Steinhauer, Physics and Astronomy

We present the photometry of Open Cluster NGC 581. We determine the age, distance, metallicity, and reddening of the cluster as well as a catalogue of likely cluster members to be further examined. Our results will be used to constrain a Rotational Mixing Model.

125 • PIXE Analysis of Meteorites and Other Geologic Samples

Collin Stillman, Mike Canfield, Gavin Graeper, Andrew Lombardo, Jeff Green, Ryan Herilhy and Chris Waide

Faculty Sponsor: Charles Freeman, Physics and Astronomy

A project is underway to use Particle Induced X-ray Emission (PIXE) to measure the concentration of platinum and iridium in meteoritic samples to determine their origin. PIXE is an ion beam analytical technique that can be used to determine the elemental composition with sensitivities down to the parts per million level. In PIXE, a proton beam with an energy near 1 MeV bombards a sample, causing inner-shell electrons to be ejected from the sample atoms. Outer-shell electrons from the sample then drop down and fill these vacancies, with the emission of an X-ray whose energy is characteristic of the atomic number of the sample. An X-ray detector is used to measure the energy and intensity of the characteristic x-rays, which allows the elemental composition of the sample to be determined for mainly heavier elements. Plans are underway to use the SUNY Geneseo 1.7 MV Pelletron accelerator to bombard the samples. A Silicon-Lithium X-ray detector will be used to measure the characteristic X-rays. Concomitant RBS and gamma-ray measurements can supplement the X-ray measurements if desired. Sample preparation, X-ray detector calibrations, and early results will be presented.

126 • PEGASUS Equestrian Evaluation System

Marie Kalet, Molly McEvoy and Kristina Punzi

Faculty Sponsor: Stephen Padalino, Physics and Astronomy

Our team is developing a system that measures the lateral and vertical forces a horse applies to the ground as it steps. This system consists of a steel plate and eight force sensors. Four of the sensors are mounted on the bottom of the plate and measure the downward force of the horse's step as a function of time. The other four sensors are mounted on the sides of the plate and measure the lateral forces applied during motion. The data acquired by this force plate will allow equestrians to determine if a horse is lame and the general nature of any injuries. We will correlate the results of each sensor and compare them to trends established by healthy horses. This system has been tested on humans with varying shoes, walking speeds, and simulated injuries. Trends in the human step have been acquired and used to pinpoint irregular strides.

127 • Lithium Abundances in the Open Star Clusters M39 and M37

Michelle Gregor

Faculty Sponsor: Aaron Steinhauer, Physics and Astronomy

We present high resolution spectroscopic data of the open clusters M39 and M37 in search of F stars with significant lithium depletions as seen in the Hyades' lithium gap. Hyades gap members ranging between 6000K and 6700K in temperature exhibit exceptionally low lithium levels that are not supported by standard theory. A relationship exists between rotational velocities and Li abundances that support rotationally induced mixing as a possible explanation of the Li-gap. This relationship between high rotational velocities and low lithium levels becomes stronger with cluster age. The Li-gap is most prominent in the Hyades cluster, aged 700 Myr. However, the Pleiades cluster, aged 80 Myr, does not exhibit a gap. M39 and M37, at 300 Myr and 350 Myr, lie between both ages, making them important clusters in understanding the gap's development.

128 • Analysis of Airflow Through a Trumpet

Jarrold LaFountain and Jacob Deshaies

Faculty Sponsor: James McLean, Physics and Astronomy

Multiple schools of thought exist on the proper way to play a brass instrument but, using a scientific approach, one can quantify and identify which is best. Power output, airflow, oral pressure and the pressures exerted on the mouthpiece were collected from amateur players and compared against practiced players. A small video camera, various pressure sensors, strain gauges and airflow meters were utilized, the manufacturing and implementation of these being a large component of the project. With a focus on airflow, this parameter depends on the difference in pressure between the instrument's mouthpiece and bell. In the simplest model, that dependence would be a direct proportion, but initial measurements have indicated that there may be a transition between low and high airflow conditions, possibly due to turbulence. Ultimately, this information will be applied to data about trumpet performance, to learn about the conditions surrounding a trumpet player's lips. The acquisition techniques, as well as the study in itself, is novel and represents more than five years of research between the efforts of Dr. Kreuger, SUNY Geneseo Jazz Band director and Dr. McLean, Professor of Physics at SUNY Geneseo.

129 • POPS-The Power of Physical Science

Amanda Geniviva, Katherine Brooks, Daniel Dragula and Rebecca Kreuzer

Faculty Sponsors: Kurt Fletcher, Physics and Astronomy, Dori Farthing, Geological Sciences, Katie Rommel Esham, School of Education, and Amy Sheldon, Geological Sciences

Fewer women than men major in the physical sciences. Women make up only 19.8% of physics bachelor's degrees and 41% of geology bachelor's degrees in the United States. This disparity does not exist in the biological sciences or in chemistry. Research has shown that gender differences in attitudes towards the physical sciences become more pronounced during the middle school years. Some possible reasons for this trend could be the addition of group work and the importance for girls to pursue a career helping others. Through a grant funded by the National Science Foundation, students and faculty from Geology, Physics, and Education collaborated to develop a pilot study curriculum targeted at middle school classrooms. Special attention was paid to creating group settings that encourage female participation and self-efficacy. The curriculum focused on the societal benefits of the physical sciences. Local school districts are currently piloting the unit plan and pre- and post-assessments on student attitudes towards the physical sciences are being administered to the participating classrooms.

130 • Complexification of Relativity

Peter Rosenberg

Faculty Sponsor: Savi Iyer, Physics and Astronomy

We present here a reformulation of special relativity by complexifying the spacetime coordinates, resulting in a much simpler form of Lorentz transformation for a general boost. Real four dimensional spacetime coordinates are replaced with two complex coordinates, and the underlying geometric structure is described in terms of complex analysis. This can then be extended to general relativity, or curved spacetime. The two specific metrics we will consider are the Schwarzschild and the Kerr metric that describe the geometry near the stationary and the spinning black holes respectively.

131 • Exploration of the Inversion Problem for Fitting Particle Size Distributions using Mie Scattering

Ryan Schooley

Faculty Sponsor: George Marcus, Physics and Astronomy

Consider a collection of particles distributed over various sizes in an optical cavity. Given a matrix of extinction efficiencies for each particle size and wavelength of incident light as well as the size distribution of the particles in the cavity, it is simple to predict the scattered spectra. However, the inversion problem, determining the size distribution from the extinction efficiencies and measured spectra, is much more difficult. Various inversion techniques were tested for their ability to reproduce size distributions given simulated spectrums. In particular, singular value decomposition was used to calculate the pseudo-inverse of a matrix of extinction efficiencies. Various parameters, such as particle bin size and distribution width, were varied to determine their effect on the fits. Later, random noise was introduced to the simulated spectrum and truncated singular value decomposition (TSVD) was tested as a method of compensating for this noise. It was found that singular value decomposition, while effective at fitting distribution given smooth data, was unable to produce accurate fits when the spectrum contained noise. TSVD techniques did not produce satisfactory fits from noisy data.

Psychology

132 • The Party Line? Female Students' Perceived Personal Safety at College Parties

Catherine Herman

Faculty Sponsor: Jennifer Katz, Psychology

The present study examined characteristics of parties that predicted female students' perceived personal safety. Undergraduates (N=125) provided self-report data about the characteristics of the most recent local college party they attended, rated feelings of personal safety, and wrote one paragraph about "any memorable situations observed" which were coded for witnessing possible sexual assault. On average, women felt personally safe at parties (M= 4 on a 5 point scale). About 26% reported their last local college party was Greek-hosted. Most campus parties were characterized by high risk features and behaviors. Although Greek parties were perceived as involving more alcohol and greater female objectification, women's perceptions about party characteristics were unrelated to their perceived safety. Unexpectedly, women who attended a Greek-hosted party felt more safe than other women. In contrast, 9% of the sample spontaneously described witnessing a possible sexual assault when asked about "memorable situations" at parties, these women felt less safe at parties than other women. Women generally felt safe at college parties despite perceiving potential party characteristics that promote risk for sexual assault. One approach to promoting more realistic safety appraisals could be to educate students about "high risk" party contexts and sexual assault.

133 • The Role of Coping Strategies in the Relationship Between Personality and Adjustment

Benjamin Perry, Samantha MacDonald, Andrew Christy, Vanessa Lobo, Nathaniel Lu and Michael Maguire

Faculty Sponsor: Monica Schneider, Psychology

Our project examined the mediating role of coping strategies in the relationship between Big 5 personality traits and college adjustment. Moreover, we used a types approach, combining conscientiousness and neuroticism, to test for possible interaction effects of personality on coping and adjustment. Only a few studies have examined the role of coping strategies in the relationship between personality and adjustment, but none have assessed this relationship for the Big Five traits and college adjustment. Participants were 171 students who completed a survey assessing their personality traits, adaptive and maladaptive coping strategies, and college adjustment. Our results indicated conscientiousness, extraversion, and agreeableness positively predicted coping and adjustment. Neuroticism negatively predicted coping and adjustment. In addition, coping strategies fully or partially mediated the relationship between personality and adjustment for most traits. These results suggest that different personality traits predict college adjustment, in part, because they predict the likelihood of using adaptive or maladaptive coping strategies. A types approach revealed that neuroticism and conscientiousness interact in different ways depending on the type of adjustment. For example, if neuroticism was low, then participants were more socially adjusted regardless of their level of conscientiousness. If neuroticism was high, then students' level of conscientiousness mattered.

134 • Going to College, Going All the Way: Predictors of First Sex During Young Women's Freshmen Year

Melanie Schukrafft

Faculty Sponsor: Jennifer Katz, Psychology

Few studies have identified predictors of first sex over the freshman year of college. Accordingly, we investigated attitudes and dating experiences associated with women's first sex during this time. Based on previous research, we expected that during freshmen year, self-worth contingent on virtue would negatively predict first sex, but committed dating status and anxious attachment tendencies would positively predict first sex. 28 female undergraduates (M = 18.01 years) anonymously reported whether they had first sex in October (T1) and April (T2) of their freshman year. All denied any consensual sex at T1. At T2, participants reported their dating status. They were also asked about consensual sex since T1 to be classified as either still abstinent or no longer abstinent. Participants also completed measures of self-worth contingent on virtue and attachment anxiety at T1. Almost half of the sexually abstinent participants experienced first sex over the first year of college (n=12). This was significantly more likely for participants in serious dating relationship or participants who did not base their self-worth on virtuous behavior. Future research is needed to examine women's own desires (Tolman, 2002) and motives for sex.

135 • The Effects of Relationship Context and Crime Violation on Perceptions of Hypothetical Crime Scenarios

Kelly Hendricken

Faculty Sponsor: Jennifer Katz, Psychology

The purpose of the current study was to examine the relationship between violation (rape versus theft) and context (friend versus boyfriend) in relation to perceptions of victim responsibility, seriousness and perceived prison time for the perpetrator. The study sought to examine if rape would be perceived as less serious than theft, how observers would perceive crime acquaintance relationships, how rape is perceived in an acquaintance relationship in regard to victim responsibility and perceived prison time attributed to the perpetrator in different relationship contexts. Undergraduate students ($N = 65$) responded to a questionnaire after reading one of four scenarios in which the perpetrator was male and the victim was female. Results suggested that rape was considered to be significantly more serious than theft, and participants were more likely to perceive the victim as responsible for rape in a dating relationship than in a friend context. There was a trend that participants were more likely to perceive the victim as responsible for rape in a dating relationship context than rape in a friend context. Implications suggest that minimization of how serious rape is and minimization of rape in relationships is caused by society's views about sexual precedence and sexual obligation in relationships.

136 • Comparative Rates of Adult and Child-Directed Social Initiations Made by Preschool Special Education Students

Kristen Kolb

Faculty Sponsor: Ganie DeHart, Psychology

Children with special needs are more likely than their typically developing peers to experience difficulties with social skills. As a result, early social skill interventions are often warranted. A trend in special education has been to emphasize the importance of high individual adult attention, but it is possible that this is decreasing the emphasis on encouraging children's peer interactions. This study investigated whether special education preschool students differ in the rates at which they direct social initiations to children and adults. The influence of specific classroom settings and the types of initiations made were also investigated. Results indicate that adult-directed initiations occur at a greater frequency than child-directed initiations. Additionally, a relationship was found to exist between specific classroom settings, the type of initiation made, and whether it was adult or child-directed. Implications of this finding for classroom size and structure research are discussed.

137 • The Effects of Polyvictimization on the Well-Being of College Students

Stephanie Cristiano, Sara Wigderson and Emily Reding

Faculty Sponsor: Michael Lynch, Psychology

The purpose of this study was to examine how different forms of victimization affect the well-being and academic performance of college students. This study includes a range of surveys that measure different forms of victimization, including physical, relational, hazing, and cyber-victimization. This study explored the effects of victimization on aspects of well-being such as self-esteem, depression, anxiety, and academic performance. Several moderating factors were also measured, including coping, social support, and parental monitoring. The data revealed a clear pattern of association among the various forms of victimization indicating that many participants experienced multiple forms of victimization. Findings also revealed that dating victimization, cybervictimization, and hazing negatively impacted the well-being of participants. Parental monitoring and family support also modified the effects of victimization on academic performance. These findings shed light on issues that are especially relevant for college-aged students. Future research should track the origins of victimization at younger grade-levels.

138 • Black and White thinking? Transracial Adoption Photos Promote Negative Emotions and Negative Adoption Attitudes.

Emily Doyle

Faculty Sponsor: Jennifer Katz, Psychology

Many people view adoptive families as less natural than birth families because parents and children are not genetically related. Because of both dissimilar appearance and racism, transracial adoptive families may be particularly devalued. In this study, undergraduates ($N = 167$) were randomly assigned to view an adoptive family photograph of white parents holding either a black or white infant. As expected, compared to the same race photograph, the transracial family photograph elicited less favorable adoption attitudes and greater negative emotions, but did not affect perceived adoptive parent competence. Participants' own racist attitudes amplified the effect of transracial adoptive families on negative emotions. Furthermore, negative emotions fully mediated the effect of transracial family status on negative adoption attitudes. Results suggest that transracial adoptive families are devalued due to negative emotions elicited by both dissimilar appearance and individual racism.

139 • Dog Person or Cat Person

Erik Pesner

Faculty Sponsor: Lanna Ruddy, Psychology

This study examined certain aspects of the human pet relationship. Specifically, it compared dog preference and cat preference in subjects in terms of how they correlated with pet attachment, pet expectancy, and subject personality characteristics. My experiment contained 4 questionnaires: A self-identified dog preference and cat preference scale, the Lexington Attachment to Pets Scale (Johnson, Garrity, & Stallones, 1992), the Pet Expectations Inventory (George, 1992), and

the 44 Item Big Five Inventory. Each question was measured using a 5-item Likart scale. Previous Research has shown that dog preference has been associated with higher levels of extraversion, conscientiousness, and agreeableness and lower in neuroticism and openness than cat people (Gosling, Sandy, & Potter, 2010). One goal of this study was to replicate these findings using a modified self-identification scale. The second goal of this study was to compare the degree of pet preference with the level of pet expectancy and pet attachment in subjects. I hypothesized that both pet expectancy and pet attachment would be positively correlated with the level of pet preference for each pet type and that "dog people" would have higher levels of expectancy and attachment for their pets relative to "cat people".

140 • Correlates of Anxiety and Their Impact on Cognitive Performance

Molly Walsh, Casie Damore, Adrienne Koder and Alexander Proukou

Faculty Sponsor: Michael Lynch, Psychology

The purpose of this study was to examine how the inter-relationship among anxiety, regulatory problems, and executive functions (EF) affects cognitive performance – both in the lab and in the classroom. Consistent with our model, analyses showed that trait anxiety was associated with variations in EF and regulatory problems. The combination of anxiety, EF, and regulation accounted for a modest portion of the variance in cognitive performance in the lab. Moreover, regression analysis indicated that EF alone accounted for a unique portion of variance in lab-based cognitive performance over and above the effects of trait anxiety and regulatory problems. Also, anxiety, EF, and regulatory problems accounted for a significant portion of the variance in college GPA. EF and regulatory problems each made a unique contribution to cognitive performance in the academic setting. These findings shed light on the ways in which anxiety adversely affects cognitive performance. This could be due to its association with alterations in cognitive executive functions, as well as behavioral and emotional regulation. It is unlikely that anxiety operates in isolation to undermine cognitive performance. Rather, the complex relationships among anxiety, EF, and regulation may account for some of the processes through which anxiety may adversely affect performance.

141 • First Oral Sex: Comparing the Behaviors, Contexts, and Desires of Young Heterosexual Women and Men

Catherine Herman and Melanie Schukrafft

Faculty Sponsor: Jennifer Katz, Psychology

Most studies of first sex emphasize predictors of girls' penile-vaginal intercourse. Although this is important, oral sex is relatively common at younger ages and may substitute for "real" sex in young heterosexual couples. Research is needed to understand the behaviors and contexts of first oral sex for both girls and boys. In this study, undergraduates (221 female and 85 male) described their first oral (hetero)sex, including their age, partner age, relationship with the partner, level of planning, worry about discovery, direct partner pressure, and desire to have oral sex at the time. Over half of women reported performing but did not receiving oral sex, as compared to less than 10% of men. Female participants experienced greater partner pressure for first oral sex and wanted first sex significantly less than did the men. For women, wanting first oral sex was positively associated with planning and a closer relationship and negatively associated with direct partner pressure. In contrast, men's desire for first oral sex was independent of these specific contextual factors. First oral sex frequently takes the form of fellatio, rather than cunnilingus, which may affect both performance demands and how much women and men want this experience.

142 • Doing Three Things at Once: Multi-tasking in Short-term Memory

Thomas Banahan and Kaori Kimura

Faculty Sponsor: Kenneth Kallio, Psychology

The current experiment looks at how performing a rapid judgment task at the same time that one is trying to keep track of a visually displayed series of items in short term memory affects memory for the items. Results from previous change detection studies indicate that college students easily keep track of two stimulus attributes of a series of items. In effect, college students can store two kinds of information (spatial and verbal) simultaneously. In this experiment, participants were asked to make either verbal or visual judgments in the brief interval between the display of two sequences of items in a serial change detection task. Results showed that the two intervening judgment tasks equally disrupted overall change detection performance. In addition, the tracking of spatial location of a series of letters was disrupted more by the intervening tasks than the tracking of the color or form of the letters. These results suggest that the maintenance of location content within spatial short term memory relies more on central executive resources than does the maintenance of verbal content in verbal short term memory.

143 • Attachment Style and College Adjustment: The Role of Possible Selves, Coping Strategies, Self-Efficacy, and Self-Regulating Behaviors

Andrew Christy, Vanessa Lobo, Michael Maguire, Nathaniel Lu and Benjamin Perry

Faculty Sponsor: Monica Schneider, Psychology

Previous researchers have established links between students' attachment styles and their social, academic, and emotional adjustment outcomes. Attachment security has been correlated with positive adjustment outcomes, lower levels of distress, social self-efficacy, and decreased depression in college students. Our past research has determined that possible selves, self-efficacy, and self-regulatory behaviors also predict students' college adjustment. The current study was designed to extend our past research by examining the potential mediating role that possible selves, self-efficacy, and self-regulatory behaviors play in the relationship between students' attachment style and their college adjustment. In addition, we examine the possible mediating and moderating effects of coping strategies in these models. To our knowledge, researchers have not examined the direct links between attachment styles and various aspects of ideal and feared possible selves. Moreover, our study is the first

to incorporate the role of possible selves, self-efficacy and self-regulatory behaviors in a model of attachment styles and college adjustment.

144 • Playful and Aggressive Use of Irony in Adolescent Conversations with Siblings and Friends

Alison Bradley, Zachary Gold, Corrin Pudlewski, Gina Ottolia, Larry Bellomo and Mary Van Voorhis

Faculty Sponsor: Ganie DeHart, Psychology

Research on irony in adolescence has focused mainly on judgments about meaning and intent in hypothetical situations, less is known about how adolescents actually use irony in naturally-occurring conversations. Irony can serve various defensive functions for adolescents, especially in uncertain social situations, it can provide deniability for both potentially hurtful and potentially affiliative utterances by leaving their intent open to interpretation. It can be used either to mitigate or intensify both positive and negative comments, to further complicate matters, it can be used both aggressively (if the intent is to hurt or bother the partner) and playfully, sometimes simultaneously. Experimental studies of adolescents' perception of irony can tell us whether they are able to understand various ways of using it, but analyses of adolescent conversations are needed to determine to what extent they actually use irony in each of these ways and how gender, partner, and other aspects of social context may make a difference. Naturally-occurring conversations provide a useful window into normative use of irony in both playful and aggressive ways by adolescent boys and girls. Our findings underscore the complexity of adolescents' use of irony, and the gender differences concord well with previous research on relational aggression and assertive/affiliative language use.

145 • Observational Study of Children's Aggression toward Siblings and Friends: Form and Function Revisited

Alison Bradley, Jessamyn Perlus, Michael Perrone, Moriah Clements, Kathleen Covney, Paul Strusienski and Marysabel Gomez

Faculty Sponsor: Ganie DeHart, Psychology

As part of an ongoing longitudinal study, we examined the function and social context of verbal, physical, and relational aggression in children's videotaped semi-structured play sessions with siblings and friends. Each instance of aggression in the session was coded for function (hostile vs. instrumental) and social context (unprovoked, response to aggressive behavior, or response to nonaggressive behavior). When function and social context are examined together, six categories emerge. One of these (instrumental/unprovoked) corresponds to the usual definition of proactive aggression, another (hostile/response to aggressive behavior) equates to reactive aggression. Based on past research, proactive and reactive aggression seem likely to be particularly salient for predicting negative outcomes for these children, but it would be useful to know how other function/social context categories are related to both normative development and individual differences in behavior and adjustment. Our results demonstrate complex relationships among form, function, and social context of aggressive behavior by children from a nonclinical sample. Given that many instances of naturally occurring aggression appear not to fit the standard definitions of proactive and reactive aggression, clear differentiation of function and social context seems particularly important in observational coding of aggression.

146 • Testing the Capacity of Short-term Memory for Multiple Stimulus Attributes of a Series of Visually Displayed Items

Thomas Banahan, Kaori Kimura and Michaela Walsh

Faculty Sponsor: Kenneth Kallio, Psychology

Previous research suggests there is a limit on the number of different stimulus attributes (color, form, spatial position) that adults can keep track of when shown a short series of items. This project systematically explored this limit. On each memory test, two series of five items were shown on a computer display. The items varied in terms of shape/letter, color, and spatial position. Students were asked to keep track of one, two, or all three of the stimulus attributes of each item and to indicate when a change occurred in the tracked attribute(s) between the two paired series. Detection of changes was high across the board when the students had to keep track of a single attribute. When asked to keep track of two attributes, change detection performance depended upon the pairing of the attributes. When asked to track all three attributes, change detection performance indicated that only spatial location and one of the two visual attributes (form or color) could be tracked. These findings can be readily explained within Baddeley's model of working memory.

147 • Terror in the Wilderness: Mortality Salience, Environmental Norms and Environmental Attitudes

Cassandra Barbary, Benjamin Ampel, Alyssa Jordan, Matthew Bower, Christina Monachino, Hallie Miller, Michael Infranco, Caitlin Pemberton and Matthew Couch

Faculty Sponsor: Jim Allen, Psychology

This study tested the hypothesis that participants would derogate an environmental norm breaker in accordance with the cultural world-view defense hypothesis of Terror Management Theory. This hypothesis predicts that reminders of personal mortality will motivate a desire to defend important symbols in order to give one's life meaning and ward off existential terror. We also examined whether participants would derogate the environmental norm breaker regardless of whether this person harmed a wilderness or non-wilderness area. This was an important consideration because previous research suggests that wilderness increases mortality concerns. Consistent with Terror Management predictions, results from two studies indicated that mortality salient participants with strong initial pro-environmental values derogated the environmental norm breaker regardless of whether that person harmed a wilderness or a non-wilderness area.

148 • Sex and Pro-Environmental Messages: A Test of the Oily Cassandra Video

Christina Monachino, Hallie Miller, Cassandra Barbary, Benjamin Ampel, Matthew Bower, Alyssa Jordan, Michael Infranco, Caitlin Pemberton and Matthew Couch

Faculty Sponsor: Jim Allen, Psychology

The purpose of this study was to examine how sexual images affect reactions to public service announcements designed to promote environmentally friendly behavior. A review of youtube and other media suggests that sexual images are somewhat common in pro-environmental campaigns. We specifically tested the "Oily Cassandra" video that has been popular on youtube for some time. This video features a split screen in which the same attractive young woman appears in each frame. On one side she is shown from the shoulders up wearing a sweat shirt. She calmly and authoritatively describes the dangers of "peak oil," the potential that oil production will soon peak and begin to fall. On the other side of the video, she is dressed in revealing clothing and dances in a sexually provocative manner. We predicted that reactions to the video would be predicted by participants' gender, body image, attitudes towards sexuality and neuroticism.

149 • More Than Just a Smiling Face: Bias and Embodiment Impact the Recognition of Emotional Expressions

Melissa Fox, Kimberly Hinman, Jeff Thomson and Michael Infranco

Faculty Sponsor: Jeffrey Mounts, Psychology

When viewing a face, people are faster to respond to a face displaying positive emotions (e.g., Happy) than a face displaying negative emotions (e.g., Angry). This happy face advantage (HFA) is displayed in multiple experiments using different model faces. Results also show a female happy face advantage, where female happy faces are identified significantly faster than male happy faces. This female HFA is even more pronounced when female participants are viewing female models, which indicates that there may be in-group/ out-group effects. These effects could be caused by conceptual processes or perceptual processes. The current research explores the mechanisms underlying the larger HFA for female models and for gender-based group status.

150 • Social Engagement of Siblings and Friends in Middle Childhood Across Three Tasks

Anna McDonough, Kara Featherstone, Sara Hirsch, Krista Muscarella and Michael Maguire

Faculty Sponsor: Ganie DeHart, Psychology

As part of a longitudinal study of sibling and friend relationships, we examined 7-year-olds' social engagement during free play, game, and construction tasks. Differences have been observed between sibling and friend engagement during free play, but little is known about sibling and peer engagement during more structured play, such as construction and game tasks. Thirty white, middle-class American children (17 male, 13 female) were videotaped at home in separate sessions with siblings and friends at age 7. Each pair participated in: a semi-structured free play session using toys selected to foster interactive play, a competitive game task, and a construction task in which the children were asked to duplicate a model. The videotapes were transcribed and coded for social engagement at 10-second intervals. Across all three tasks, peer pairs were more highly engaged than sibling pairs. The lowest levels of engagement were found in the free play task. Gender of the target child did not have an influence on engagement across tasks. It seems that when given more structured tasks, 7-year-olds are better able to maintain higher levels of social engagement. However, the nature of this engagement is unknown, we have not yet examined to what extent their engagement is positive or negative.

151 • Empathy, Altruism and Environmentally Friendly Behavior

Matthew Bower, Hallie Miller, Cassandra Barbary, Christina Monachino, Alyssa Jordan, Michael Infranco, Caitlin Pemberton, Matthew Couch and Benjamin Ampel

Faculty Sponsor: Jim Allen, Psychology

Research indicates that altruism can motivate environmentally friendly behaviors. In these cases, individuals act to protect the environment because of a genuine concern for others, or for nature, and not because of egoistic motivations. Although there are multiple ways of conceptualizing altruism, one approach focuses on the personality characteristic of empathy. However, this empathy focused research has two prominent shortcomings. First, it has not placed empathy in a meaningful theoretical framework that explains why it predicts environmentally friendly behavior. One possible framework is Stern's (1999) Value-Belief-Norms theory which predicts that values can promote environmentally friendly behavior by developing beliefs and norms that promote such activity. One purpose of this paper was to test whether empathy might act as a value which leads to environmentally friendly behavior via the pathways predicted by Stern (1999). A second shortcoming of this literature is that the relative impact of empathy and non altruistic predictors of environmentally friendly behaviors have not been assessed. The second purpose of this paper was to assess these relative impacts by comparing the strength of the empathy prediction of environmentally friendly behavior with the prediction made by feelings of personal environmental threat, an egoistic predictor.

152 • Individual Differences in Reaction to Mortality Salience: A Test of Terror Management

Alyssa Jordan, Benjamin Ampel, Cassandra Barbary, Hallie Miller, Christina Monachino, Matthew Bower, Michael Infranco, Caitlin Pemberton and Matthew Couch

Faculty Sponsor: Jim Allen, Psychology

Research in Terror Management Theory indicates that reminders of personal mortality motivate defensive and often aggressive behaviors designed to give individuals a sense of meaning and purpose. The premise of the theory is that all individuals are

vulnerable to a crisis of existential anxiety when they think about their own demise. However, an alternative perspective suggests individual differences in susceptibility to existential anxiety. Specifically, some individuals may accept the reality of their mortality in a non defensive and non fearful way. If so, these individuals would not be expected to respond to mortality reminders in the same way that individuals with deep seated death anxieties do. This study tested this hypothesis by replicating a standard Terror Management Theory study. We predicted that participants who were the most accepting of death would respond to mortality reminders less defensively and aggressively. The results so far are not significant at conventional levels. However, they seem to suggest that, contrary to Terror Management Theory, there are individual differences in reactions to mortality reminders, and that some individuals do not experience a deep-seated fear of death. We will continue to collect data and expect that this will clarify the results.

153 • The Role of Gender and Partner in Adolescents' Use of Assertive and Affiliative Language in Interactions with Siblings and Friends

Zachary Gold, Jacqueline Inserillo, Kaitlyn Zeiser, Olivia Derella, John Whalen and Olga Iodko

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. For example, girls of various ages have been found to mitigate expressions of negative affect and self-assertion during interaction with friends more than boys do. As part of a longitudinal study, we systematically examined adolescents' use of assertive and affiliative language during interactions with siblings and friends. Thirty white, middle-class American 17-year-olds were videotaped at home in separate sessions with siblings and friends. Each target adolescent was videotaped completing a cooking task with a sibling and with a friend, making pizza with one partner and brownies with the other. Videotapes were transcribed, and assertive and affiliative utterances were identified in each session. Our results demonstrate gender differences in the use and mitigation of assertive and affiliative language by adolescents, mostly in the expected directions. However, relationship and partner gender also seem to make a difference in assertion, affiliation, and mitigation, with noticeable differences between same-sex and mixed-sex interactions.

154 • Mindfulness and the Cost of Willpower

Benjamin Ampel

Faculty Sponsor: Jim Allen, Psychology

This research examines the relation between self-control depletion and mindfulness. Research indicates that exertion of self-control may temporarily reduce an individual's ability to exert self-control, and that daily practice of awareness of the present can decrease self-control depletion. The current study assesses this relationship in two experiments. First, college students will fill out a brief questionnaire with measures of both mindfulness and self-control. In the second study, participants will fill out a measure of mindfulness, and then be exposed to the standard self-control depletion task. Both of these experiments are currently in progress, and a preliminary analysis of the first experiment indicates a significant correlation between mindfulness and self-control, when controlling for social desirability. Results should increase understanding of the theoretical relation between mindfulness and self-control, and of the potential effectiveness of Mindfulness Meditation Techniques as therapeutic interventions for treating impulse control disorders.

155 • Empathy and Moral Decision-Making in Children

Anna McDonough, Kara Featherstone and David Murray

Faculty Sponsor: Ganie DeHart, Psychology

Debates in the field of moral development have suggested gender differences in orientation during moral decision-making. This investigation proposes that gender differences in children's moral decision-making are mediated by trait levels of empathy and inferences of emotion about a situation, rather than gender alone. Children ages 6-12 answered questions about a story that included a moral problem and responded to an empathy questionnaire. Preliminary analyses indicate that levels of caring in responding to the moral problem were correlated with higher levels of empathy, rather than gender.

156 • School Academic Focus, Popular Crowd Culture, and Academic Outcomes in Adolescence

Ashley Arthur, Kelly Hendricksen, Elizabeth Thorp and Peter Kearns

Faculty Sponsor: Joan Zook, Psychology

The purpose of this study was to investigate the relationships among school peer group culture and adolescents' academic outcomes. We administered questionnaires to middle school students at two area schools ($N=370$). Participants rated the level of teacher support and how much academics were valued at their school. Popular crowd culture was assessed by averaging the GPA and effort scores of students nominated by participants as popular. Academic outcomes included GPA, effort, academic goals, and ideal academic public image. Ideal academic image was measured by presenting participants with descriptions of 8 hypothetical students with varying levels of effort and grades and asking them to rate how much they wanted to be perceived as similar to each one. Results indicated that schools' academic focus was positively correlated with the popular crowd culture. Schools' academic focus and popular crowd effort were both independently associated with students' academic outcomes. When participants rated their schools as more academically focused and when popular students were harder working, they had higher GPAs, effort in school, and academic goals. In addition, they were less likely to have an ideal academic self that was low in effort.

157 • Fluency Effects on Memory with the Mere Exposure Effect

Kathleen Talbot

Faculty Sponsor: Deanne Westerman, Psychology at Binghamton University

Fluency effects on memory were examined in a 2x2 factorial design. Processing fluency is the relative ease at which information is processed, and this study looked at it through college students who participated in an experiment where they were exposed to a series of non-words while either chewing gum or tapping their finger to a metronome. They then had to rate their likings of words they had and had not seen. It was expected that both groups would have a higher liking for old words versus new words, but there would be a difference in the two groups such that the tapping group would have a larger effect because their fluency was not being manipulated by gum chewing. The results for both groups showed a higher liking for the old words over the new words, and this is known as the mere exposure effect. But, this study did not show an interaction, so the effect was not significantly different between the chewing and tapping groups. Therefore, although that hypothesis was not supported, the study still demonstrated the mere exposure effect, which is relevant because it shows that people will have a higher liking for old versus new stimuli.

School of Education

158 • The Declaration of Independence: Would You Sign It?

Paige Shortsleeve

Faculty Sponsor: Ann Marie Lauricella, School of Education

This poster presentation will focus on an integrated unit plan based on the development and drafting of the Declaration of Independence, various perspectives and views will be examined. Through this integrated unit the students will explore various pieces of literature, as well as examine primary source documents—students will study and evaluate the events and political positions that lead to the writing of the Declaration of Independence. After completion of this unit, students should be able to discuss their own informed views about the Declaration. Questions surrounding the intent, purpose, disposition of founders, justice, and liberty will be discussed, ultimately students will be asked if they would have signed the Declaration of Independence and give an explanation about why or why not.

159 • History of Special Olympics Horse Back Riding

Justine DeLuca

Faculty Sponsor: Elizabeth Hall, School of Education

The premise of the poster presentation will be the history of special olympics and the origin of how it was created. Justine will include in the posterboard the creation and evolution of Horseback riding. She will also encompass her involvement, and how others can be involved.

160 • From Miscue Analysis to Instructional Strategies

Jamie Hartle, Daniel Santiago, Akira Stata, Maggie Boquard, Alexys Liberati, Maureen Massaria and Katelyn Charbonneau

Faculty Sponsor: Maria Liwanag, School of Education

As pre-service teachers, we are going to conduct a miscue analysis mini-research inquiry on three second graders. Miscue analysis is defined as “a diagnostic tool that helps researchers/teachers gain insight into the reading process.” As the objective, pre-service teachers will mark and code for miscues to analyze student reading strategies. We will use our findings of the miscue study, to recommend instructional strategies to enhance student strength in reading.

161 • The Role of Pre-service Teachers' Perceptions, Views and Beliefs about Literacy: Implications for Reflective Practice in Teacher Education

Abigail Sayler, Sara Ertel and Lauren Petriello

Faculty Sponsor: Maria Liwanag, School of Education

This research investigates how pre-service teachers' beliefs about literacy are shaped by their experiences and studies. This is important as they transcend into their teaching philosophies and influence their teaching practices (Cochran-Smith & Lytle, 1999, Hoffman & Pearson, 2000). The research from spring 2011 focuses on the initial stage of a longitudinal study that seeks to create a database to help assess the impact of teacher education. Research will focus on a specific group of students, Childhood with Special Education majors who completed Curriculum 313: Classroom Reading and Literacy Programs, and the literacy belief surveys they completed throughout the course. Semi-structured interviews will also be used to gather data about education students' personal beliefs about literacy and teaching reading. Information collected from the research will be used to understand what methods are most efficient when trying to help pre-service teacher's become reflective practitioners.

162 • Evaluating Basals (Houghton Mifflin): A Response to What Makes a Text Engaging

Candice Felice, LeAnn Loft-Brewster, Angela Nguyen, Arielle Fleisher, Josh Nielson and Jackie Sherman

Faculty Sponsor: Maria Liwanag, School of Education

We selected 5 texts from a basal reading program, called Houghton Mifflin, to evaluate what makes a text engaging. Using the Basal checklist, pre-service teachers will be surveyed to evaluate the basal texts selected. The results will be reported on a 1-5 rating scale based on what makes a basal text engaging. The rating will be based on the class developed basal checklist. The Houghton Mifflin basal texts are leveled for second graders.

163 • Reading Miscue Analysis to Understand the Reading Process

Jessica Stoneham, Melissa Feldmann, Brandon Graham, Kacie Borland, Jenna Hathaway and Karista Lewis
Faculty Sponsor: Marie Liwanag, School of Education

We will conduct miscue analysis on three students to see what their reading scores reveal about the individual students strengths and needs. We will examine how miscue coding gives us insight on the reader's knowledge of language and meaning. After performing miscue analysis on each student we will determine if their reading is syntactically acceptable, semantically acceptable, and will explore any meaning changing in their readings. We will examine the process of student's comprehension by noting the student's patterns of self-correction, repetitions and evidence of prediction. Though this mini inquiry we will gain a better understanding of how the reading process works.

164 • Using Multicultural Literature to Encourage Critical Thinking Skills

Jessica Witkowski, Jenna Fontaine, Hannah Porter, Lauren Tellgren, Laura Preston and Alexa Walters
Faculty Sponsor: Maria Liwanag, School of Education

The goal of this study is to determine how multicultural literature encourages critical thinking skills in the classroom. In order to do this, we will conduct a literature discussion between pre-service teachers. We will tape record three discussion sessions with pre-service teachers in which we will ask specific questions. Questions we will highlight in discussion will be on: 1) experiences with reading multicultural text, 2) lessons learned from reading different culture, and 3) how best to use the resources in the classroom. As pre-service teachers, we need to explore that as diverse groups in the classroom grow, it is the teacher's job to meet the needs of all students and introduce all students to various cultures.

165 • Evaluating Harcourt Trophies Basals: What Makes a Text Engaging

Lauren Kmetz, Kathryn Hoffman, Jaclyn Williams, Elise Brunelle, Adam Stinnett and Andrew Kopp
Faculty Sponsor: Maria Liwanag, School of Education

We will be conducting a survey of pre-service childhood education teachers at SUNY Geneseo currently enrolled in blocks 1, 2 or 3. These surveys will ask for an evaluation of the Harcourt Trophies Grade 5 theme 1 and theme 3 books. We will be evaluating what pre-service teachers believe makes a basal text engaging. We will compare the results of the survey to what experts (Garan, 2007, Goodman, Maras, Birdseye, 1994) say about basals. We will use a randomly selected group of five texts that are within this basal. We will report these results in this mini-inquiry poster.

166 • The Government of the People by the People: An In-Depth Look at the Evolving American Narrative

Betsy DeWitte

Faculty Sponsor: Ann Marie Lauricella, School of Education

This unit plan takes an in-depth look at the formation of the United States. Titled: The Government of the People by the People: An In-Depth Look at the Evolving American Narrative uses primary and secondary sources to interpret and analyze the founding principles of American democracy. Unit questions explore Jeffersonian America, the inclusion and exclusion of the people who have and those who have-not. By investigating documents such as the Articles of Confederation, the Bill of Rights, the Constitution, and the Great Compromise, students will gain insight into the varying perspectives inherent in the building of democratic government. In all, this unit was designed to give students the opportunity to "do history" using primary sources and connect the developments since the inception of the United States to their lives as active and engaged citizens.

167 • Social Networking

Hannah Brown

Faculty Sponsor: Elizabeth Hall, School of Education

The poster presentation will be based on the concept of social networking and how social networking is primarily done through computer networking sites. My student will be surveying the student population here on the campus to find out their favorite sites and how much time they invest in using them.

168 • The Integration of Game-based Learning

Natalie Bladis, Debra Ford and Janeanne Lepage

Faculty Sponsor: Kathleen Sugarman, School of Education

The use of video games for educational purposes is growing both in and outside the classroom. In an age where children are growing up as digital natives, the importance of incorporating technology into the educational curriculum is increasing. Video games can be used in a variety of different contexts for teaching, reinforcement and assessment. Topics in our research include the value and merit of video games as an educational tool, and youth adaptation to video games. There will be a focus on research and educational studies which demonstrate the use and effectiveness of video games for increasing student achievement and performance. Specifically, we will look at the effectiveness of video games as educational tools when used in a variety of age groups. Our research will also examine teachers and parents perspectives on the increased use of video games and technology. In research about digital game-based learning, the likely negative perceptions of parents are often enlisted as a barrier towards the adoption of games in classroom settings. Through our presentation, we hope to raise awareness about video games as educational tools.

169 • EMMA-IDS Project

Katherine Ksiazek, William Jones and Caitlin Pemberton

Faculty Sponsor: Brian Morgan, School of Education

The Information Delivery Services (IDS) search engine serves a consortium of 60 libraries sharing resources to help students obtain necessary research and other academic materials. A usability study was conducted in the Eye Movement Miscue Analysis (EMMA) lab of SUNY Geneseo's School of Education to determine how participants interacted with the IDS search engine. Analysis of this interaction will aid in the development of the IDS search engine. EMMA is a methodology where a participant's eye movement during reading is tracked while his or her oral reading is recorded (Paulson & Freeman, 2003). Using the EMMA framework, we designed a methodology that supported the collection of eye movement patterns. We triangulated this data with the participants' interactions with the IDS search engines by capturing their think-aloud and completion of the task. This presentation showcases some of the participant responses and suggestions for the development of the IDS search engine.

170 • KKIS: Keeping Kids in School

Chelsey Barker, Steve Bennett, Zachary Bodenweber, Katherine Brooks, Megan DiBartolomeo, Erin Harding, Daniel Hart, Kara Johnson, Molly Jones, Jenna Marcellus, Stan McKay, Alison Payne, Lauren Pearsall, Adam Reinemann, Matt Romanow, Jonathan Schillace, Leah Tingley, Cindy Trieu, Laura VanEtten and Alexandra Yauney

Faculty Sponsor: Brian Morgan, School of Education

Keeping Kids in School [KKIS] evaluates the impact of a two-week summer camp. A Saturday School follows the summer camp, the camp completed its fourth year. The Saturday School meets weekly during the semester for 10-12 sessions. KKIS will compare the graduation rate of campers to that of the district's students at large. In 2007 this rate was 39%, in 2008, the rate jumped to 47%. A new superintendent had addressed the problem by offering courses non-graduates needed for their diploma during the summer. This rate was expected to rise to about 50% in 2010. Graduation rates in the many US cities are below 50%, the national rate hovers around 70%. Most dropout research examines statistics. KKIS researchers ask the students what keeps them in school. The participants experience many of the same risk factors, such as poverty, segregation, inadequacy of school funding, which contribute dropping out. KKIS expects to determine factors that keep our participants in school. Research shows that summer programs are effective in improving school success, but we have found other factors emerging in the course of the data analysis, these include agency, narratives of success, and school ideals.

171 • Location Matters...Or Does it?! - Teaching New York State Geography in an Elementary Classroom

Meghan Wright

Faculty Sponsor: Ann Marie Lauricella, School of Education

Since geography impacts so many aspects of life, it is critical for students to understand the geographic region in which they live. A class field trip while taking CURR 317 (Social Studies and Curriculum Integration) at "GeoFest" sponsored by The New York Geographic Alliance entitled: The Geography of Fresh Water, inspired this unit. After attending the all-day conference, I considered how to meaningfully explore location with elementary school children beyond the coloring of maps and basic state facts. Accordingly, the unit was designed to look deeper into the topography of an area and consider the people who call the region home. This unit design addresses many aspects of New York State Geography incorporating human and physical geography to consider, how much, if at all location, based on physical geography alone, matters to the people who live in a particular region. Topics covered in this unit include: New York State physical geography, weather patterns, the Erie Canal, and population (including demographics). Other topics within the unit include NYS geographic history, natural and industrial resources, urbanization, and tourist attractions and leisure.

172 • The Great Divide: Was the Revolutionary War Necessary?

Alyssa Hewitt

Faculty Sponsor: Ann Marie Lauricella, School of Education

This integrated unit plan combines historical facts and literature with student-centered learning activities to discover the underlying causes and outcomes before, during, and immediately following the American Revolutionary War. During the 1770s Great Britain had control over the land and people in North America. They created colonies along the Eastern coast of what is now the United States from Maine, down to the Southern tip of Georgia. The newly forming nation had mixed feelings toward Britain's control. The great divide separated those in favor of a revolution and independence (mostly colonists) from those in favor of remaining under British control (British soldiers and some colonists). This unit incorporates primary and secondary sources into lessons led by both the teacher and the students, fostering critical thinking and analysis. The lessons were designed to use different media, such as videos, PowerPoint presentations, and a teacher-produced simulated game, with books and paper copies of primary sources.

173 • "Does Religion Unite Us or Divide Us?"

Jessica Pasik

Faculty Sponsor: Ann Marie Lauricella, School of Education

After researching various world religions (specifically Hinduism, Buddhism, Judaism, Christianity and Islam), I created a unit plan that addresses the potential religion has to both facilitate unity and cause strife. In this unit, students studying world history in 6th grade will engage in an analysis of these five religions as they compare and contrast the unique aspects of each

while also examining the historical contexts in which they developed and their subsequent impacts on society. In an age where toleration of differences is very low, students will gain both an understanding and appreciation for various systems of beliefs.

174 • Secondary Prevention of Violence: Bibliotherapy

Katie Clerkin, Erica Joyce, Christina Patrick, Amy Klymkow and Abigail Sayler

Faculty Sponsor: Michael Rozalski, School of Education

Research shows that school-age children who display aggressive behavior are more likely to be delinquent or depressed, abuse drugs or alcohol, drop out of school, or become early parents. As a secondary level prevention and support to the implementation of Second Step, bibliotherapy has been used in local schools to prevent and reduce violence. In this presentation, we will highlight the definition of bibliotherapy, share practical resources about its use and implementation and present implementation data from various schools that suggest bibliotherapy can be effective at reducing students' violent behavior. We will also highlight how parents can become partners in implementation, identify resources and strategies that will foster curriculum adoption and evaluation, and discuss barriers associated with large-scale implementation.

175 • Primary Prevention of Violence: Second Step

Emily O'Leary and Katie Clerkin

Faculty Sponsor: Michael Rozalski, School of Education

Research shows that school-age children who display aggressive behavior are more likely to be delinquent or depressed, abuse drugs or alcohol, drop out of school, or become early parents. Second Step, a violence prevention program, is widely used across the United States and may be a means to prevent some aggressive behaviors in students. In this presentation, we will highlight the three program components: empathy training, problem solving, and anger management and present multiple years of data from various schools (grades K-5) that suggest Second Step can be effective at reducing violent behavior. We will also highlight our methods (e.g. surveys, focus groups) as well as share student and teacher perception data. Finally, we will discuss how parents can become partners in the curriculum presentation, identify resources and strategies that will foster curriculum adoption and evaluation, and discuss barriers associated with large scale implementation.

CONCURRENT PRESENTATIONS

SESSION 1 • 9:40-10:55AM

Session 1-A • Anthropology

Welles 115

Mantled Howler Monkey Research on Isla de Ometepe, Nicaragua

Note: Posters 16, 17, 18, and 19 also deal with Mantled Howler Monkey Research

Faculty Sponsor and Session Chair: Barbara Welker, Anthropology

Vocalizations in Mantled Howler Monkeys

Shana Wierchowski

Mantled howler monkeys, *Alouatta palliata*, are one of the most vocal species of primate. While they are most well known for their characteristic male roaring, they produce a variety of other vocalizations as well. The vocal patterns of any primate reveal a great deal about their social organization and group dynamics. Most previous studies have focused only on male calls and ignored vocalizations within the rest of the group. This study sought to describe and analyze the vocalizations of a group of mantled howler monkeys on the island of Ometepe, Nicaragua. Ad lib sampling was used to describe and categorize calls, with particular attention given to context, i.e. animal activity and possible stimuli, as a means to understand social patterns underlying vocal patterns. Multiple sound types and their associated contexts were recorded over a 2 1/2 week period from 29-XII-10 to 14-I-11. Results enabled the ranking of individuals within the group as well as the group's relations to neighboring howler groups.

Mantled Howler Monkey (*Alouatta palliata*) Resting Orientation and Directional Locomotion on Ometepe Island, Nicaragua

Thomas Kohlmann

Mantled howler monkeys have a predominantly folivorous and low energy diet and any energy expenditure that can be avoided is beneficial. Several researchers have noted the tendency whereby resting howlers will orient themselves, prior to group movement, in the approximate direction in which they subsequently travel. A group of mantled howler monkeys on Ometepe Island, Nicaragua was observed from 30-XII-10 to 14-I-11. The directional orientation and locomotion of adult males and females was recorded using focal animal sampling and the differences between stationary and mobile orientation were calculated. Results were strongly significant $\chi^2=160.4$, $df=8$, $p<.01$) with 43.3% of initial locomotion falling within 20° right or left of resting orientation with no difference between males and females (44.4% and 42.3%, respectively). Of interest is the fact that the frequencies for male and female movements, within any of the possible directional ranges (in 40° increments), was highly correlated ($n=9$, $r=.983$, $p=.000$), also suggesting coordination of movement. While the adaptive significance of this behavior is obvious, if it saves energy, the mechanism by which howlers acquire the behavior is not. There is a substantial disparity in the intelligence involved, between an animal exhibiting a simple, taxis-like movement versus one displaying planned locomotion.

Canopy Density and Prehensility in Mantled Howler Monkeys, *Alouatta palliata*

Nathan Thayer

The relationship between forest structure and tail prehensility is a topic that has garnered little attention. The objective of the present research focuses on how canopy density affects prehensile tail use in mantled howler monkeys. The study site is Isla de Ometepe in Nicaragua. Data were collected on three separate mantled howler monkey groups during a 3 week period in December 2010 and January 2011. The sites varied in terms of canopy density. Prehensile tail use was highest in the forest area (Coffee Plantation) with the lowest average canopy density. In the densest forest (Waterfall Area), monkeys exhibited a lower frequency of tail use. The third area (Beach), while having an overall intermediate level of canopy density, was the least homogeneous in terms of density variability. It is of interest that the monkeys adjusted their prehensile tail use to local canopy conditions in the Beach area. My data suggest that forest density is inversely related to prehensile tail use.

Bridging Arboreal Corridors for Mantled Howler Monkeys

Thomas Kalnik, Benjamin Sapadin and Shana Wierchowski, SUNY Geneseo, Zachary Brecheisen, University of New Mexico- Las Cruces and Thomas Nixon, Regis University

Clear cutting by the power company on Isla de Ometepe, Nicaragua has led to habitat loss and isolation of various groups of mantled howler monkeys (*Alouatta palliata*). Maintaining habitat continuity is important for preserving genetic diversity within populations as well as ensuring adequate resources. Artificial bridges have been used in various parts of the world as a solution to anthropogenic forest fragmentation. Disruption of previously existing arboreal corridors on Ometepe has resulted in increased terrestrial road crossings by the monkeys and attacks by dogs. We constructed and installed three rope/wood bridges in January of 2011 to reconnect two areas that had been fragmented by power lines. Each area involved a monkey group having been separated from a portion of their home range. The bridges spanned one and two gaps, respectively. Before leaving the island, we had already received one account of the monkeys using one of the bridges. Plans are underway for bridge construction at the sister site in Costa Rica, also maintained by the Maderas Rainforest Conservancy.

Session 1-B • Biomathematics

Newton 203

Faculty Sponsors and Session Chairs: Gregg Hartvigsen, Biology and Christopher Leary, Mathematics

Braaaaains: Three Mathematical and Computer-Simulation Based Models of SUNY Geneseo Humans vs. Zombies

Kim Hall, Willie Herman, Alexandra Ribaud and Mark Lambert

Humans vs. Zombies is a game played nationally across college campuses in which human players must 'survive' for a certain amount of time against a growing number of 'zombie' players by defending themselves with Nerf™ weapons. Humans vs. Zombies at SUNY Geneseo undergoes many modifications each game to create the most balanced playing experience for all participants. We designed three different models to evaluate potential changes to the game's rules: a system of difference equations, a neighborhood-based cellular automaton model, and a directed movement lattice-based model. In particular, we look at the effect of space, both between the different models and within the lattice based model. Another concern is the starting parameters for the game, particularly the number of starting zombies. Our results indicate that to avoid starvation early in the game, zombies need to have early success to bolster their numbers. However, their growth needs to be curtailed after a short time to allow the humans any chance of surviving the game. These results could be used by the game administrators to help balance future games and provide us with a better understanding of how space affects models.

Pertussis in the Developed World: Testing Vaccination Strategies Using Realistically Structured Models

Katelyn Gayvert, Kristy Semenza and Brian Zegers

Pertussis (Whooping cough), caused by the bacteria *Bordetella pertussis*, is a leading cause of infant mortality worldwide due to severe coughing fits that often result in further complications of apnea and pneumonia. Despite long-standing vaccination programs in most developed countries, epidemics still occur. A differential equation SIR model with three distinct age classes of infants, school age juveniles, and adults was devised to capture the periodicity of pertussis epidemics. By taking into account this periodic behavior, the model becomes applicable to current trends of pertussis outbreaks. A network model with interacting family units also was constructed to model the spread of pertussis in small communities. We find that implementing a vaccine program for juveniles in addition to current programs, which vaccinate ninety percent of children under six years of age, is a cost-effective approach to curtailing pertussis incidence. We hope our results can be applied more broadly to large developed nations in addition to developing countries where pertussis is more lethal.

Modeling Tuberculosis in Sub-Saharan Africa

Angela Spicciati, Chelsea Ahrens, Katherine Wood and Bryce Ledner

Tuberculosis (TB) is a bacterial disease spread by airborne transmission. It affects 14 million people worldwide, with the majority of cases occurring in Sub-Saharan Africa. There has been an increased public health concern for individuals infected with tuberculosis because of drug-resistant strains and the prevalence of HIV-Tuberculosis co-infection. We model how HIV infection affects the transmission and prevalence of TB in a small-world network. We explore the effects of drug resistant strains of TB in the network and compare the results against a differential equations model. Our model reflects an increased prevalence of TB in a population with HIV positive individuals, which parallels the demographic in Sub-Saharan Africa. Our differential equations model has a non-trivial stable equilibrium. The network model suggests that an early detection and treatment of latent TB in HIV positive individuals may reduce TB prevalence in Sub-Saharan Africa.

Session Chair: Cristina Geiger, Chemistry

Chemistry Honors Thesis: Synthesis, Gelation Studies, and Spectroscopic Studies of Aggregated Cholesterol Based Low Molecular Weight Gelators

Melissa Lamson

Faculty Sponsor: Cristina Geiger, Chemistry

This investigation will report on the synthesis, gelation studies and spectroscopic characterization of three cholesterol-based gelators: cholesteryl-biphenoxyoctanoate (MB8C), dicholesteryl-4-4'-biphenoxydioctanoate (DB8C) and cholesteryl-biphenoxybutanoate (MB4C). n-Octanol proved to be an effective solvent to obtain stable gels at 2% (w/w). UV-vis absorption, emission, and induced circular dichroism (ICD) studies were performed to investigate the aggregative nature of these chromophores in the gel state as compared to their monomeric behavior in dilute (10⁻⁵ M) n-octanol solutions. UV-vis absorption and emission data revealed a blue shift in the absorbance and emission spectra of each gel, when compared to their 10⁻⁵ M solutions. Thus, all three gels form H-aggregates with a transition dipole moment of the biphenyls lined up in a head-to-head manner. Also, the gels show a loss of vibrational structure in its emission spectrum as compared to the gelator in a 10⁻⁵ M solution. Induced circular dichroism spectra showed that these gelators form chiral aggregates in the gel phase. At room temperature, DB8C and MB8C give a positive exciton ICD spectrum, which consists of a positive first Cotton effect and a negative second Cotton effect. This suggests that two dipoles are oriented in a clockwise direction when they interact in the excited state. However, MB4C gel shows a negative exciton ICD spectrum, which consists of a negative Cotton effect first and is followed by a positive Cotton effect, which indicates that the two dipoles orient in a counter-clockwise direction. An unusual inversion of the ICD spectrum was observed for the 2% DB8C gel as the gel was heated. These 2% gels show a large temperature dependence, as demonstrated by changes in their ICD spectrum upon heating and cooling. All gels were ICD silent above their phase transition temperature (T_g).

Chemistry Honors Thesis: Designing an Undergraduate Lab Experiment: Synthesis and Characterization of Syn and Anti Additions

Denise Femia

Faculty Sponsor: David Johnson, Chemistry

A new undergraduate laboratory experiment is presented that utilizes ¹H NMR spectroscopy to examine the stereochemistry of two addition reactions to the alkene trans-1,3-bis(methoxycarbonyl)-4-cyclohexene. Specifically, students will determine whether the epoxidation and bromination reactions to this alkene occur in a syn or anti fashion. Trans-1,3-bis(methoxycarbonyl)-4-cyclohexene is prepared by a Diels-Alder reaction from butadiene sulfone and trans-dimethyl fumarate. The product then either undergoes epoxidation with 3-chloroperbenzoic acid or bromination with pyridinium tribromide. The ¹H NMR spectra of the reaction products demonstrate that epoxidation occurs in a syn fashion and that bromination occurs in an anti fashion. The reaction sequence is repeated with butadiene-2,2,5,5-d₄ sulfone to greatly simplify the ¹H NMR of the final products. This experiment is suitable for an undergraduate organic chemistry laboratory and demonstrates how ¹H NMR spectroscopy can be used to determine the stereochemistry of addition reactions. It also illustrates how the determination of product stereochemistry leads to an understanding of the reaction mechanism.

Chemistry Honors Thesis: Synthesis and Characterization of Luminescent Platinum Complexes

William Nack

Faculty Sponsor: James McGarrah, Chemistry

Organometallic platinum complexes of the general formula Pt(ppy)(X)(PPh₃) (ppy = 2-phenylpyridine, X = CN, Cl, and PPh₃ = triphenylphosphine) were synthesized for evaluation as phosphorescent materials in solid state lighting technologies. Structural characterization of these complexes was performed by x-ray crystallography and Nuclear Magnetic Resonance (NMR) spectroscopy. The luminescence properties of these complexes as characterized by absorption, emission and luminescent lifetime spectroscopies will be reported. These results as well as their implications for the applicability of these complexes as phosphorescent dopants in solid state lighting technologies will be discussed in detail.

Session 1-D • Communication

Welles 119

Comm 253- Advertising campaigns for nonprofit organization

Faculty Sponsor and Session Chair: Ginni Jurkowski, Communication

Overview

Ginni Jurkowski

Community Action Group works on improving the quality of life for all Wyoming County residents through focusing on meeting the needs of the low income and disadvantaged population, and in promoting the personal and family growth of their constituents as they move toward self-sufficiency. There are multiple projects that help them meet this goal. Teams of students in the Media Advertising class (Comm 253) focused on specific projects and developed the strategies, tactics and collateral materials to assist the agency meet their goals. Using research skills, subject matter experts and creativity, advertising campaigns were developed and presented to the nonprofit agency.

Mudpies and Milestones

Jonathan Mushock, Mary Ragus, Alicia Schaumberg and Allison Sirica

The administrators of Mudpies and Milestones childcare center wanted to lower the vacancy rate from 20% to 10% . A low budget campaign that would reach the target audience and portray the center as a safe environment that fostered a child's "need to explore" was developed. Creative strategies and tactics were developed following a specific timeline. The unique selling points of interactive learning and income based tuition were the foundation.

Weatherization

Ashley Grove, Erin Moran, Sara Pacer, Selynda Spitale and Nathan Traino

The goal was to increase awareness of the not-for-profit and for-profit weatherization divisions of the Housing Division.. Demonstrate to homeowners the importance of weatherization. Increase the number of clients by 10%. Use creative strategies to make these services easily recognizable online and in the community.

Angel Action

Lauren Aman, Alex Dockstader, Rebecca Kluberdanz and Erin Mansouri

Increase awareness and participation in a hair cutting event for children going back to school. Target varied audiences including hair stylists, parents, grandparents, caregivers and children. Be sensitive to kids reactions by peers to a free event. Make a replicable plan that could be used across New York State.

Session 1-E • Edgar Fellows Capstone I

Welles 121

Faculty Sponsor and Session Chair: Olympia Nicodemi, Edgar Fellows Honors Program and Mathematics

Why We Teach the Way We Do: Ways to Teach Mathematics in the Classroom

Michael Casamassima

Each educator brings a unique style to the classroom, but must be effective in addressing the needs of students. Although teachers may have the authority in the classroom it's really the students that run the show. Students vary in almost every way and educators must note, respect, and foster these differences. Learning theorists like Jean Piaget and Lev Vygotsky have studied children and have provided great insight to better understand the working of a child's mind. These findings will help any educator reach out to more of their students, especially in the mathematics classroom. Together we will discuss the findings of Piaget and Vygotsky and explore how they aid in enhancing the mathematics learning experience. **Mentor: Edward Wallace**

Teaching Students of Other Languages

Kelsy Cocozzo

According to the Department of Education (2010), 21% of school age students speak a language other than English. One in twenty of these students are not proficient in English. Though the number of English language learners (ELLs) is increasing, New York State does not provide any type of recommended model for teachers to follow in order to effectively teach these students. This project explores the most efficacious instructional methods for teaching English to students who are native speakers of other languages through a literature review and interviews with teachers of ELLs in the Rochester area. **Mentor: Annmarie Urso**

Issues of Racial Equity in Greater Rochester Area Schools

Danielle Boselli

On February seventh of this year, the New York State Board of Regents presented a study suggesting that among the state's five largest school districts, Rochester graduated the fewest percentage of students prepared for an undergraduate college sequence in the 2005-2006 school year. These disheartening results reflect ongoing issues of racial and socio-economic equity in the Greater Rochester Area schools that have permeated the districts for decades. As proactive reform, the Rochester City School District has facilitated the growth of magnet schools, college-preparatory schools, voluntary desegregation programs, and charter schools to better meet the needs of students and bolster national test scores. The purpose of this project is to examine the myriad of programs and practices that politicians, school administrators, and teachers have enacted to mitigate the achievement gap that exists between students of differing races and socio-economic statuses in the Greater Rochester Area school districts. **Mentor: Annmarie Urso**

Studying the Effect of the Age Variable of Manual Language Learners

Alexa Schuessler

Significant and well-documented research has been done leading to the conclusion that younger students learn oral language more quickly and effectively. While manual language and oral language are comprised of many similar elements, each language modality requires the use of different parts of the brain. To assess the congruence age's affect on manual and oral language, I taught a six-week American Sign Language class to two groups: a second-grade class at Dalton Elementary and a university class at SUNY Geneseo. This presentation will address my findings, unique experiences and difficulties I discovered while completing my research. **Mentor: Douglas MacKenzie**

Session 1-F • Edgar Fellows Capstone II

Welles 123

Faculty Sponsor and Session Chair: Olympia Nicodemi, Edgar Fellows Honors Program and Mathematics

Building "The Republic of Heaven": An Exploration of Philip Pullman's His Dark Materials Trilogy

Cassandra Lange

This project looks at *The Golden Compass*, *The Subtle Knife*, and *The Amber Spyglass*, Philip Pullman's controversial fantasy novels for young adults, as works in the British tradition, in the sci-fi and fantasy tradition, and simply as theological philosophy on Eve's "fortune fall" and the fact that sin is what makes humanity worthwhile. **Mentor: Alice Rutkowski**

The Real Jane Eyre: Sorting Through Resurrections, Séances, and ESP to Find Bronte's Heroine

Katherine Hart

This project, which focuses primarily on Charlotte Bronte's *Jane Eyre*, explores Jane's ultimate purpose in the novel. During a key scene, Jane is compared to Christ at the crucifixion. Bronte was writing in an era when such ideas were considered highly sacrilegious, so one has to wonder what extreme statement Bronte was trying to make by using this comparison in her novel. When we begin to consider the other layers of the story, including many of the somewhat conflicting Gothic and Romantic elements, some interesting possibilities emerge. Jane as a Goddess? Saint? Martyr? Witch? Feminist super hero? This presentation will attempt to sort through these different identities, looking through the lens of Jane as a Christ-figure, in an effort to find the real Jane. **Mentor: Paul Schacht**

A Story of Ethnic Germans in Hungary: From their Origins to their Expulsion

Sierra Hunt

The origins of ethnic Germans in Hungary can be traced back to the 1700's, when the Ottomans were driven from Hungarian land and the Habsburg Empire promoted German migration to the unoccupied area. Known as the "Great Swabian Migration", these Germans set up various villages around the present day capital, Budapest. When the Treaty of Trianon reestablished European borders after World War I, the Germans suddenly found they were enclosed within the borders of a foreign country. This paper traces the history of ethnic Germans to Hungary and continues this history through the personal stories of two ethnic German families beginning in the 1930's. Unaware of the political events shaping their lives, these families dealt with devastation, death and imprisonment during World War Two, oppression during Soviet occupation, and finally expulsion from a land they had worked and lived on for over two hundred years. **Mentor: Thomas Greenfield**

Fiction, Form and Fathers: Narrative Growth of "Daddy's Girls"

Meghan Pipe

Fiction often does opposite things at once: it complicates and simplifies, it clouds and clarifies. The short story collection generated from this capstone explores that duality in the relationships between fathers and daughters. Specifically, this presentation will explore the writer's experience over the past year in crafting a narrative that, at the outset, was vastly different than the one that later emerged. It calls to question the influence of narrative form and structure not only on the construction of a story, but the content of the story itself. **Mentor: Rachel Hall**

Session 1-G • Edgar Fellows Capstone III

Welles 128

Faculty Sponsor and Session Chair: Olympia Nicodemi, Edgar Fellows Honors Program and Mathematics

The Promise of Brown: Educational Equality and the Courts

Joel Dodge

This presentation will look at legal and policy developments in the quest to achieve the educational equality for all students that was promised in *Brown v. Board of Education* in 1954 when striking down the inherent inequality of racially segregated schooling. The presentation will look at how the Supreme Court has wrestled with the weight and implications of that promise, with particular attention paid to the noteworthy cases of the last decade, *Grutter v. Bollinger* and *Parents Involved v. Seattle*. With these two decisions as the most recent governing precedents, what policies have schools around the country implemented to promote diversity and high quality education for all? What, ultimately, is the status of Brown's promise in 2011? **Mentor: Emilye Crosby**

Diversity and Curriculum at Geneseo: An Exploration of Geneseo's Historical Relationship with Racial Diversity

Sophia Lind

As the world continues to globalize, diversity and multi-culturalism become even more relevant components of our history and identity as a nation. Likewise, "diversity" has become an important concept in institutions of higher education. In recent years, racial incidents on campus as well as curricular debate have underscored the growing significance of racial diversity at SUNY Geneseo. Inspired by these events and dialogues, this presentation will investigate Geneseo's own historical relationship with racial diversity- the school's articulated values as related to racial diversity, the history of race and race relations on campus, and how the curriculum reflects, intersects, and interacts with issues of diversity. **Mentor: Emilye Crosby**

School Climate Reforms and Protective Buffers for the Psychological Well-being and Academic Performance of Gay Male Adolescents

Kyle Rodrigues

Previous research indicates that peer victimization and heteronormative school climates have strong negative effects on the psychological well-being and academic performance of sexual minority youths. In this context, peer victimization, commonly known as bullying, occurs when students attempt to harass, threaten, intimidate, or hurt other students because of their sexual orientation. School climate is measured by certain factors that help to create a comfortable and inclusive school environment for sexual minority students. Some of these factors include the professional staff's effectiveness in responding to victimization, the presence of sexual minority organizations, inclusive curriculum and awareness, supportive school personnel, as well as the presence of anti-bullying or harassment policies. Current literature has found that higher levels of peer victimization and poorer school climates have significant associations with lower academic performance and higher levels of depression, emotional distress, anxiety, and suicide among sexual minority students. This presentation will address these findings, but will primarily focus on the growing body of research that addresses effective solutions and strategies to reduce the negative influences on the psychological well-being and academic performance of sexual minority students. **Mentor: Jennifer Katz**

Dante: Pilgrim and Poet

Erica Mosher

In the Divine Comedy, the pilgrim Dante is spiritually transformed by his journey through the afterlife, similarly, the Comedy narrates the artistic growth of Dante as a poet. This presentation will explore the effects that Hell, Purgatory, and Heaven have on both personae. It will deal primarily with the text of the Divine Comedy and relevant scholarly articles, with nods to Dante's earlier works. **Mentor: Ronald Herzman**

Session 1-H • English

Welles 131

Fifteenth-Century Outlooks in Literature

Faculty Sponsor: Graham Drake, English

Session Chair: Robert Napier

The Tale of Gareth as a Bildungsroman

Timothy Caughlin

The Tale of Gareth as a Bildungsroman This paper is an exploration of Malory's Tale of Gareth in *Le Morte Darthur* as a precursor to the German and English traditions of the bildungsroman. The bildungsroman are characterized by a theme of self-development, and a hero who strives to use personal strengths for personal growth. The style can be seen in Dickens, and Joyce. The Tale of Gareth is typically seen as one of the 'Fair Unknown.' This romance is defined by Larry Benson as featuring, "A young man, either concealing or not knowing his parentage, undertakes an adventure to which he is guided by a scornful damsel, who heaps abuse on him until finally he proves himself worthy of the climactic adventure." (Malory's *Morte Darthur*, 97) This paper shows that when the tradition of the bildungsroman is combined with the 'Fair Unknown' style, more complete readings of the education and maturation of Gareth are obtained.

External Influences on the Writings of Christine de Pizan

Margaret Starostik

Albeit of unremarkable birth, Christine de Pizan led a remarkable 30 year career as the first professional female writer during the 15th century. Christine was born in Italy in 1364, well educated in France, married at the age of 15, had three children, and was widowed at the age of 25. Determined to support her family, Christine broke with the traditional roles assigned to women during this time period when women did not have legal rights and were considered man's property, and turned to writing. At first she wrote love ballads, many of which were dedicated to her husband, that attracted wealthy patrons of the court who then commissioned work from her. Progressively, Christine shifted away from prose and poetry and become involved in a literary debate in the early 1400's that established her status as a writer with a strong political voice and concern for women's role in society. This work examines many of the social, intellectual, and political events that acted as motive forces for her texts.

Session 1-I • English

Welles 132

"Is Shakespeare's Henry V Guilty of War Crimes?"

Faculty Sponsor: Julia Walker, English

Session Chair: Megan Nostro

Kaitlyn Coons, Sean Endress, Riane Flint, Janeanne Lepage, Emily Murphy, Megan Nostro and Karl Wissemann

We, the Students of the State University of New York at Geneseo, charge Henry V, King of England, with war crimes for his execution of the French prisoners of war after the Battle of Agincourt, contrary to common law.

Session 1-J • English

Welles 133

Beowulf, Boethius, and Bantering Shepherds: Voices from the Middle Ages

Faculty Sponsor: Graham Drake, English

Session Chair: Michael Mosher

Intentions and Actions: Their Relation to a Heroic Character

Emily Oberdorf

Although Beowulf takes many actions which can be viewed in a negative manner and seems to lack modesty towards his achievements, it is the intent behind his words and actions which leaves a lasting impression of grandeur. Beowulf proves through words and deeds that he is a hero. The boasts are made with care and the actions Beowulf takes are for the benefit of many rather than personal gain. By looking at the text, the question of whether or not Beowulf is a selfish character is resolved.

The Richest Are Not Always the Wealthiest

Daniel Schlant

In his 6th century work, *The Consolation of Philosophy*, the Christian philosopher Boethius offered commentary on subjects such as fame, fortune, and happiness that seems radical in today's materialistic society. Boethius felt that money actually carries very little value, and is actually a burden upon those who amass vast quantities. Wealth provides nothing in the way of happiness, for true happiness is found within one's self and one's family. Boethius' thoughts would no doubt seem foreign to a vast majority of current society. The extremely wealthy are set upon a pedestal above the rest of society, and their status is envied and sought by the masses. While rare, the values Boethius wrote of are not nonexistent. The Larges, a couple in Canada who won the lottery, are proof of this. Content with their simple rural lives and the companionship they share, the couple donated ninety-eight percent of their \$10.9 million draw to local charities. They perceived happiness not in their new found wealth, but in each other. They saw money as a burden rather than a prize. Their act of generosity is Boethius' ideals personified in today's culture.

The Second Shepherds' Play: "Coll's Speech"

Sally Profeta

Throughout the sixteenth and seventeenth century, English theater was significantly influenced by the success of medieval mystery plays not only because they were enjoyed by all facets of society, but also because they contained socio-political commentary relevant to the period in which they thrived. More specifically, *The Second Shepherds' Play* by the Wakefield Master was one of the most well-known medieval mystery plays of its time. A shepherd, Coll, makes a speech in the opening of the play that is particularly significant because it represents the dissatisfaction and woe that those in the peasant class suffered daily in a feudal hierarchical society. With closer examination, one can find specific literary devices used by the Wakefield Master in order to achieve greater appeal to his audience and succeed in portraying the hardship and oppression men like Coll endured. Undoubtedly, this medieval mystery play along with many others impacted greatly the future of professional English theater.

Session 1-K • English

Welles 134

Identity I: Families

Faculty Sponsor and Session Chair: Gillian Paku, English

Ineffectual Parenting in Jane Austen's *Pride and Prejudice*.

Justine Rosen

In Jane Austen's *Sense and Sensibility* and *Pride and Prejudice*, Elinor and Elizabeth are hindered by their ineffectual parents. Mrs. Dashwood and Mr. and Mrs. Bennet are unable to plan for the future or treat all of their children equally, instead they focus on the present and pick a favorite daughter. This preferential relationship with one child reflects each parent's own weaknesses, and therefore exacerbates the flaws of both parent and child. In spite of their parents' foolishness, Elizabeth and Elinor are able to grow into intelligent, practical heroines. This is largely because each is forced to take on a responsible role in their families that their parents cannot fill. Marianne and Lydia, on the other hand, are hindered by the preferential treatment of Mrs. Dashwood and Mrs. Bennet, respectively, and must suffer the consequences of their own and their mothers' folly. Although Marianne is able to learn from her mistakes, Lydia is less fortunate, her lack of sense leads her into a bad marriage which she cannot escape.

Home for Christmas

Erin Kuntz

Home for Christmas is a collection of eight poems about the bittersweet feeling of homesickness, the conflicting desire for independence, and the comfort of togetherness. This original work is relatable to many college students who have experienced mixed feelings about leaving home to explore themselves in a new environment.

Photo Frames

Gabrielle Gosset

In this selection of poetry, I illustrate relationships in relationships that are new constructions of families. From friends that become close enough to consider each other siblings, to relationships that develop into a promise to someday become family, the poems in this selection describe these "families" through the creative form of poetry.

A World Apart: Silko's Support of a Gynocentric Existence in Gardens in the Dunes

Sarah Graham

Leslie Marmon Silko is a Native American feminist and author of the 1998 novel *Gardens in the Dunes*, which focuses on the contradictions between repressed females in the patriarchal Western culture and self-determined Native American women. Her skillful storytelling expresses the power that can be drawn from being part of "collective sisterhood" that resists existing within the confines defined by patriarchy. Silko's representation of repressive upbringings of the character Hattie under patriarchy, her positive portrayal of self-determined sexuality through the experiences of female Native American characters, and the assertion of the existence of a "collective sisterhood" outside the influence of Western culture that welcomes all females that embrace matriarchy lays the foundation for Silko's stance of challenging accepted gender roles in a mainly patriarchal world.

Session 1-L • History

Welles 140

Identity, Ideology, and Vigilance: History Honors Theses on 19th Century American History

Faculty Sponsor and Session Chair: Justin Behrend, History

Urban Maroons: The Committee of Vigilance and the Antebellum Free Black Community of New York City

Adele Costa

Many academic and popular accounts of the antebellum world have drawn a firm regional line between the "bad," "slave-labor South," and the "good," "free-labor North." While it is true that the Northern states put an end to the legality of slavery before the Civil War, white supremacists and those who sympathized with slavery were still numerous in these areas, and were tenacious about taking advantage of vague policies and structural inequalities that threatened the liberties of the free black population. My paper focuses on the Committee of Vigilance, a New York City based, black-run organization active in the 1830's and 40's that specialized in combating these rights infringements and the attempted kidnapping of free blacks to the South. The committee's members and the affiliated community did not operate as if they existed in a "free" society. Rather, their radical methods as well as their cultural and spiritual fortifications more closely parallel traditional maroonage, and this framework may better account for how free New York blacks actually lived and viewed their place in a hostile social and political world.

In Dixie Land, I'll Take My Stand: Irish Identity in the South

Audrey Watkins

In this project, I am focusing on the presence of Irish in the southern states from the 1820s through the 1850s, and how these immigrants worked to establish an organized network that integrated Irish issues and American ideals. I will discuss the origins of the Catholic Church in the area, with some concentration on the Bishop John England, Charleston's first Archbishop. Bishop England was vital to the development of the church in South Carolina, and since he was one of the singular figures devoted to the south, he was also put in charge of the Catholics in a number of surrounding states. He played a significant role in the community at large, worked to dispel Catholic stereotypes, was respected by those of multiple denominations, and helped set up a valid Roman Catholic infrastructure in the regions under his charge, which resonated through the south as a whole. Hibernian societies and their activities also represent a main proponent of the Irish identity in the south. One of the key aspects of the paper and presentation is how the Irish capitalized on being patriotic towards both countries and how this helped them to adapt to their new situations.

How Few Remained: The Louisiana Tigers and Morale in the Civil War

Will Koch

I will be presenting a thesis about morale in the Civil War and the Confederate soldiers known as the "Louisiana Tigers." By examining their level of morale throughout the war and trying to determine what factors, such as casualties, victories, defeats, and leadership, I hope to explain how soldiers' morale rose and fell during the war. The Louisiana Tigers were widely considered to be among the Confederacy's best troops, yet they suffered from a high desertion rate, and I want to find out why. I am also trying to figure out what motivated the few hundred who surrendered at the end of the war to stay as long as they did, and what in particular kept them from deserting, conversely, I will also address the main reasons for soldiers' desertions.

Session 1-M • Mathematics and Physics

Newton 201

Session Chair: Edward Wallace, Mathematics

Modeling the F ring-Prometheus-Pandora Environment

Garreth Ruane

Faculty Sponsor: Aaron Steinhauer, Physics and Astronomy

A numerical model is developed to explore the particle dynamics of Saturn's F ring. Originally discovered in 1979 by the Pioneer 11 spacecraft and later imaged by the Cassini spacecraft, the F ring displays particularly unusual features. The ring is accompanied by two shepherding satellites, Prometheus and Pandora. Detailed images from Cassini show perturbations in ring particles during the closest approach of these satellites. The model considers F ring particles under the gravitational influence of a passing moon. Simulations illustrate the nature of ripple perturbations in the wake of shepherd moons.

Inversive Geometry

Lindsay Newcomb-Smith

Faculty Sponsor: Edward Wallace, Mathematics

This presentation will serve as a brief introduction to inversive geometry, a geometry which can be simply explained as turning a circle inside out. Through this transformation, all of the points inside of a circle are mapped to outside, the points outside of the circle mapped inside, the points on the circle are fixed, and the center of the circle is mapped to a point at infinity and vice versa. With circle inversion, the pre-image, image, and center points of the circle are collinear, with the distance from center to the pre-image times the distance from the center to the image is equal to the radius of the inversion circle squared. Surprisingly, certain lines become circles, and conversely, certain circles become lines, although, with inversive geometry, we can think of lines as generalized circles, circles of infinite radius, centered at a point at infinity.

Session 1-N • Mathematics

Newton 214

Mathematics: Pure and Applied

Faculty Sponsor and Session Chair: Patrick Rault, Mathematics

Fractions and Decimals and Long Division...Oh My!

Brian Knapp and Holly Melnikow

Many people see these terms and recall tedious work from their early math classes. However, there are interesting patterns and properties of fractions and their decimal forms that you have likely never discussed. In this talk we will explore the properties, causes, and consequences of these patterns. We will take special consideration with what are known as long primes. That is, primes, p , such that $1/p$ has a repeating decimal expansion of length $p-1$. Both majors and non-majors alike are welcome to come and discover these interesting patterns.

Measuring Cave Depth By Dropping Stones

Evan Losh

We determine a curve that cave explorers can use to determine the depth of a cave. If an explorer drops a stone from the top of a cave and measures the amount of time for the sound of the stone hitting ground to return to him, he can find the depth of the cave using our curve. We are responding to a recent journal article in which a solution is presented which needs improvement. Our curve is a numerical approximation that incorporates gravity, drag, and the speed of sound. Our result is a chart that cave explorers can carry with them and reference when they encounter caves of unknown depth.

On the Measure of the Intersection of Two Conic Regions

Kirill Lazebnik

Given two conic sections centered about the origin, it is natural to consider the area of intersection of these two regions. While this concept is geometrically intuitive, there are many interesting subtleties that arise when we proceed to calculate this area. Thus, given polynomials $f(x,y) = ax^2 + bxy + cy^2$ and $g(x,y) = Ax^2 + Bxy + Cy^2$, we calculate the area common to both regions formed by the boundary of $|f(x,y)|=1$ and $|g(x,y)|=1$. Furthermore, we take a look at the problem of finding the number of points with integer coordinates contained within a plane region and its relation to the area. The problem stems from Gauss' Circle Theorem, which shows that the amount of integer points within a circle is approximately equal to the area of the circle. This is a joint-research project with **Michael Bennett**, Michael Cerchia, Patrick Rault and Jeffrey Singer.

Session 1-O • Political Science and International Relations

Welles 24

Political, Economic and Environmental Dimensions of Trans-nationalism

Session Chair: Jeremy Grace, Political Science and International Relations

Chinese Expansion into the Western Hemisphere

Steven Carlson

Faculty Sponsor Edward Drachman, Political Science and International Relations

Chinese Expansion into Latin America In the recent history, and likely to continue well into the 21st Century, the Chinese have aggressively been working to secure energy supplies throughout Latin America. There are strategic and economic reasons for this action. However, it is not an ideological issue, China is willing to trade with whoever is willing to trade with them. I will analyze why this is occurring, how China is going about its acquisition, and what are the likely results of this expansion into the Western Hemisphere.

Engaging the Diaspora: Prospects and Pitfalls

Janna Cisterino

Faculty Sponsor: Jeremy Grace, Political Science and International Relations

New developments in international migration, communication, and technology have facilitated the growth of transnational politics. The scale of international migration today is unprecedented, as is the ability of emigrants to maintain relationships with individuals in their home countries as well as with their home governments. Countries around the world have recognized the importance of these emigrants. Emigrant-sending states wish to tap into the resources of their diasporas, whether these resources be in the form of financial contributions, knowledge and skills, or political support. Engaging the diaspora in order to extract resources is especially important for developing countries. There are a number of ways for countries to engage their

diasporas, including, but not limited to, rhetorical appeals, consulting diaspora organizations, extending dual citizenship, and offering incentives for financial contributions. This project will assess the benefits and drawbacks of the different methods that states use to engage their diasporas.

The Politics of Environmentalism in Modern Day China

William Labate

Faculty Sponsor: Tze-Ki Hon, History

This paper examines the limits of environmental activism in People's Republic of China (PRC), an authoritarian one-party state. During the past few decades China has undergone rigorous economic development resulting in a series of negative environmental externalities. In response, Chinese citizens have begun to resist many government development projects that come at the expense of their local environment. In their struggle, Chinese civil society must navigate through several barriers that the PRC places on dissent in order to avert challenges to their regime. This paper examines successful and unsuccessful strategies that civil society uses to achieve the aim of environmental protection. It also examines how the PRC responds to these protests in what could become a potentially explosive issue. In order to examine this issue at the local regional and national levels this paper analyzes three case studies on significant environmental conflicts within China. Several policy prescriptions are issued in order to suggest ways that both the government and civil society can more easily facilitate environmental discourse.

Session 1-P • Psychology

Welles 26

Campus Sexual Assault at Geneseo: Exploring the Problem and Possible Solutions

Faculty Sponsor and Session Chair: Jennifer Katz, Psychology

Severe Sexual Assault at Geneseo: Understanding Barriers to Reporting to the College

Jasmin Garcia

This study presents rates of attempted and completed rape from the Spring 2010 anonymous campus wide survey of 1701 students. About 8% of men and 15% of women reported rape or attempted rape due to force, physical incapacitation, or both, within our campus community. Many of these incidents, which were assessed using behaviorally-specific language, were not identified by the participants as reflecting "sexual assault". Furthermore, the majority of these incidents were not reported to any college officials. Common barriers to reporting severe sexual assaults to campus officials included minimization of the event, self-blame, embarrassment, and concerns about the utility of reporting to the college.

Social Behaviors at "Typical" Geneseo Student Parties and Risk for Sexual Assault.

Sara Hirsch

This study characterizes typical social behaviors at Geneseo student parties. Our focus was on social behaviors that have been identified in past research as reflecting high risk for sexual assault (e.g., heavy drinking, crude behavior, and verbal or physical aggression). In November and December 2010, current Geneseo students (N = 140) anonymously rated the typical social behaviors of people at the last Geneseo party they attended and provided open ended descriptions of these events. Over 90% of parties were held off campus. Student descriptions indicated that parties varied a great deal based on size and attendance. Some high risk behaviors (extreme drinking, evaluation of women's appearance) were extremely common, whereas some (e.g., physical aggression, segregation of women and men) were relatively rare. Unexpectedly, when asked to write a paragraph about "any memorable experiences" at parties, about 10% of study participants spontaneously described a possible sexual assault.

Informed Students' Attitudes About Geneseo Sexual Assault Education, Policy, Conduct, and Climate: Results from the SAT Facilitator Training Post-test.

Bridget Stith

This study characterizes the informed opinions of Geneseo students about addressing sexual assault on our campus. We surveyed two groups of students: those who participated in a series of nine training seminars about campus sexual assault in preparation for the Sexual Assault Teach In (i.e., facilitators) and those who attended the one-time Sexual Assault Teach In event in March (attendees). Both groups of students completed readings and engaged in group discussions with other students and with campus officials about sexual assault on campus. Following participation in these events, we asked both groups of students open-ended questions about the management of campus sexual assault at Geneseo. The need for additional education was commonly cited by both groups. Strengths and limitations of current campus procedures will be discussed.

Secondary Prevention of Campus Sexual Assault: Review of the Literature and Implications for Geneseo

Kelly Hendricksen

This study presents highlights from the existing literature on sexual assault prevention for high risk groups on college campuses. We will discuss strategies that seem to be helpful in promoting campus safety based on past studies. We will also discuss the possible implications of these empirically supported approaches for local programming.

Student Commentator: Meghan Vaughn

Session 1-Q • School of Business

South Hall 338

Session Chair: Peter Markulis, School of Business

Using a CA Model to Simulate Patience and its Role in Cooperation

Tyler Massaro and Kevin Pond

Faculty Sponsor: Farooq Sheikh, School of Business

In recent years, the study of game theory has offered a unique way for quantifying the actions of individuals pitted against each other in a given setting. While taking INTD 238: Exploring Game Theory last fall, we created a cellular automaton model in the R programming environment in an effort to analyze the emergence of cooperation in a world of patient (or impatient) individuals. We have since translated this model from R into C, allowing for more thorough testing to take place on the cluster operated by Dr. Homma Farian. In general, our model shows that the longer people are willing to cooperate before they begin to defect, the faster global cooperation will be achieved. Curiously though, in worlds of quick-to-defect, slow-to-cooperate individuals, pockets of cooperators band together and manage to persist for an extended amount of time. While these patches may simply be nothing more than anomalies of our model, they offer an optimistic perspective on how people will interact with those around them. In addition to covering basic discrete cellular automaton modeling, we present our results and their impact on economics.

Western New York Vital Signs: How and Why the WNYVS Reference Book was Developed

Samuel Reynolds, Timothy Brewer and Christina Saccocio

Faculty Sponsor: Paul Scipione, School of Business

Western New York is more than just a spot on the map between New York City and Toronto. More than 2.8 million people -- almost 1% of Americans -- live in the 17 counties of WNY. And more than 60,000 businesses and other employers operate here. So just how healthy is the economy of WNY? How can we separate truth from fiction? WNYVS is a unique book, whose 10,000+ facts and figures, color graphs and statistical maps will help business owners, government officials, the leaders of non-profit groups and individuals make informed, smart decisions for the future.

Development of an Organization Behaviors Simulation at Retail Industry Setting

Hye-Yeon Jeong, Samantha Legere, Kaitlyn Pettit, and Kevin Brayer

Faculty Sponsor: Peter Markulis, School of Business

Four students worked with Professor Markulis on an independent study (IS) project to develop a computerized simulation in the field of Organizational Behavior. The simulation puts students into the role of vicarious managers of a retail store and has them making a series of decisions in the area of organizational behavior. The students conducted research in the area of OB and developed a series of situations with accompanying decisions options for the simulation. There are 12 situations related to various OB topics such as motivation, team dynamics, leadership, communication, and politics. The entire program is based on dialogues among the virtual characters including a store manager, consultants, employees, department and corporate personnel, and the manager's colleagues. The simulation asks students to read through situations, research relevant decision options suggested by a consultant, and then, justify their decisions in a journal to assist the store manager to handle any issues in the organization. In this presentation, we are going to identify how we developed the simulation setting, the situations as well as the various related files and on how this simulation experience provides an opportunity for students to get familiar with organizational behavior topics and thus, acquire indirect real world experiences.

Session 1-R • School of Business

South Hall 340

SUNY Geneseo Fed Challenge Team Presents: An Economic Overview

Faculty Sponsor and Session Chair: Leonie Stone, School of Business-Economics

John Beitter, Vanessa Amaral, Kyle Menz, Matt Winters, Zubair Dawood, Sam Loeb, Maggie Fogg, Nick Stone, Nazibur Rahman, Alex Gudovich, Tony Proeitti, Minh Bui, Justin Kim, Iwona Drapala, Rob Kahrs, Patrick Daniels, Cara Eichenberger, Elson Cheng and Olivia Sluzar

The Fed Challenge students present an overview of the current macroeconomy, including (but not limited to) GDP growth, the labor situation, and recent actions taken by the Federal Reserve with time at the end for questions and answers..

Session 1-S • School of the Arts-Theater Robert Sinclair Theater (Brodie Blackbox)

Student Produced Plays and Musicals

Faculty Sponsor and Session Chair: Melanie Blood, School of the Arts-Theater

Jekyll & Hyde: An Examination of the Soul

Brian Clemente

Scenes and discussion relevant to the production of Jekyll & Hyde the musical and how it explores the concept of duality in man vs. what society tells us how we should behave.

Director - Brian Clemente

Musical Director - Adam LaSalle

Performers:

Henry Jekyll - Jacob Roa

Lucy Harris - Julia Masotti

John Utterson - Joshua Horowitz

Sir Danvers Carew - Bennett Marano
 Emma Carew - Alex Mendes
 Simon Stride - David Keyes
 Male Ensemble 1: Sean Leigh (Inmate, General Glossop, Street Person, Minister)
 Male Ensemble 2: .Cory Young (Bishop of Basingstoke, Bisset, Street Person)
 Male Ensemble 3: Mike Virga (Lord Savage, The Spider)
 Female Ensemble: Meaghan Castle

Senior Honors Project: The Fantasticks

Michelle Geisler

The presentation will cover my journey through this project from conception, to research, to the production itself.

Performers:

El Gallo - Adam LaSalle
 The Mute - Lauren Alaimo
 Luisa - Michelle Geisler
 Matt - Jonathan Mushock
 Bellomy - Joshua Horowitz
 Hucklebee - Nicholas Cotrupi
 Henry - Jacob Roa
 Mortimer - Russell Allen

Directing The Heidi Chronicles

Dana Giglia

Giglia directed Wendy Wasserstein's 1989 Pulitzer Prize winning play *The Heidi Chronicles* as a senior capstone experience for her Theatre/English Major. To understand the play's critique of the how Second Wave Feminism affected the life of art historian Heidi Holland, Giglia did a great deal of research into cultural events of the 1960's through 1980's to bring this text to life for her cast and audiences. Another challenge of this play for Giglia and her cast and designers is to play characters who age from 18 into their early 40's over the course of the play.

Performers:

Heidi Holland - Emily Cirincione
 Susan Johnston - Skylar Jameson
 Peter Patrone - Sean Miller
 Scoop Rosenbaum - Brandon DeFilippis
 Chris, Mark, Steve, waiter, and Ray - Talor Gruenwald
 Jill and Denise- Melyssa Hall
 Fran, Debbie, Molly, and Betsy - Kate Royal
 Becky, Lisa, and April - Amelia Millar

Session 1-T • Sociology

Welles 138

Ritual, Religion and Spirituality: Studies in Transformative Experiences

Session Chair: Steve Derne, Sociology

Psychedelic Research Resurgence

Andrew Demosthenous

Faculty Sponsor: Elaine Cleeton, Sociology

By the 1960's, more than 1000 peer-reviewed research articles detailed the use of psychedelic compounds. Passage of the Controlled Substance Act of 1970 classified psychedelic substances such as LSD, MDMA, and Psilocybin as Schedule 1 drugs with no medical value, interrupting research into the application of psychedelic compounds for well-being. New studies from institutions such as New York University, Purdue University, Harvard University, and Johns Hopkins University are producing evidence that use of these drugs in combination with psychotherapy may have potential value for treating mental illnesses such as addiction, mood, affective, and psychotic disorders. This project is concerned with the effects of these drugs on well-being and the reasoning behind the scheduling of these drugs at the highest level. I conducted six open-ended interviews with a snowball sample of college students about their recreational experiences with LSD, MDMA, and Psilocybin. Preliminary findings suggest that college students use these drugs as a tool for spiritual and emotional development. They report positive transformative experiences and improved relationships with family and friends. These findings support the continued expansion of research on psychedelic assisted psychotherapy for treatment of mental illness.

Rituals of Status Reversal in the Antebellum South: The Effectiveness of Rituals in Societies of Acute Social Division

Nora McGlynn

Faculty Sponsor: Steve Derne, Sociology

Anthropologist Victor Turner studied rituals of status reversal found in African tribes. Such rituals are designated points in the year in which groups of low status people have authority over the high. In **The Ritual Process** Turner writes that the ritual switching of groups work to refresh people to their usual places within their social structure. Although Turner takes multiple cultures into account, he only observed groups that were moderately divided, and he neglects time periods or societies of greater social tension. How effective are rituals of status reversal in society were there were greater social differences between

groups? By researching slave narratives from the Antebellum South, rituals of status reversal can be observed during the Christmas period. I found that although the Christmastime practices did ameliorate tensions between these groups, both the slaves and their masters manipulated the rituals.

Somatic Experiences and the Source of Religious Conviction

Joel Inbody

Faculty Sponsor: Steve Derne, Sociology

In an American Anthropologist article (Metakinesis: How God Becomes Intimate in Contemporary Christianity) (2010) Tanya Lurhmann highlights ways in which the body can play an integral part in creating conviction for modern day Evangelical Christians. In order to experience God in a personal, intimate way, believers may "identify... the presence of God (in) the body's responses" through "the absorbed state we call "trance"" and general "bodily and emotional experiences." From comments made during services at an Evangelical church, a study was conducted into whether or not somatic experiences (goose-bumps, tingles/prickling sensations, heat, etc.) could create conviction in the minds of believers. Interviews were conducted with fourteen attendees of Crossroads Christian Church in Elma, NY. It was found that ten out of fourteen individuals described one or more somatic experiences as a personal source of conviction for them. The importance of such things in creating a general sense of conviction varied. For three individuals, a somatic experience was their first evidence of the truth of Christianity. This research extends Lurhmann's conclusions in showing that even physiological reactions of the human body may play a role in creating a general sense of a higher reality in Evangelical circles.

CONCURRENT PRESENTATIONS

SESSION 2 • 11:05AM – 12:20PM

Session 2-A • Anthropology

Welles 133

Faculty Sponsor and Session Chair: Paul Pacheco, Anthropology

Pots for the People: Ohio Hopewell Domestic Ceramics

Aaron Kather

Ceramics are one of the most common and therefore useful classes of artifacts found at archaeological sites. In this study I focus on a large ceramic assemblage recovered between 2007 and 2010 by the collaborative SUNY Geneseo/Bloomsburg University summer archaeology field schools held at the Lady's Run site, which is located near Chillicothe, Ohio. This presentation will report the results of a semester worth of analysis done on the collection. My research included estimating the minimum number of vessels, identifying which ceramic types were present, hand drawing rim profiles, analyzing distributions of the vessels based on their context, and comparing the results to those obtained at the nearby Hopewell culture Brown's Bottom #1 and McGraw sites. Implications of the research for understanding Ohio Hopewell domestic habitation sites, such as how pottery was used, the extent to which it was traded, and the possible existence of activity areas delineated within the site by pottery distributions, will also be reported.

Doing Anthropology in the Business World

Chong Choe

The intellectual tools of anthropology are becoming increasingly prominent in the world of business. As companies now require a marketing niche that caters to a global market rather than a smaller national market, entrepreneurs and executives are dealing with contemporary challenges and new opportunities to develop a competent business strategy. The fundamental challenge for all businesses is that their employees must learn to work with other employees and consumers from unfamiliar backgrounds in a multicultural setting. In this presentation, I will explore the ways in which anthropology can help individuals to cultivate their cultural intelligence, and thus enhance their flexibility and efficacy in the diverse business environment. In addition, I will follow case studies where ethnographic research and a cross-cultural perspective were used in business domains such as cross-cultural/global marketing, advertising, and understanding consumer behaviors.

Making and Firing Hopewell Pottery

Kara James

Between 200 BCE and 500 CE, Hopewell culture was flourishing across much of Eastern North America. They were living in dispersed sedentary households, and engaging in low-level food production, however, they are best known for building the large conglomerations of earthworks and mounds scattered across the Ohio Valley. Their impressive mounds have been excavated and documented, but not much is known about the domestic lives of these people. As archaeologists have started excavating Ohio Hopewell domestic sites, they have noticed that pottery not only is important in their burials, but also plays an important role in their daily lives as features associated with their dwellings contain many broken pieces of pottery. The pottery from both the domestic sites and the mounds has been classified, but archaeologists have not tried to recreate Ohio Hopewell pottery-making methods. This past semester, Geneseo student Kara James has been doing experimental research on the temperature firing ranges that the Ohio Hopewell used for their pottery production. This presentation is based on her research, findings, and methodology.

A Structural Analysis of a Hopewell House

Noah Kanter

The domestic structures of the Ohio Hopewell are poorly understood, partially because of limited samples and partially because past analyses have been inadequate and incomplete. Since 2005, Geneseo's archaeological field school, conducted in collaboration with Bloomsburg University, has excavated the remains of three Hopewell structures, which are interpreted to be houses. Archaeological evidence suggests these houses were large (all over 10x10m), timber framed, square structures. These houses served as the basis for my research, which is an engineering analysis of these approximately 1700 year old structures. Specifically, I used structural engineering principles and performed a complete analysis of each house, attempting to answer the following questions: Could the hypothetical support posts have withstood the horizontal and vertical force from the weight of the roof? Would the soil dynamics have affected the integrity of the structure? How would the house have reacted to wind and snow loads? Upon answering these questions it appears that our previous perception of Ohio Hopewell domestic structures was slightly erroneous, and my analysis led to a revised view of these structures.

Session 2-B • Biomathematics

Newton 203

Faculty Sponsors and Session Chairs: Gregg Hartvigsen, Biology and Christopher Leary, Mathematics

Sex in a Small World: How network structure and vaccination strategies affect the spread of Hepatitis B

Patrick Scannell, Herbert Susmann, James Rieffel and Hamza Murtaza

"Hepatitis B is a viral infection that attacks the liver and can cause both acute and chronic disease" (WHO). Because Hepatitis B is transmitted through the exchange of bodily fluids, a scale-free network is used to represent sexual connections between adults. We investigate how network structure, vaccination strategy, and time of vaccination affect the total proportion of people infected, proportion of the population infectious, time of the epidemic peak, and the largest increase in the number of infected individuals in one time step. We find that random vaccination is an effective strategy in minimizing the proportion of the population infected in the absence of disease super-spreaders. However, vaccinating individuals with the most sexual contacts is a more effective strategy, with or without disease super-spreaders.

Modeling the Effects of Reducing the Insect Vector Population on the Spread of Chagas Disease

Chelsea McWilliams, Matthew Coyle, Melanie Beck, Rebecca Missner and Courtney Bachellor

Chagas is a tropical parasitic disease spread by the insect subfamily *Triatominae* in the regions of Central and South America. The disease is detrimental because it causes cell death in cardiac, digestive, and neural tissue by consecutively inducing the inflammatory response, cellular lesions, and cellular fibrosis. It is important to study Chagas because it affects 1.5 million people every year and there is currently no cure or vaccine for the disease. Therefore, the only practical way to prevent it is by reducing the insect vector populations. We investigate Chagas by means of two separate mathematical models. Our first model is a difference equations model designed to test the effects of applying insecticide during periods of maximum reproduction. This model provides an optimum time interval between insecticide applications that successfully lowers the infectious human population at a moderate cost. This period of insecticide application applies to the second model, a network model, which shows infestation of houses in a neighborhood depending on their physical condition. The network model shows the disease effectively diminishing after a period of time, at which point the insecticide application is needed less frequently.

The Effect of Social Behaviors on the Spread of Obesity in a Social Network

Elliott Regan, Samuel Murphy, Matthew Dawe and Mike Canfield

Obesity is a widespread problem in the U.S. which affects one out of every three people above the age of 20. While genetic influences on obesity are well known, we tested the effects of social behavior on the spread of obesity through a social network. A network voters model was used to demonstrate the spread of obesity within a closed population. In our voters model, vertices with attributes simulating an individual's BMI were connected through edges weighted to reflect a level of "closeness" between people. Each person's BMI changed over time as they were evaluated with respect to their neighbors. A differential equations model was also developed to explore a continuous time representation to compare with the discrete time graph theory representation. Similar trends were observed in both models, supporting the idea that social connections could possibly influence the spread of obesity. The model does show that social influences can be bidirectional, either promoting good health or obesity.

Session 2-C • Communication

Welles 117

Faculty Sponsor and Session Chair: Atsushi Tajima, Communication

Give South Park a Chance! Viewer Justification and Gratification of Watching South Park

Emily O'Neil

While many television programs become more and more "politically correct," the cartoon South Park is known for its crude potty humor and offensive stereotypes. It is also known for its biting satire and intelligent remarks on modern society. This study critically examines South Park from an audience perspective and asks participants to reflect on their viewing habits and perceptions. This study looks at how audiences respond to and interpret different representations of culture in South Park. It also looks at why the audience finds ethnic humor and obscene humor acceptable. Major findings include 1) A distinction between male and female viewing habits, 2) a distinction between what is okay to make fun of, and what is not and, 3) participants exhibiting a concern for other people's South Park viewing perceptions.

The Face of Barbarity: A Case of International Agenda-Setting

Peter Wayner

This paper examines the sentencing of Iranian woman Sakineh Mohammadi Ashtiani as an event highlighting the agenda-setting function of newspaper media. Articles from the past 30 years show coverage and content discrepancies in two dichotomies: past coverage of similar cases compared to current coverage of Ashtiani's case, and American coverage compared to other Northern nations. These discrepancies are analyzed using agenda-setting theory and representations of American capital punishment in media-related and international contexts. The argument culminates in a comparative analysis of British and American coverage of the same event in which the discrepancies previously discussed are exemplified. The discrepancies cause a broad discrediting of Iran as a responsible, modern nation and a distancing of the United States from Iran, despite mutual legal support for capital punishment.

Critical Youth and Slanted Truth: Media Framing and Audience Perceptions in the 2010 American Midterm Election

Josephine Lukito

Throughout the course of American history, media have played a crucial role in helping voters understand political elections and relevant political issues. Media are a major source of information and can help citizens understand what is important and what socioeconomic problems take precedence over others. This gives media a significant amount of power in determining what is seen as important in politics. To better understand media's effects on politics, the following study attempts to better understand the framing techniques that print media use during the 2010 Midterm Election in the United States. Then, the study explains how these framing techniques can influence the audience perception of America's future: the youth vote.

Session 2-D • Computer Science

Newton 204

Faculty Sponsor and Session Chair: Christian Shin, Computer Science

Free Radical - Interactive Game Design

Marcos Davila

The program, titled Free Radical, is a video game that utilizes multiple List implementations to simulate a space shooter program in the vein of Space Invaders and Galaga. All enemies in this game are given a unique ArrayList that specifies their spots and the speed at which they move. Each enemy is given their own bullet, governed by the same list that "ghosts" the ship and becomes visible at a predetermined point, where it becomes visible and fires. Elements are shifted off-screen and "deleted" when the player's weapons intersect with an enemy. A specially scripted enemy known as the "overlord" is found at the end of each level, governed by its own list and its own methods and behaves differently compared to other enemies. Different MP3 music also plays in the background, which was made possible by clever manipulation of the bits of the music fed into the sound card using a byte array. The goals of this program were: to see if manipulation of lists and representation of manipulated lists by a pre-rendered image could provide enough illusion to simulate a retro arcade game, to see if rectangle collision was an adequate tool for hit detection, and to see if manipulation of array and byte values could send MP3 data files to a sound card.

A Framework for Real-Time Simulation of Traditional Analog Electric Guitar Effects Using Digital Audio Signal Processing Techniques

Daniel McArdle

This project's purpose is to create a framework for a guitar effects processor, a program that applies different audio effects (e.g. distortion) to an incoming audio signal in real time. This presentation will first give a summary of the prerequisite knowledge of the nature and human perception of sound as well as analog and digital audio representation. Then, it will focus on the Digital Audio Signal Processing techniques that can be used to implement digital simulations of analog effects. Finally, it will give an account of the difficulties involved with real-time signal processing. The presentation will include demonstrations of the framework's functionality for specific audio effects.

Pirate Hunting - Game Development on Mobile Devices Using the Android Platform

Hieu Quang Tran

Since its introduction back in 2007, Android mobile devices have become increasingly dominant on the market. The Android software stack has a large community of developers who devote their time writing many Android applications for a growing market. With such large demand, learning to write and design applications for Android mobile devices is definitely a good investment. This semester, we are taking a directed study in Computer Science, in which we study about designing and writing good mobile applications with Android as an example. The course has given us good practices in writing applications for mobile devices. The project that we have been working on in the course is a game called "Pirate Hunting" which runs on the Android platform. We will describe our experience in designing and developing the game including challenges that we faced as well as solutions that we devised while developing this program.

Session 2-E • Edgar Fellows Capstone IV

Welles 121

Faculty Sponsor and Session Chair: Olympia Nicodemi, Edgar Fellows Honors Program and Mathematics

Green Building: Home Auditing, Retrofitting and Government Subsidies

Kate Ostroot

We live in a world where energy efficiency is becoming more important and relevant every day. The United States consumes more energy than any other country on the planet, and the U.S. Energy Information Administration predicts that energy prices

will increase overall in the next twenty years. There are many ways for us to approach this problem, from ideas as elaborate as government-funded clean energy development to making minor lifestyle adjustments. Home audits are a critical first step to improving residential energy efficiency. While professionals can be hired to perform accurate, technologically advanced tests, there are also many sources available to guide homeowners through a “do it yourself” (DIY) energy audit. This project involved a DIY energy audit of my childhood home in Williamsville, NY. It consisted of an assessment of the energy consumption of different components of my house (heating, cooling, ventilation, appliances, etc.), as well as the house as a whole. Using this data makes it possible to pinpoint the areas that consume the most energy and are the least efficient. This presentation explains my auditing process, as well as the retrofitting options I identified as most cost-effective and energy-efficient. **Mentors: David Aagesen and Scott Giorgis**

Orson Squire Fowler: Building the Foundation of the Green Building Movement?

Garrett Burger

Have you ever seen an octagon house? Just as the name suggests, they are houses that are literally shaped like octagons. This may not seem all that special but there is much more to these architectural anomalies than their shape. During the 1850s, a veritable octagon house craze swept the country after Orson Squire Fowler published *The Octagon House: A Home for All*. Fowler was a renowned reformer in the first-half of the nineteenth century, an era when a number of reform movements – ranging from abolitionism to the graham cracker – invigorated the nation. One reform movement that is rarely – if ever – traced back to this time is green building, but, as Fowler’s *A Home For All* includes a number of architectural prescriptions that suggest an early awareness of the impact of the built environment on the natural, perhaps it should be. This presentation will be an investigation of the extent to which the octagon houses of Orson Squire Fowler are an antecedent of the green building movement. **Mentor: Jordan Kleiman**

Political Bias in the Media

Lauren Dougherty

We live in a world where the mainstream media plays a significant role in political and social affairs. Historically, this fourth estate was viewed as an unbiased source of information with the ability to influence how Americans perceive the world. The issue of whether or not the media is able to present the news in an unbiased manner has become extremely polarizing, and has spurred a significant amount of research and examination. For years, the major news outlets have denied a bias or prejudice of any kind in their reporting. After reviewing many recent case studies as well as observing and comparing various news reports, it has become evident that not only is there a heavy bias in mainstream media, but that exposure to these sources influences both public opinion and voting behavior. This project seeks to examine the extent of bias in the mainstream media, the factors that contribute to it, and the resulting effects on viewers and their behavior. **Mentor: Harry Howe**

Government-Taxpayer Tensions in the Wake of FIN 48 and Schedule UTP

Kevin Muller

The U.S. federal income tax code is incredibly complex. Taxpayers do their best to make sense of ambiguous rules in order to figure out their fair share, but what happens when the law is unclear and the taxpayer has to decide whether or not to report a tax liability to the Internal Revenue Service? For corporations, the answer to this question is getting more and more complicated. Because of an accounting rule that took effect in 2006 and a new IRS policy that will affect large companies starting this year, many corporations will soon be required to tell the IRS about every dollar that could potentially be taxable based on different interpretations of the rules, even if the company’s managers stand by their own interpretation and are willing to take the case to court. The IRS says the new policy will allow for more efficient auditing, businesses say the government is playing unfairly. Who is right, and how does all of this affect John Q. Taxpayer? This project takes a critical look at the implications of the policies from accounting and policy perspectives. **Mentor: Harry Howe**

Session 2-F • Edgar Fellows Capstone V

Welles 123

Faculty Sponsor and Session Chair: Olympia Nicodemi, Edgar Fellows Honors Program and Mathematics

Mules in American Culture

Sara Morningstar

As sterile hybrids, mules depend on humans for their survival as a species, setting them apart from other domestic beasts of burden. They have helped to build America, from George Washington, to the agriculture of the expanding nation, to the gold rush of the mid-nineteenth century. More interesting is the role that mules have played in American culture. Mules are characterized in literature by such diverse authors as Louisa May Alcott and Zora Neale Hurston. Talking mules have been the stars of television and movies, even as recently as 2009. Through studying mules and their presence in these parts of popular culture, we can see how even a beast of burden has a huge impact on the development of an American identity, furthering our understanding of the complexity of such an identity. **Mentor: Joseph Cope**

Construction of Wealth and Class in Fitzgerald’s Work

Erin Kuntz

Construction of Wealth and Class in Fitzgerald’s Work Through analysis of several novels and short stories, I will seek to define what it is about Fitzgerald’s works, his style, his themes, and his characters, that is expressive of the attitudes of evasion, pretension, and rebellion that defined the jazz age. A culture of rebellion was overlaid with an attempt at conformity—that is, with an attempt to mold oneself as a member of an elite social class, the American aristocracy, which existed for them only as vague imaginings of leisure and wealth associated with the aesthetic of the nouveau riche. Fitzgerald’s young people ascribe to this image, and their ability to hold up this pretense defines them in the context of the novel. As a result, special places in which their performances are played out become stages set for their show, and in Fitzgerald’s writing style as well as in the settings and characters he develops, the essence of the 1920’s is the very act of pretending itself. **Mentor: Ken Cooper**

The Stoic Theory of Perception

Justin Christy

An account is given of the theory of perception developed by the Stoics in the Hellenistic era, with special attention paid to the role of perception in attaining knowledge. The Stoics' views are clarified by comparison with earlier and contemporaneous treatments of perception and related topics by writers such as Empedocles, Aristotle and Galen. **Mentor: David Levy**

Perspectives of Iranian Women

Elizabeth Solaimanian

The Iranian Revolution of 1979 involved dramatic changes for the lives of women. The mixture of government and religious policies discouraged society from seeing the individual behind the veil. This thesis will explore the lives of modern Iranian women and their reactions to current events, as well as their personal achievements. The thesis is written as a form of ethnographic literature and will combine a mixture of in-depth interviews of relatives with a historical context of the women's rights movement in Iran. **Mentor: Melanie Blood**

Session 2-G • English

Welles 131

Transgender Theory and Literature - Part 1

Faculty Sponsor and Session Chair: Alice Rutkowski, English

“Arms That Chain Us, Eyes That Lie”: How Written on the Body Breaks Through Gender

Definition & Inequality

Zachary Brewer

My paper examines devices employed by Jeanette Winterson in her novel *Written on the Body* (1992) which enable the author to boldly deconstruct traditional definitions of gender while simultaneously illuminating limitations which gender inequality continues to create. Using Jamison Green's examination of gender, I demonstrate how the protagonist of Winterson's novel is crafted to fit into common gendered expectations in spite of the fact that his/her gender ultimately remains undefined as s/he explores physical and emotional expressions of passion. As readers inevitably grapple with this conflict, Winterson provokes her audience to consider their own gender biases, as we (unsuccessfully) attempt to firmly place the novel's protagonist on one side of the gender binary. Though the novel's protagonist provides ample evidence of the fluidity of gender, other characters represent the manner in which conventional gendered expectations – such as those the novel may cause its readers to identify within themselves – continue to relegate men and women to separate spheres. However, ultimately my paper is meant to serve as a connector piece between Winterson's innovative novel and Riki Wilchins' assertion that “gender is the new frontier: the place to rebel, to create new individuality and uniqueness, to defy old, tired, outdated social norms”.

The Fictional Woolf: Trying to Find ‘the Brightness’

Brittney Walker

The fictional representation of Virginia Woolf in Michael Cunningham's *The Hours* (1998) demonstrates the intricacies made possible by complicating gendered expectations in relationships with other women. This is clearly explored through the lens of Adrienne Rich's “Compulsory Heterosexuality and Lesbian Existence,” as well as less significant works. Rich's article identifies what is called the “lesbian continuum,” defined as the nonsexual range of emotional and spiritual experiences between women, and Cunningham's text illustrates this continuum through the character of Virginia Woolf. Woolf avoids Nelly, the cook, and her representation of domesticity, which causes an emotionally volatile relationship between the two. The emotionality found between Woolf and her sister Vanessa transcends familial conventions, which demonstrates the depth of interactions between women as discussed by Rich. Lastly, the erotic energy found between the fictional Woolf and her female family members demonstrates her search for connectivity in a struggle against negative emotions. These instances allow Cunningham to reflect both the feminism of the real Virginia Woolf and the ways that the lesbian continuum can work to improve the quality and depth of women's lives.

Transamerica: Reactionary Filmmaking at its Finest

Claire Littlefield

The contention of my paper is that although the film *Transamerica* (2005) attempts to normalize the plight of transpeople (people whose “biological sex” does not match the gender by which they identify), it fails to do so. Rather, it does the exact opposite through its reliance on stereotypes, binaries, and, ultimately, its construction of transfolk as outliers. Central to my argument are three articles, two by Riki Wilchins, one by Karen Hagberg. I use Wilchins' writings to suggest that as gender roles and binaries are pervasive in our culture, the film should assail the culture that created the roles, not the people that are products of gender's confines. I used Hagberg's piece to support my argument that the film's views on transsexualism are also extremely dated- the way in which the main character, Bree, carries herself is almost exactly the same as the way Hagberg suggests that transsexuals should hold themselves in her 1979 article. The construction of Bree ultimately seems to be built on somewhat archaic grounds. When all is said and done, the film establishes transfolk as outliers. Whenever possible, it alienates Bree and portrays transfolk as physically and mentally freakish outliers.

Session 2-H • English**Welles 132****MeatCapitalBusiness: Three Words from the History of the English Language***Faculty Sponsor Graham Drake, English**Session Chair: Emily Rose Alvo***“The Word ‘Meat’ Throughout History”****Emily Grossman**

This paper is most importantly about the word “meat” and how it has changed since its incorporation into the English language. Not only is the word “meat” incredibly ingrained into our current vocabulary, but it was also ingrained in the vocabulary of English speakers from the past. As a word stemming from many different languages including Swedish, Danish, Old Frisian, Old High German, and Old Norse, it emphasizes its ability to transcend the English language barrier. The most interesting item to be seen through my work with the Oxford English Dictionary, was how although the word “meat” came into regular usage (or at least in written documentation) by 900 A.D., it was expansive and included flesh of fruit as well as all food including bread and dairy. Since then, “meat” has become specialized to include only animal flesh, for the most part, along with a few colloquial slang terms that “meat” has become associated with. Furthermore, I will include all aspects of the word “meat” and its many usages up through current times.

From ‘Capital Punishment’ to ‘A Capital Idea’: An Etymological History**Lauren Hanson**

In this paper, I outline a brief history of the word “capital” in the English language. I use the Oxford English Dictionary as a source to demonstrate the word’s etymological evolution since it was borrowed from Latin in the twelfth century. My paper shows how “capital punishment” shares a common ancestor with definitions as remote seeming as “a capital idea,” making the word an excellent representation of many principles of etymological change.

The Development of "Business"**Gian Martinelli**

The word we know as “business” has a history that is rich in structural shifts and variations in meanings. Starting as “bisignis” before the twelfth century, it transformed into “business” by the seventeenth century. The earliest cited sense of “business” meant something that seems much different than its current definitions. The endurance of each of the meanings of “business” has varied. On the one hand, there were several meanings attached to “business” that survived for less than a century. On the other hand, several contemporary meanings have been in use as early as the fourteenth century. Equally interesting are the meanings of “business” that have recently emerged. A deeper investigation of the word’s history and development will allow us to better grasp its placement in the English language.

Session 2-I • Languages and Literatures and Scientific Ethics**Welles 115***Session Chairs: Lori Bernard, Languages and Literatures***Los Motivos del Lobo por Rubén Darío: Una Traducción y un Análisis Crítica Desde una Perspectiva de Study Abroad****Meredith Doyle***Faculty Sponsor: Lori Bernard, Languages and Literatures*

The presentation will include a presentation of my translation of Ruben Dario's poem "The Motives of the Wolf" to English as well as a paper written on the poem and how it relates to both my study abroad experiences in El Sauce, Nicaragua and Cádiz, Spain, and also to two classes I have taken at Geneseo: Spanish 305: Survey of Latin American Literature and Humanities II. The paper is based off of the poem and is an interdisciplinary representation of both my in-class experience and study abroad. The purpose of presenting the translation of the poem is to present my first translation of a Spanish work and demonstrate the importance of having a English translation of "The Motives of the Wolf", a poem which does not have an easily accessible translation. The written paper will be written in Spanish, but my presentation will be in English.

Women and Development: The Role of Gender in Two Developing Countries**Amanda McLaughlin***Faculty Sponsor: Rose McEwen, Languages and Literatures*

What role does gender play in the development of underdeveloped and developing nations of the world? How is the work of women impacting international development as a whole? This presentation summarizes my unique experience interviewing Tetouan (Morocco) and El Sauce (Nicaragua) women who are playing a prominent role in bringing economic progress to their communities. I also describe these Moroccan and /sauceña/ women's grassroots work as they lead their small communities to self-sufficiency and a notable position on the national and international economic fronts.

History will not go Unnoticed: The Guatemalan Syphilis Experiments**Fiona Harvey***Faculty Sponsors: Susan Bandoni-Muench, Biology and Maria Lima, English*

It is my goal to inform our Geneseo community on public health issues and to think about ethics and society. My presentation focuses on the unethical and unjust Guatemalan syphilis experiments which occurred during 1946-48. Those involved in the experiment were not given informed consent. I will present in a narrative form, including background on Guatemala and the “developing” world, to expose the nature of such experiments on people US scientists considered expendable. While John Cutler and his team wanted the study to help them test whether a new drug at the time, penicillin, could prevent infection with

different sexually transmitted diseases such as syphilis, the approach used affected a wide range of Guatemalan people, which included prison inmates, prostitutes, children and more. During this time in history, current ideas about ethics in healthcare were not fully established, which is an important part of ethics history. The presentation will also compare and contrast the Guatemalan and Tuskegee experiments.

Session 2-J • History

Welles 138

The Politics of Culture: The Cultural Revolution in China, 1966-76

Faculty Sponsor and Session Chair: Tze-Ki Hon, History

Red Guards in Command: The Ninth Congress of the CCP in 1969

Christopher Treanor

This PowerPoint presentation would include an examination of the role of the Red Guards during the Cultural Revolution in China, with a specific focus on their role immediately before and their general exile following the convening of the Ninth Congress of the Chinese Communist Party in 1969. The presentation would also include some of the broader effects of the re-introduction of Maoist thought into the official CCP line of thinking.

Kang Keqing: From Victor to Victim

Rebecca Pullano

This paper presentation would focus on the part played by Kang Keqing in Communist China. Kang was a female commander in the Red Army during the Long March and leader in Mao's China who later became a victim of the Cultural Revolution.

The Making of the Model Operas

Kristen Pestka

This presentation will center mainly on the model operas in China, with much of the presentation focusing on the roots, structure, and significance of the model operas. It will spotlight one example specifically, but many broader connections can be made from this one example.

Session 2-K • Mathematics

Newton 201

Mathematics Miscellany

Faculty Sponsor and Session Chair: Gary Towsley, Mathematics

Let's Find a Winner

Nicholas Same

Round-robin tournaments are used by different sports to rank teams and decide which teams are the best. However, ranking teams and determining the winners are not always so simple. This discussion will focus on the different methods and techniques used in ranking teams and choosing winners. We will use both mathematical and graphical formulas to help us rank teams. You might be surprised by the results. Does every tournament yield a winner?

The Mathematics Behind Sports Scheduling

Brotka Jonathan

Sporting events and tournaments can be very exciting for fans to watch. However, the seemingly simple task of creating a schedule can prove to be a difficult undertaking. Many different schedules may be created for the same event, but which one of these schedules is ideal? Using elements of combinatorics and graph theory we will explain how mathematics—our behind-the-scenes player—can optimize scheduling for sporting events and tournaments.

The Pythagorean Theorem in India

Marisha Kulseng

While many of the best-known ancient mathematicians were Greek, the Mediterranean was not the only place mathematical progress was made. For instance, the Sulvasutra is an Ancient Indian religious text whose focus is on the correct construction of altars. We will explore the ritual use of the Pythagorean Theorem in the creation of these altars.

From Pascal's Triangle to the Bell-Shaped Curve

Laura Fleming

We will chart the history of the Pascal's Triangle and show its relationship to the binomial theorem and the Bell-Shaped Curve. Through real life examples we will be able to see how these three concepts came together. We will also show how and why the shape of the rows in Pascal's Triangle forms the Bell-Shaped curve. Then we will find the many different patterns that Pascal's Triangle reveals.

Session 2-L • Mathematics and Biomathematics

Newton 214

Session Chair: Patrick Rault, Mathematics

Stochastic Modeling

Samuel Cohn

Faculty Sponsor: Lisa Smith, Mathematics

This talk will cover both discrete and continuous time Markov Chains, their limiting probabilities and applications. Applications will include Poisson Processes and Brownian Motion.

Polynomial vs. Non-Deterministic Polynomial Time, What's the Big Deal?

Cody Duncan

Faculty Sponsor: Patrick Rault, Mathematics

What is the question of whether $P = NP$ or $P \neq NP$? It is a question whose answer is worth \$1,000,000. We will determine the importance of a proof of $P = NP$, and discuss ramifications of the solution. We will give examples of P problems like sorting and searching, and NP problems such as the Traveling Salesman. An explanation and discussion will occur on why P is a subset of NP and why it's difficult to tell whether $P = NP$. This presentation will explore the problem in its relation to both computer science and number theory.

Prime Factorization in the Complex Integers

Daniel Rossi

Faculty Sponsor: Patrick Rault, Mathematics

The complex, or Gaussian, integers are a subset of the complex numbers in which both the real and imaginary components have integer coefficients. In this talk, we will explore certain properties of the Gaussian integers, with a special focus on what it means for a Gaussian integer to be prime. Many of these properties are identical or analogous to the rational (ordinary) integers, but we will also examine some ways in which the two sets differ. The key point of the talk will be a proof of a form of the Fundamental Theorem of Arithmetic (stating that every integer can be uniquely factored into primes) for the Gaussian integers.

Exploring the effect of dynamic host-host interactions on epidemic scope in heterogeneous networks

Noah Dukler

Faculty Sponsor: Chris Leary, Mathematics and Gregg Hartvigsen, Biology

During epidemics individuals change their behavior to minimize their chance of infection in a dynamic environment. For instance, the demand for condoms is greater in regions with a high number of HIV/AIDS infections and during the SARS outbreak in China there was widespread use of masks in affected areas. We create a network model in which individuals constantly communicate with their neighbors in order to determine the prevalence of an epidemic in their neighborhood and alter their behavior to minimize their chance of infection. We find, on Watz-Strogatz type networks, that increasing an individual's sensitivity to their environment reduces the scope of the epidemic equally at any level of rewiring except on a regular circulant graph. The effect of awareness was far more limited on Barabasi scale-free networks.

Session 2-M • Political Science and International Relations

Welles 24

Norms, Memory, and Human Rights

Session Chair: Jeremy Grace, Political Science and International Relations

Politics of Identity and History in Modern Germany

Sean Heyneman

Faculty Sponsor: Robert Goeckle, Political Science and International Relations

This paper explores the fault lines in present-day German state and society's discourse on what it means to be German.

Gay Rights as Human Rights: Homosexuality in Contemporary International Law

Alex Mitchell

Faculty Sponsor: Jeremy Grace, Political Science and International Relations

Current trends in international law place gay rights in the context of the broader human rights discourse, with analogies drawn between sexual minorities and minorities of other, more widely-recognized types. Advocates have criticized the lack of formal, codified and binding law regarding crimes committed against gay men and women globally—often with impunity—and call for more inclusive interpretations of existing treaty law (the ICCPR and UNHCR, among others). A more remote, grassroots effort to create and adapt treaty law commensurate with both universal principles of human rights and the unique marginal status of homosexuals globally has culminated in the Yogyakarta principles, an effort by legal scholars and UN collaborators to formalize previously informal obligations of states to protect gay men and women. Objectives, successes and failures of the international gay rights movement are discussed, with respect to international organizations (the UN, the ILGA, HRW and more), pertinent judicial decisions, and the usual pastiche of international apparatuses. Counter-efforts by international actors to segregate or distinguish gay rights from other forms of human rights are briefly explored.

Transitional Justice and Localization: An Analysis of Emerging Trends in Sub-Saharan Africa

Beth Semel

Faculty Sponsor: Jeremy Grace, Political Science and International Relations

After instances of large-scale violence and human rights abuses within a society, states confront the daunting task of addressing the needs of the victims and holding the perpetrators accountable. Transitional justice, defined as mechanisms and processes to help societies address these issues and come to term with their conflicted pasts, is increasingly focused on the goal of reconciliation and healing through local, rather than national or international, processes. This trend is admirable and reflects the importance of balancing conceptions of human rights with particularistic societal traditions. However, attempts to actually incorporate these ideals have not been universally successful and will require some alterations in approach in order to be truly representative of local and societal needs post-conflict. By analyzing case studies in sub-Saharan Africa, this paper identifies policy suggestions that would help bring the theory of localization into practice and ensure that post-conflict reconciliation mechanisms are better able to address the individual and communal needs of war-torn societies.

Gender-Based Violence in Refugee Camps as Organizational Failures

Danielle Pagano

Women and children are often the first and most vulnerable victims during emergencies and natural disasters. This paper will define gender-based violence in the context of refugee camps and explore its causes, particularly organizational failures on the part of the NGO running the camp. Various levels of mismanagement and miscommunication will be explored, especially between the headquarters of refugee organizations and the individual humanitarian workers on the ground. The responsibility of the United Nations High Commissioner for Refugees (UNHCR) in providing guidelines for NGOs to help prevent gender-based violence, and its subsequent failure to disseminate these guidelines fully during complex emergencies, will be examined as a contributor to failure to prevent gender-based violence. The paper will also provide recommendations for organizations to prevent mismanagement that can contribute to gender-based violence in refugee camps. Case studies from Sierra Leone will be used.

Session 2-N • Political Science and International Relations

Welles 134

American Public Policy Panel

Faculty Sponsor and Session Chair: Marilyn Klotz, Political Science and International Relations

The Influence of Urban Form on Physical Activity

Christopher Berry

My presentation examines the influences of Urban Form on Physical Activity, that is, how the layout of urban areas directly affects the overall health of the residents living there. Research has shown that, 'the sprawling, autocentric cities are not helping to reduce waistlines or increase physical activity... As waistlines have been expanding, so have metropolitan areas, which have been growing faster "around" (in area) than in population' (Dill and Weigand 2010, 115-116). Simultaneous expansion of metropolitan areas and waistlines, then, seems to illustrate the fact that there is a direct correlation between the two. American cities these days tend to span a larger geographic area, which, in turn, forces us to travel farther in order to reach certain destinations. These longer distances from home to the workplace, the grocery store, the library, or the bank prompt Americans to use automobiles or other transportation methods instead of walking or bicycling, larger cities promote less exercise, and less exercise means more obesity and other weight related health issues. My research will further explore urban form by examining why our cities look the way they do, and what strategies can be applied in order to fix the issue of physical inactivity that is due to urban form. Park planning, such as that which has taken place in inner-city Rochester, will be a sub-topic I will address. I anticipate that my findings will provide me with suggestions and strategies for better urban design that will promote exercise, some examples of such can be found in Dill and Weigand's piece which include, "Mixed land uses, such as locating shops below apartments and offices near houses. Increased street connectivity by having fewer dead-end streets or cul-de-sacs and smaller blocks. Improved housing and employment density, e.g., more houses per acre..." (Dill and Weigand 2010, 117) and so on and so forth.

Red, Why, and Blue: A Study of Upstate Local Politics

Derek Weng

The American political process is established upon a self-adjusting mechanism that weathers down opposing factions and streamlines myriad needs to form a cohesive solution that best addresses the public good. The State of New York is an exceptional place where geographic, economic social, and political diversity coexist in polarizing camps and distinctive patterns. This paper touches upon one of the most significant division in state politics today- the often contentious divide between the heavily Republican upstate and the solidly Democratic downstate. The purpose of this paper is to search for an casual explanation in how the lack of a competitive two party system in conjunction with a continual rural Republican dominance in upstate New York is ultimately harming its vitality and regional growth. I'm expecting to find discrepancies in the current Republican public policies in effect today and the unfulfilled constituency needs of the upstate region. Insights from a previous political internship at a local state senate campaign as well as a collection of recent data from various state agencies will be utilized in the paper.

Constructing Public Policy around Non-Traditional Economic Indicators

Mary Wolfe

It has long been recognized that traditional measures of well-being, such as Gross Domestic Product and Median Family Income, are wrought with problems. Chief among these issues is that traditional measures of well-being fail to capture non-monetary well-being, income inequality, purchasing power, and non-monetary "bads". Although these measures should not be completely disregarded, the strong focus on traditional indicators must make way for additional measures that include

sustainability, purchasing power, environmental quality and other important criteria. Government policy has long sought to grow GDP as a method of improving quality of life. While increased GDP may improve the quality of life for some, it is not the sole answer to improving well-being. Future economic policy must take a more holistic approach and embracing alternative measures of well-being is the first step.

Session 2-O • School of Business

South Hall 338

Faculty Sponsor and Session Chair: Avan Jassawalla, School of Business

The Effect of Servant Leadership on Employee Performance and Job Satisfaction

Peter Conley and Tim Mahood

Power point presentations on Servant Leadership and its effect on employee performance and job satisfaction.

Session 2-P • School of Education

South Hall 340

Faculty Sponsor and Session Chair: Elizabeth Hall, School of Education

How College Is Teaching Us More Than What We Did in High School.

Dustin Fredericy, John Feidner, Chris Scheibs and Jewley Sparks

We, as students with disabilities, will compare and contrast our high school experience vs. our college experience. We will talk about the positives and negatives of both our involvement in extracurricular activities, friendships made, and our academic achievement so far. We will discuss why we wanted to come to Geneseo's LIVES Program and who helped us make this decision. We will talk about what is like being a student with an intellectual developmental disability on campus and what experiences and opportunities we have had since coming to Geneseo.

Session 2-Q • School of the Arts, Office of the Provost, and Center for Community

Welles 128

Session Chair: Tom Matthews, Center for Community

Art Stolen by Nazis and the Search for Cultural Identity in European Art of the World War II Era

Olivia Cammisa-Frost

Faculty Sponsor: Lynette Bosch, School of the Arts

Towards the end of World War II, the Nazis raided numerous European museums and private collections and took priceless works of art. Prior to this, however, there had been numerous attempts from the Nazi party to control all aspects of artistic culture in Germany during this time, including, but not limited to, Jewish art. The Nazi party's obsession with gaining artistic supremacy over the rest of Europe is the reason behind their manic attempts to garner a collection of art that would be worth billions of dollars today. This research explores the various ways in which the Nazis attempted to gain this collection and how it relates to their aesthetic prior to and during the Holocaust.

An Analysis of the Western Humanities Portion of the General Education Requirement

James Bates

Faculty Sponsor: Carol Long, Office of the Provost

The Western Humanities requirement has existed in the Geneseo curriculum since 1979. While a great deal of debate surrounded the inception of the program and continues to this day, little has changed regarding the program since its inception. The Western Humanities program is central to the Geneseo education, however, from a student's perspective it can be seen as a tertiary part of their time at Geneseo, simply a requirement to be checked off. A course of action that would potentially solidify the centrality of Western Humanities will be discussed. The essential aim of this plan would be to merge INTD 105 with the Humanities sequence and make the entire Western Humanities sequence required during freshman year. Discussion of this plan will also consider the potential 3 credit to 4 credit per course shift and budgetary concerns in addition to addressing the student experience on campus.

GOLD - Diamond Leadership in Community Engagement Report - SUNY Geneseo Venture Crew

Matthew Wing and Krista Muscarella

Faculty Sponsor: Thomas Matthews, Center for Community

The SUNY Geneseo Venture Crew provides the structure and resources needed to further Geneseo students' involvement in Scouting, Venturing, and Exploring by offering a program of exciting and meaningful activities that help students to pursue their special interests, build character, develop leadership skills, and become good citizens. SUNY Geneseo Crew members learn about career opportunities, learn to make ethical choices, and to achieve their full potential as individuals. The SUNY Geneseo Venture Crew will ultimately be the organization through which a solid partnership between SUNY Geneseo and Iroquois Trail Council is formed. Venturing is a youth development program of the Boy Scouts of America for young men and women who are 14 (and have completed the eighth grade) through 20 years of age. Venturing's purpose is to provide positive experiences to help young people mature and to prepare them to become responsible and caring adults (Venturing, 2010). This presentation is a PowerPoint presentation for the Geneseo Opportunities for Leadership Development Diamond (Community Engagement and Social Justice) Certificate program. We will be updating the campus community on our progress with the Venture Crew and how it is benefiting both the campus community and Livingston County community as well.

Session 2-R • School of the Arts-Dance Robert Sinclair Theater (Brodie Blackbox)

Making a Dance: A Look Inside the Choreographic and Creative Process

Faculty Sponsor and Session Chair: Heather Acomb, School of the Arts-Dance

Session description: While finished dance works are presented and shared with audiences as “final products,” the process itself is shared between only the choreographer(s) and dancer(s). This session will focus on the choreographic and creative process as it is used to create a dance. How do dancers research? What are the various possibilities for problem solving with living bodies? Where does movement invention come from? How do inspirations and intentions come to fruition in the form of a dance? What movement works and what doesn't, and why? How are decisions made about music? These are some of the questions students of the Geneseo Dance Ensemble will attempt to answer with reference to their own personal choreographic endeavors. This session will include an informal showing of student choreography with an accompanying panel discussion, as well as on-the-spot improvised choreographic problem solving and movement creation.

Love is Us (Then and Now)

Allison Bohman

Student Commentator: Jamie Hartle

New Untitled Work in Progress

Elizabeth Doyle

Student Commentator: Kelly Keenehan

Senior Solo Work in Progress--A Self-Choreographed Solo

Lauren Alaimo

Above All Things (Then and Now)

Jillian DeGironimo

Student Commentator: Meghan Vaughn

Performers: Rebecca Andrew, Rachael Beckman, Josephine Champlin, Katy Gerber, Erin Mae Girard, Rebecca Hoffman, Leah Kaiser, Katie Keller, Megan Killea, Amy LaFleur, Jonathan Mushock, Felicia Vanacore, and Lauren Whitehead

Session 2-S • Music History/Performance

Brodie 208

Faculty Sponsor and Session Chair: Anne-Marie Reynolds, School of the Arts

Mozart: Romantic or H.I.P.?

Louis Lohraseb

The music of Mozart has attracted music lovers for more than a quarter of a millennium, his piano concertos viewed by many as the apotheosis of his glorious career. This presentation will take an in-depth look at the Mozartean concerto, focusing on one of the main problems facing interpreters today: how does one accurately portray Mozart's music? Current scholars suggest that in Mozart's own performance of his concertos, the notes on the page were merely the starting point, and not the last word. This presentation will explore both the modern approach, which employs a full orchestra and modern grand piano, and is utterly faithful to the score, and the historically-informed performance (H.I.P.), which uses an orchestra of period instruments and an 18th century piano, and takes liberties with what's written. The answer to the title's question will be left to the audience to decide.

Session 2-T • Women's Studies

Welles 119

Sexual Violence, Sex Education, and Gender and Disability

Faculty Sponsor: Melanie Blood, Women's Studies

Session Chair: Jennifer Katz

Providing a Safe Haven

Jessica Barbis

Barbis interned for 122.5 hours in a domestic violence shelter. My presentation will present the duties and responsibilities of a worker in a shelter for battered women and children. Also, it will pros and cons of domestic violence shelters according to research.

Women and Disability

Ashley Bob

As a future special educator Bob feels that it is crucial that she understand the lives of individuals with disabilities. Through her women's studies internship she has been blessed enough to learn about the lives of these individuals after they leave our educational system. She will be exploring who these women are what their lives are like, and how their disabilities have affected them (for better and worse).

Engaging Men in Discussions about Sexual Assault

Madeline Hope

Hope's research identifies the reasons men are reluctant to participate in discussions about sexual assault and where the foundations lie for these attitudes. After identifying these blockages I will explore ways that men can be encouraged to join discussions and serve as allies to women.

Sex Ed Beyond the Schools

Cassandra Lange

The sex education given in schools is rarely comprehensive and tends to focus only on the physical. This project focuses on alternative methods of sex ed, including Rochester's recent "Safer Sex Party" and healthy relationships workshops for foster teens and women in rehab.

***The Jack '76 and Carol '76 Kramer
Endowed Lectureship***

KEYNOTE ADDRESS

Wadsworth Auditorium • 1:45 – 2:45 PM

Introduction by Christopher Dahl, President and Jack and Carol Kramer

Dr. Thomas Seeley

Honeybee Democracy

Keynote Abstract: Honeybees make decision collectively—and democratically. Every year, faced with the life-or death problem of choosing a new home, honeybees stake everything on a process that includes collective fact-finding, vigorous debate, and consensus building. Seeley will describe how these bees evaluate potential nest sites, advertise their discoveries to one another, engage in open deliberation, choose a final site, and navigate together—as a swirling cloud of bees—to their new home. He will argue that these incredible insects have much to teach us when it comes to achieving collective wisdom. A decision-making group should consist of individuals with shared interests and mutual respect, a leader's influence should be minimized, diverse solutions should be sought, vigorous debate of the options should be encouraged, and the majority will should be counted on for a dependable solution. We will see that with the right organization, decision making groups can be smarter than even the smartest individual in them.

About Dr. Seeley: Dr. Thomas D. Seeley is a Professor in the Department of Neurobiology and Behavior at Cornell University, where he teaches courses in animal behavior and does research on the functional organization of honey bee colonies.

Dr. Seeley began keeping and studying bees while a high school student, when he brought home a swarm of bees in a wooden box. He went away to college at Dartmouth in 1970, but he returned to Ithaca each summer to work at the Dyce Laboratory for Honey Bee Studies at Cornell University, where he learned the craft of beekeeping and began probing the inner workings of the honey bee colony. Thoroughly intrigued by the smooth functioning of bee colonies, he went on to graduate school at Harvard University where he studied under Drs. Bert Hölldobler and Edward O. Wilson, began his research on bees in earnest, and earned his Ph.D. in 1978. After teaching at Yale for six years, he worked his way home to Ithaca/Cornell in 1986, where he has been ever since. In recognition of his scientific work, he has received the Senior Scientist Prize of the Alexander von Humboldt Foundation, been awarded a Guggenheim Fellowship, and been elected a Fellow of the American Academy of Arts and Sciences.

His research focuses on the internal organization of honey bee colonies and has been summarized in three books: Honeybee Ecology (1985, Princeton University Press), The Wisdom of the Hive (1995, Harvard University Press), and Honeybee Democracy (2010, Princeton University Press).

Dr. Seeley will be signing copies of his book, Honeybee Democracy immediately after the keynote address at the College Union Bookstore.

CONCURRENT PRESENTATIONS

SESSION 3 • 2:55 - 4:10PM

Session 3-A • Anthropology

Welles 115

Session Chair: Rose-Marie Chierici, Anthropology

Reflections on the Matriarchs Orchard

Arielle Aronoff

Faculty Sponsor: James Aimers, Anthropology

Herbal medicine, native ecological design, and Judaism come together in a study that explores the links between women and natural healing. This presentation will focus on my experience as an intern at Kayam Farm, a Jewish Educational Farm in Reisterstown, Maryland. The history of the four Hebrew Matriarchs, Sarah, Rebekah, Rachel and Leah, is steeped with trials and tribulations, celebrations and tradition. My internship allowed for me to explore this history and develop an herbal guide to the Matriarchs Orchard. The orchard has been planted as a space for women to celebrate the cycles of life. Our implementation of the project seeks to maintain harmony between people, culture, and the Earth as well as an integration of mind body and spirit in order to maintain a healthy garden and healthy selves. This project has developed from the desire to connect contemporary people with the tradition of their ancestors in a symbolic gesture towards the agrarian lifestyle that was once the basis of the Hebrew culture.

The Attitudes of Corset Wearers

Loretta Tucker

Faculty Sponsor: Barbara Welker, Anthropology

Corsets have fallen out of fashion in this age, but there are still some groups of people who wear them. The clothing item has been the center of controversies throughout time regarding their impact on the wearer's health. The purpose of my research is to explore the effects that corsets are likely to have on a person's health, and to examine the attitudes that modern corset wearers have about the objects.

Thought Background of Japanese Language

Mayuko Kubo

Faculty Sponsor: Denice Szafran, Anthropology

As native Japanese speaker, I often find awkwardness in non-native speakers' Japanese. Since English is my second language, I am aware that acquiring a new language is a long run. That awkwardness comes from is wrong use of honorific and "gendered" words rather than imperfect grammar. Many people tend to assume for languages with honorific that it is mainly and exclusively focused on the age difference between the speaker and the listener. How advanced Japanese speakers distinguish a proper politeness for the situation needs to be distinguished in relationship to age differences, gender roles, division between the private and the public or the inside and the outside. Especially what first person and ending the speaker uses determine the level of politeness and what the speaker indicates themselves as. Proper use of such complicated honorific and gendered words lead to more natural use of Japanese and better understanding of its culture and meaning behind words in Japanese.

Examination of the Impact of Tourism on Perception of <Place> in Naoshima, Japan.

Satoko Hirano

Faculty Sponsor: Rose-Marie Chierici, Anthropology

The introduction of manufacturing and services industries brought urbanization and culture change to Naoshima Island in the Seto Inland Sea of Japan in the early twentieth century. Recently, tourism connected people on the island to the outside world and challenged their attachment to the land and their perception of themselves. My presentation focuses on the generational difference in the perception of Naoshima as <place>, i.e., a place of residence or community. It addresses three questions: How have industrial development, tourism, and globalization impacted the Naoshima community? How norms and values influence the construction of Naoshima as one's place of residence or one's community? And, how and when does group identity shape perceptions of Naoshima as a community—<our place>? Based on data collected during three months of fieldwork in Naoshima, my presentation will highlight the situational nature of <place>. This ambiguity does not mean that belonging to a group or community is mutually exclusive but illustrates an on-going process of negotiation which is influenced by an evaluation of needs, benefits, and consequences.

Session 3-B • Biology

Newton 203

Faculty Sponsor and Session Chair: Kevin Militello, Biology

DNA Methylation Inhibits Expression of Select Ribosomal Genes in Stationary Phase

Escherichia coli

Michelle VanHorne

In *Escherichia coli*, the DNA base cytosine is converted to 5-methylcytosine by the enzyme, Dcm. We are testing for a role of this enzyme in gene expression. A DNA microarray showed expression of *rpsJ*, a small ribosomal subunit gene and *rpIC*, a large ribosomal subunit gene is increased two-to-three fold in a *dcm*-knockout strain of *E. coli*. Experiments with qPCR validated this result. In addition, when a plasmid containing the *dcm* gene was introduced into the *dcm*-knockout strain, expression of these genes decreased. When *E. coli* cells were treated with 5-Azacytidine, a drug known to inhibit DNA

methylation, the expression of *rpsJ* and *rplC* was increased on average six-to-seven fold. Overall, in the presence of DNA methylation, these ribosomal genes are expressed at decreased levels, suggesting that the methylation represses gene expression. Currently, the levels of ribosomal RNA (rRNA) will be measured both in the *dcm*-knockout strain as well as in *E. coli* treated with 5-Azacytidine. The physiological consequence of this phenomenon has yet to be investigated, but holds promise for future experiments.

Development of an Antibody to the TbDMT Protein from *Trypanosome brucei*

Richard Smindak

We are currently studying a putative DNA methyltransferase enzyme called TbDMT from *Trypanosoma brucei*, the causative agent of African sleeping sickness. DNA methyltransferases add methyl groups to cytosine bases and this modification may serve to control gene expression in *T. brucei*. Our long term goal is to determine whether the gene we have identified is truly a DNA methyltransferase in this organism. To this end, two custom antibodies against the TbDMT protein were created by Bethyl laboratories based on an amino acid sequence provided by the Militello laboratory. Testing of these antibodies via western blot analysis has demonstrated that one specifically binds to the TbDMT recombinant protein present in *E. coli* extracts. Testing of both procyclic and bloodstream form *T. brucei* extracts has demonstrated that there is TbDMT protein in both stages and that TbDMT is reduced in the presence of TbDMT-specific RNAi. These data show that TbDMT is probably not a pseudogene. The antibodies are important tools which will allow the laboratory to localize the TbDMT protein within the organism. They will also permit us to immunoprecipitate the protein in order to test for *in vitro* DNA methyltransferase activity.

Growth-Phase Dependent DNA Methylation of Cytosine Bases in *Escherichia coli*

Laura Fisher

In *E. coli*, DNA methylation of cytosine bases occurs in the sequence 5'CC(A/T)GG3' and is catalyzed by the Dcm protein. Our laboratory is currently investigating the role that 5-methylcytosine plays in transcription in *E. coli*. However, it is unknown if DNA methylation levels or sites change in response to growth phase and this was directly investigated. Bacteria were grown and DNA and RNA were isolated at log and stationary phases. The difference in *dcm* expression was analyzed at different stages of growth using quantitative polymerase chain reaction (qPCR). It was determined that there are no significant changes in *dcm* transcription when comparing log and stationary phases. The presence of methylated 5'CC(A/T)GG3' sites was analyzed using a restriction enzyme isoschizomer assay. The results demonstrated that some wild-type log phase DNA was digested by the methylation sensitive enzymes PspGI and EcoRII, indicating the presence of unmethylated sites. To quantify the differences in DNA methylation, a dot blot assay was performed using an antibody against 5-methylcytosine. The next step is to perform a Southern blot that will allow us to normalize the dot blot data. In the future, we aim to identify the precise location of unmethylated sites and their potential role in gene expression.

Session 3-C • Communication

Newton 214

Faculty Sponsor and Session Chair: Atsushi Tajima, Communication

See One Thing, Report Another: How Media Portrayals Distort the Effects of Mega-Events

Terrance Carroll

This paper presents an investigation into how media portrayals of the 2010 FIFA World Cup held in South Africa fail to establish a sufficient dialogue regarding the cost of the tournament to society. Previous literature regarding mega-events will establish that they are often perceived as a means of image crafting for a host country or city. Using the mega-event as a stimulus, hosts embark on a program of improvement to infrastructure, construction of stadiums but also beautification. The consequences of these actions are keenly felt by those in the lowest classes of society who may suffer cuts to social welfare and urban evictions. With much of the global audience's attention devoted to the World Cup, it would be thought that a large portion of media frameworks would be devoted to discussing the woes of the people. However, this is often not the case.

Disney's Complex: The Damsel in Distress of Modern Society

Gabrielle Gosset

The Disney Company is one of the largest global companies and its influence reaches from young children to adults and from the United States to Japan. Few companies have such global appeal while also influencing people across generations. From their first full-length animated feature film, *Snow White and the Seven Dwarfs*, Disney had constructed an image of beauty and femininity as well as a prototype for romantic relationships. It is because of its cross-generational appeal and target audience of young children experiencing key psychological and developmental stages that allow Disney and the Disney Princess narratives to have a lasting, influential impression on young girls. As these girls age, the prototypical constructions and gender norms embedded in their collective subconscious alter their self-image and their concept of their role in a romantic relationships. First, this paper discusses the Disney Company and its cross-generational and global reach. Then, integrating texts on child psychology, this paper determines the importance and significance of Disney Princesses' introduction into young women's lives at such a young age, as well as the effect this introduction has upon the young girls. After, this paper analyzes key Disney Princess narratives to define this newly created theory, the Damsel in Distress Complex, the complex cultivates from the nostalgic images and ideals instilled in young women at an early age by Disney Princess narratives. By discussing these characters and storylines, as well as the songs and actions within them, this paper describes the Damsel in Distress Complex and illustrates its application to young women's lives as they enter into adulthood and mature, romantic relationships.

'D'Oh!': The Skewed Portrayal of Women and Gender Roles in Popular American Sitcoms

Skylar Jameson

The title of this paper, "D'oh!': The Skewed Portrayal of Women and Gender Roles on Popular American Sitcoms" is inspired by the famous catchphrase of the incompetent animated character Homer Simpson on *The Simpsons*, and proposes that pigeonholing sexes in popular culture is an unfortunate and destructive blunder. This research explores the widespread

representations of men and women in the media, while ultimately focusing on the ways women are represented in contemporary sitcoms of American television and the construction of gender roles in programs like *Modern Family* and *The Simpsons*. Through the content analysis of several episodes of *Modern Family* and *The Simpsons* and the audience analysis of young television viewers, this paper attempts to unearth the conceptions of women and their dominant roles on television and in reality. Grounded in a Feminist and Cultural Studies perspective, the author hopes to understand the most popular portrayals of women as domestic and sexual beings and determine if changes are possible and necessary to enact.

Session 3-D • Communicative Disorders and Sciences

Welles 119

Faculty Sponsor and Session Chair: Robert Owens, Communicative Disorders and Sciences

Language Sample Analysis

Elizabeth Johnson, Katie Kreidler, Anne Feldman, Karen Figliotti, Holly Garrison, Nicole LeFever, Amy LaFleur, Dani Mansi, Kerry McTiernan, Leanne Meidenbauer and Lauren Smith

In a previous study, 175 50-utterance language samples were collected from 30-89 month-old children. A series of analyses was conducted, including Mean Length of Utterance (MLU), clauses per sentence (Cl/Sen), words per clause (Wd/Cl), noun phrases per sentence (NP/Sen), total number of words (TNW), elements per noun phrase (Elm/NP), and words per verb phrase (Wds/VP). Age-appropriate performance in each area was identified when at least 70% of the language samples displayed patterns. The present study sought to compare language sampling results of children with identified language disorders to those children without identified language disorders. Twelve students administered three subtests of the Comprehensive Assessment of Spoken Language (CASL), Paragraph Comprehension, Pragmatic Judgment, and Syntax Construction, to twelve children ages 30-89 months previously identified with a language disorder. The same students collected 50-utterance language samples from each child and calculated MLU, Cl/Sen, Wd/Cl, NP/Sen, TNW, Elm/NP, and Wds/VP. Values in each category lower than those found in the previous study further reinforce the diagnosis of a language disorder, suggesting that diagnosis via language sampling is a valid method.

Session 3-E • Computer Science

Newton 204

Faculty Sponsor and Session Chair: Homma Farian, Computer Science

Are Your Wireless Communications Secure?

Nicholas Rowe

Wireless networks rely on real-time encryption to keep data safe and secure. There are three major encryption schemes: WiFi Protected Access (WPA), WiFi Protected Access II (WPA2), and Wired Equivalency Privacy (WEP). Although today the recommended practice is to use WPA2, WEP is still widely deployed. According to an informal survey WEP is in active use in about 30% of homes. I set out to study the security and inner workings of WEP secured networks. I have found that the Wired Equivalency Privacy (WEP) scheme is severely flawed. To investigate WEP I studied the algorithms upon which it is reliant, and how the IEEE specification has been implemented in commercial routers. WEP relies upon two major algorithms: the Arc4 encryption algorithm and the CRC32 checksum algorithm. My research included exploiting a wireless network by joining that network and then gaining access to all data flowing between clients and the access point. This presentation will include an overview of WEP, including an explanation of the cryptography employed. As part of my research a brute force cracker was developed, that code will be used to showcase the insecurity of the commercial implementations. The presentation will conclude with constructive suggestions for improving personal security as well as the Arc4 implementation used in commercial routers.

Parallelization of a Computer Game

Michael Weachock

This project involves a computer game that I designed to be played on a sixteen-node cluster of computers hooked up to a two-dimensional array of monitors, commonly called a tiled video wall. My motivation for carrying out this project is to evaluate the feasibility, advantages, and disadvantages of thorough parallelization of a game. With both game development and parallel programming at the forefront of modern computing, combining the two made this a very interesting and challenging task. To achieve this goal, I used a form of computation called parallel computing, which utilizes multiple processors to quickly do computations that would have taken a substantial amount of time on a single computer. I explored using parallelism, both as a method for speeding up intense graphical calculations and as a compelling gameplay mechanism. By combining computer graphics techniques with those of parallel computing, I made a retro-style, bird's eye-view, adventure game that could be segmented into ways that are conducive to parallelization as well as minimally obstructive to the game's graphical elements. This has allowed me to run the game that, due to its intense graphical nature and high resolution, could not have run (at an interactive frame rate) otherwise.

Session 3-F • Edgar Fellows Capstone VI

Welles 121

Faculty Sponsor and Session Chair: Olympia Nicodemi, Edgar Fellows Honors Program and Mathematics

Specialization in Physics

Forrest Smith

This presentation will be a weighing of the pros and cons of the growing need for highly specialized scientists in physics. Using my own summer research as a case-in-point, the great disparities between the scientific goals of a project, and the individual jobs assigned to team members will be highlighted. The detriments and advantages of specialization will be explained, with comparison between major modern endeavors in physics, and the triumphs of the past when specialization was less common, and less necessary. **Mentor: George Marcus**

Entanglement

Ryan Schooley

The phenomenon of quantum entanglement is at the very heart of quantum theory, so much so that Erwin Schrodinger referred to it as "the characteristic trait of quantum mechanics". Its physical significance is both stunning and non-intuitive- it allows for a measurement on one particle to instantaneously change a physical value of another particle to which it is entangled. But besides this bizarre implication, entanglement's significance spans far beyond physical theory. It was front and center in the famous debate in the 30s and 40s between Einstein and Bohr on the validity of quantum mechanics, eventually culminating in the Einstein-Podolsky-Rosen paradox, Einstein's best attempt to corner quantum theory and the only challenge to which Bohr had no answer. The EPR paradox eventually spawned a series of experiments, the results of which called into question the limitations of science and what we can ultimately know about reality. In my talk, I will describe a simple experiment that demonstrates entanglement and discuss these scientific and philosophical implications. **Mentor: George Marcus**

Development of a Long-Extension PCR Assay to Detect Large Scale Deletions in Mitochondrial DNA of Human Lymphoblasts Exposed to Ionizing Radiation

Michael Siegenthaler

It has been shown that the mitochondrial DNA is susceptible to large-scale mutations that produce deletions of several thousand base pairs. These mutations can result in a variety of diseases that compromise the metabolic efficiency of the cells in which they are found. We have begun to show that these large-scale mutations can be brought about through exposure to high-energy radiation. Using Long-Extension PCR, fragments of human lymphoblast mitochondrial DNA several thousand base pairs in length are amplified. The banding patterns of these large fragments are observed as the cells from which the DNA is derived are exposed to increasing doses of radiation. It is expected that we will observe increased fragmentation of the DNA with increasing doses of radiation. This will lend support to the suggestion that radiation can trigger the deletion of DNA from the mitochondria. The banding patterns will also allow for a rapid determination of the location of these deletions within the mitochondrial genome and can help identify susceptible sites. **Mentor: Wendy Pogozelski**

Determining Plate Motion from Three-dimensional Shape Preferred Orientations at the Microscopic Scale: Western Idaho Shear zone, ID

Dana Smith

The Western Idaho Shear zone is a Late Cretaceous belt of deformed igneous intrusions. The zone marks the division between accreted island arcs to the west and the North American basement to the east. Movement along the western Idaho shear zone was transpressional in nature, combining head-on collisional tectonics with lateral sliding similar to the San Andreas Fault. However, the angle of interaction between the two fault blocks during transpression is uncertain. The kinematics are honed here through a study of strain geometry. During the active phase of deformation on this shear zone, the area currently visible at the surface was over 30 km below ground, where temperatures and pressures encouraged flow of rock, not faulting, to relieve stress. The nature of the flow prompted rigid crystals to rotate into alignment. The resultant crystallographic fabric orientation is therefore a reflection of flow conditions and can be used to determine the relative contribution of collisional vs. lateral motion in the zone (i.e. the angle of oblique convergence). Prior research quantified this same value using outcrop scale data. Microscopic scale data collected as part of this project offers the opportunity to determine how deformation was partitioned between larger vs. smaller scale crystals. **Mentor: Scott Giorgis**

Session 3-G • Edgar Fellows Capstone VII

Welles 123

Faculty Sponsor and Session Chair: Olympia Nicodemi, Edgar Fellows Honors Program and Mathematics

Concurrent Languages in Southern France and Catalonia

Erinn Kehoe

Concurrent Languages in Southern France and Catalonia Abstract: Among the world's many language communities numerous examples of languages can be found that are spoken by nations that exist within a larger State. These nations do not always share the language of the external state. This is the case in both Southern France, where Occitan coexists with French, and in Catalonia, an autonomous region in Eastern Spain where both Catalan and Spanish are spoken. Although both Occitan and Catalan can be considered "regional languages", their current status and future prospects are very different. This paper seeks to define each language and its current usage and diffusion, to examine the historical, sociopolitical, cultural and linguistic reasons for the relative success of Catalan and the current difficulties of Occitan, and to briefly address the possible future of each language. **Mentor: Beverly Evans**

Las Enfermedades de la casa de Austria

Elizabeth Maguire

This presentation will discuss the debilitating illnesses that affected the Spanish House of Habsburg, including the genetic and environmental factors that contributed to these diseases and the affects they had on the rule of Spain. This discussion will touch on monarchs such as Juana la Loca and diseases such as schizophrenia and bipolar disorder. **Mentor: Lori Bernard**

My Life as a Kiwi

Julianna Manning

I went to New Zealand expecting a fun study abroad experience in a country that spoke English. What I got was five months in the most beautiful place on earth, exposure to the language and culture of the indigenous Maori islanders, and a lot more unexpected surprises. This account of a college student's semester on the other side of the world will include personal writings, cultural research, and a multimedia presentation of the beauty of New Zealand. **Mentor: Russell Judkins**

What the Owl Had to Say: Exploring Life in the Neolithic Through Ethnographic Fiction

Bridget Dunn

Walking a mile in another's shoes is supposed to help us understand a different point of view. In anthropology, this often translates into reading ethnographies by researchers who immerse themselves in the lives of others – living and working with them – to try to gain an understanding of what it means to be part of their culture. This works beautifully with contemporary cultures, but is difficult when the people you're interested in are dead. There's no sitting down with the Varna culture along the shores of the Black Sea and asking why their pots have eyes and what they were thinking when they started burying people with armfuls of gold. For these answers, we turn to archaeology and extrapolate the 6000-year-old culture from what they left behind. But lists of artifacts aren't a lot of fun. Fiction is. The imagined life of Magda is one interpretation of the culture that established the complex cemetery of Neolithic Varna. It's one attempt to navigate life in an extremely vintage pair of shoes.

Mentor: Russell Judkins

Session 3-H • English

Welles 131

We Happy Few: Two Directors' Propaganda in Film Productions of Shakespeare's Henry V

Faculty Sponsor: Julia Walker, English

Session Chair: Christopher Ciervo

Kelly Brown, Christopher Ciervo, Tyler DeRubio, Maxwell McDermott, Rebecca Schoonover and Vincent Stowell

Just as Shakespeare wrote to comment on England's desire to control not only France, but the New World, the directors of Henry V have used the play as a propaganda piece. The English government urged Olivier to make the 1944 film to rally a war-exhausted nation. Olivier's biggest problem was that the French were allies in World War II, not the enemy. A quarter-century later, Kenneth Branagh's Henry speaks to the post-Viet Nam, post-Falklands cynical audience, still embroiled in armed conflict in Ireland.

Session 3-I • English

Welles 132

Autobiographical Places and Spaces

Faculty Sponsor: Eugene Stelzig, English

Session Chair: Gregory Roloff

The Return Home

Sydney Beck

"The Return Home" is the recollection of my memories growing up in the British Virgin Islands. Revisiting Tortolla allowed me to venture back into my past and acknowledge how different the island has become. I have come to realize that maybe it is not the island that has changed, but just my view of life there.

Gravidity

Kate Jordhamo

My essay deals with being forced to make a difficult, life-changing choice. At its core, it examines how the choices we make affect and at times dissolve the relationships in our lives. As a whole, the essay tries to make sense of what it is like to feel completely alone and displaced in the world—isolated both by people and places.

A Reflection on Old-Fashioned Values in South Buffalo

Gregory Roloff

Just beneath New York's "Queen City" lies South Buffalo, a neighborhood composed of working-class Irish-Americans. There is a bar and a church on what seems like every street corner, and a burning appreciation for family and friends resonating in every heart. I discuss how this area has developed into one of upstate New York's cultural epicenters.

The Kuntz Family's First and Last Camping Trip

Erin Kuntz

My essay is the story of a short camping trip my family and I went on one summer. After years of hiking trips and weeks of collecting camping supplies, we were excited and (so we thought) prepared to try out our wilderness skills, but the heat eventually got the best of us. I describe the highs and lows of a short trip that was cut even shorter.

Transgender Theory and Literature- Part 2*Faculty Sponsor and Session Chair: Alice Rutkowski, English***Gender Performance in Julia Ward Howe's *The Hermaphrodite*****Lauren Eudene**

Today, there are scholarly arguments regarding transgender theory and the relationship between a person's gender identity and the traditionally accepted ideas of gender. Although only recently found and published, Julia Ward Howe's 19th century novel *The Hermaphrodite* confronts the issue of transgender in a character who is a hermaphrodite. Applying new ideas to this text allows for a greater understanding of the way transgender issues are currently and historically treated in society and the way that some issues remain constant. The protagonist, Laurence, has to create a persona in order to account for his gender ambiguity. From the day his parents decided they would raise him as a male, Laurence feels the constant need to act as a male is expected to act. To use the words of Riki Wilchins, Laurence struggles to make his "gender appear natural" based on stereotypical gender perceptions. Laurence is often judged based on his appearance, which relates to Marjorie Garber's comments on the role of clothing in society, as well as Jamison Green's claim that a person's gender identity cannot be determined based on appearance. Laurence's struggle with an ambiguous gender represents society's resistance to gender portrayals that are outside of the norm.

The Significance of Transvestism: Stephen's Masculinity as an Advantage**Marissa Fariello**

In Radclyffe Hall's novel *The Well of Loneliness* (1928), Stephen, a female who exemplifies male characteristics, lives in a society where her transvestism, let alone her sexual inversion, marks a "space of anxiety" by "[calling] into question the inviolability" of "normal" sexuality and gender expression. By applying transgender theory to this early twentieth century novel, it becomes evident that Stephen's male gender expression empowers her. According to Marjorie Garber, Stephen would face animosity from her heteronormative peers, as her sexual intermediacy is "terrifying" and threatens the power dynamics of the 1920's patriarchal society. However, my paper explores the idea that, while "character inversion" is often seen as a disadvantage, Stephen's masculinity allows her the "action" and "dominance" that are associated with masculinity, as opposed to the "passivity" and "weakness" that would be forced upon her if she was feminine. Stephen is able to live independently from men, both economically and socially, despite the social stigma that many female inverts typically face because of their perceived "congenital anomaly." Stephen ultimately reinforces the gender binary and its power dynamics, ensuring her authority over her own life and her success within a patriarchal society.

Trans-identity in Djuna Barnes' *Nightwood***Nicholas Becht**

In her novel, *Nightwood*, Djuna Barnes presents the reader with Dr. Matthew O'Connor, a character whose identity is so complex that he arguably has no fixed identity. On the surface, he is a cross-dressing, homosexual gynecologist with no medical license. Neil Miller's "Pioneers of Sexology," provides contextualizing information about the prevailing 'knowledge' and attitudes regarding non-normative gender identities and sexualities around the time that *Nightwood* was written. Of particular interest is the notion of sexual inversion, or of the female soul residing in the male body. In her work, Marjorie Garber examines "vestimentary transgressions" and the erotic desire(s) and discomfort which these transgressions cause, suggesting that the transvestite is "a crisis of 'category' itself." Garber's ideas aid in an analysis of the ways in which Dr. O'Connor defies categorization, as well as the ways in which other characters respond to his various transgressions. Finally, Esther Newton's explanations of the sartorial and drag systems in "Selection From Mother Camp" provide additional ways for analyzing Dr. O'Connor and his speech, which may qualify him as a figure of Camp. This application of gender and queer theory to Barnes' novel results in interpretations that are as fascinating as they are seemingly infinite.

Identity II: America*Faculty Sponsor and Session Chair: Gillian Paku, English***Greek and American Comic Traditions in Whitman's "Song of Myself"****William Porter**

This paper deals with Walt Whitman's "Song of Myself," normally considered one of the most important poems in American literature, as well as with a range of scholarship about the genre of comedy, its development in American literature and culture, and Whitman's poem itself. I examine various strains of comedy within the poem, highlighting the ways in which different forms of comedy—the major two being American derivations from ancient Greek comedic drama—develop a frame that reveals the larger, more serious nature of Whitman's project. The essay argues that, because of the relationship between the two major comic figures (the alazon and eiron, representing two different forms of comedy) in the poem mimics the relationship between Whitman's major thematic interests, an understanding of the poem's comic aspects is crucial to understanding the rest of the poem.

When Our Ideals Become Unrecognizable: American Racial Identity Creation in Herman Melville's *The Confidence-Man: His Masquerade*.**Gretchen Barkhuff**

Herman Melville's *The Confidence-Man: His Masquerade* is often viewed as a messy and troublesome novel, for it is lacking both strong characterization and plot development. *The Confidence-Man* is definitely a unique novel—the reader must work to follow the unidentified Confidence-Man as he seamlessly shifts between different guises. Yet, the aforementioned critique

utterly misses the novel's point: Melville's goal was never to create a well-developed literary narrative, but rather to reveal pervasive American ideologies. Ultimately, through this novel, Melville points out the dangers of relying on racial divisions, especially in a society founded on the ideals of democracy. Melville's Confidence-Man embodies the American idea of social fluidity in its most extreme form: he alone has the power to fully transcend racial categorization. But importantly, all of the other characters fail to recognize the Confidence-Man as he transitions between racialized guises. This failure is ultimately detrimental to the novel's characters, for it leads them to be tricked, generally out of their money, by the Confidence-Man. Through these events, Melville asserts that American racial identities are threateningly superficial entities, and a belief in them prevents white Americans from recognizing the very freedom ideals their country was founded on.

4:15 a.m.

Kelly Hendricksen

This creative nonfiction piece examines friendship dynamics through the use of dark and light imagery and minimalist dialogue. It is set against the stark nighttime of the Long Island Railroad Station on the night of the narrator's friend's twenty second birthday, and presents poetic scene descriptions. It explores a period of the mental breakdown of the narrator's friend, and how the relationship has deteriorated since all three friends went on their separate ways to college. It further examines what growing up means to the narrator, and how this has affected the three particular main characters in the piece. It demonstrates the universality of a traditional coming of age story, with a new, modern twist.

The Calculated Musicality of Kincaid

Stasia Monteiro

My analytical essay examines the complex web of tropes and reverberations present both in Jamaica Kincaid's independent novel, *Annie John*, and within her body of work as a whole. My essay focuses specifically on her use of Christopher Columbus as a recurring symbol, which emphasizes her Antiguan characters' roots as subjects still subject to the influence of colonial imperialism. Importantly, Kincaid shifts the space and context in which the trope is presented each time, so that when the reader sees the subject has been re-written, he or she ought to examine the surrounding space closely, as it will often illuminate one's reading. Additionally, I point out that the trope's presence in Kincaid's other works will also illuminate one's reading of a single text, like *Annie John*. My paper highlights the mindful and deliberate nature of what some readers may identify as "echoes" within Kincaid's work. Instead, I argue that the shifting of tone and space in which the tropes resonate makes her reiterations more like musical reverberations, which are long-lasting and can be perceived as varying over time.

Session 3-L • History

Welles 117

US-China Relations

Faculty Sponsor: Tze-Ki Hon, History

Session Chair: Samantha Maurer

Anti-American Sentiment During the Chinese Civil War 1946-1949

Samantha Maurer

The Shen Chong Raping in 1946 - its short-term tangible failures and its long-term symbolic impact on the Chinese youth movement and its influence on the increasing anti-American sentiment of Chinese national culture. This raping was quickly transformed from a personal crime committed against Shen into one perpetuated against the entire nation.

Student Commentator: Michelle Marks

John Dewey's Impact on the Chinese Renaissance

Michael Manko

China underwent several revolutionary changes during the first half of the 20th century. Historians have generally agreed that the May Fourth New Culture Movement was the most significant because it ushered in an earnest search for a new intellectual and cultural history of China. It is for these reasons that this period has been given multiple labels, such as the Chinese Enlightenment and the Chinese Renaissance. Although Westernized elements had gained a foothold in China by the turn of the century, it was during this time that Chinese scholars and intellectuals began importing western ideas pertaining to new ways that China could survive nationally and internationally in the postwar world. The first major Western philosopher to have an impact on Chinese thought during this time was the famous Progressivist theorist and educator, John Dewey. His teachings promoted the freedom of thought and the use of educational methods that encouraged students to develop their own interpretations of classroom material. However, most people are not aware of the extent of Dewey's impact on the development of modern Chinese culture. Examining the important Chinese figures that Dewey influenced and how they altered China's course for creating a new cultural identity will provide a better understanding as to how crucial John Dewey's participation was in reshaping Chinese education and society.

Student Commentator: Dean van Munster

Chinese Christian Colleges from 1910-1950

Michael Terreri

For this research paper, I would like to examine Chinese Christian colleges from approximately 1910-1950. I am interested in examining the ways in which a number or perhaps even the majority of these institutions successfully transitioned not only through periods of war and famine, but through decades long trends of nationalization and secularization as well. Christian higher education in China began in 1818 as a purely missionary or evangelist, Anglo run activity; but by the 1920s had come under the control of Chinese Administrators and for reasons to do with nationalism as much as global trends in higher education had become irreversibly secularized as well. By the early 1930s Christian missionaries in North America fully recognized, to their displeasure, that Christian colleges in China were increasingly unable to either attract qualified students

for the ministry or to produce a satisfactory number of ministers. Despite the best efforts of organizers abroad, during the early to mid-20th century, a combination of revolutionary fervor, nationalist sentiment and progressive secularism ultimately doomed collegiate theological instruction in China. Thanks in part to a global trend of secularization in higher education, paradoxically supported by many American Christians however, religious colleges were able to transition as institutions into the second half of the 20th century by charting new secular futures. **Student Commentator: Samantha Maurer**

Session 3-M • Applied Mathematics

Newton 201

Session Chair: Caroline Haddad, Mathematics

Stability Analysis of FitzHugh – Nagumo with Smooth Periodic Forcing

Tyler Massaro

Faculty Sponsor: Benjamin Esham, Mathematics

Alan Lloyd Hodgkin and Andrew Huxley received the 1963 Nobel Prize in Physiology for their work describing the propagation of action potentials in the squid giant axon. Major analysis of their system of differential equations was performed by Richard FitzHugh, and later on by Jin-ichi Nagumo who created a tunnel diode circuit based upon FitzHugh's work. The subsequent differential equation model, known as the FitzHugh-Nagumo (FH-N) oscillator, represents a simplification of the Hodgkin-Huxley (H-H) model, but still replicates the original neuronal dynamics. This thesis begins by providing a thorough grounding in the physiology behind the equations. We continue by proving some of the results postulated by Tanya Kostova et al. for FH-N without forcing. Finally, this sets up our own exploration into stimulating the system with smooth periodic forcing. Subsequent quantification of the chaotic phase portraits using a Lyapunov exponent are discussed, as well as the relevance of these results to electrocardiography.

Are Your Credit Cards Safe From Me?

James Clark

Faculty Sponsor: Gary Towsley, Mathematics

I will begin with a brief overview of the history of cryptography and then specifically look at RSA cryptography. RSA is used for everything from secret communications, to wire transfers between banks, to transmitting your credit card information when you buy items online. I will go over three different factoring methods used to crack RSA cryptography - Pollard's Rho method, Fermat's method, and the continued fractions method. I will discuss the advantages and disadvantages of each, and conclude whether your credit cards are safe from me.

Eigen-what? Let Me Google That...

Kevin Palmowski

Faculty Sponsor: Caroline Haddad, Mathematics

Until 1998, when Stanford University computer science PhD students Larry Page and Sergey Brin first created their now-famous Internet search engine, we lived in a world without Google. With the goal of creating a reliable search engine, Page and Brin created PageRank, the algorithm which became the backbone of Google's search technology. PageRank is rooted in numerous areas critical to applied mathematics, but at its core the algorithm involves finding the dominant eigenvector of the so-called "Google matrix." In this talk, we will view the internet as a graph, walk through the construction of the Google matrix, and show how Google uses the Power Method to find the aforementioned dominant eigenvector. Linear algebra experience is strongly recommended to fully enjoy the presentation.

Session 3-N • Political Science and International Relations

Welles 24

Session Chair: Sean Morgan, Political Science and International Relations

Internet Law and Policy in the United States

Taimur Gibson

Faculty Sponsor: Kenneth Deutsch, Political Science and International Relations

This presentation will discuss the history, architecture, and structure of the internet. After this has been explained, it will discuss the laws and policies of America that pertain to the internet, as well as identify those responsible for its management and regulation. Internet systems of foreign nations will be addressed for comparison purposes. The presentation will conclude with possible directions for the future development of the internet, and challenges along the way.

A Comparative Study of the Japanese, Asian, and American Financial Crises

Rian Litchard

Faculty Sponsor: Sean Morgan, Political Science and International Relations

This paper compares the Japanese financial crisis of the early 1990s, the general Asian financial crisis of 1997-1998, and the crisis in the United States in 2007-2008. Special emphasis is placed on specific policy choices and institutional structures in each case, with the goal being to demonstrate that different basic political economies can undertake the same policies with the same results.

Session 3-O • Political Science and International Relations

Welles 26

Faculty Sponsor: Jeremy Grace, Political Science and International Relations

Session Chair: Lindsey Martin

Service Learning Trip to Kakamega, Kenya: Serving and Empowering Disabled Communities

Garrett Burger, Nicholas LaGrassa, Rachael Massonne, Lindsey Martin, Margaret Morris-Knowler and William Wagner-Flynn

During the summer of 2010, nine SUNY Geneseo students spent a month in Kenya with the Foundation for Sustainable Development, a San Francisco-based non-governmental organization (NGO) which works around the world with small NGOs to address local issues. Four projects were implemented by the Geneseo students at the Daisy Resource Center and School, which provides educational, medical, therapeutic and social support to children with physical and mental handicaps. An advocacy campaign was implemented in the Kakamega community to increase awareness of Daisy as well as advocate for disabled rights. A water harvesting project increased Daisy's capacity to provide clean water and decreased erosion. Tree planting also decreased erosion and created a long term source of nutrition and income generation. The incorporation of solar cookers at the school helped stabilize environmental problems in addition to providing nutritious meals to a larger community. Direct skills transfer from the Geneseo students to Daisy staff and students created a base for expansion and increase of Daisy's existing vocational initiatives. The Geneseo students benefited by gaining exposure to human rights issues, increasing knowledge associated with setting up small-scale community based income generating activities, gaining experience working with appropriate technologies and much more.

Session 3-P • School of Business

South Hall 338

Faculty Sponsor and Session Chairs: Avan Jassawalla, School of Business

Organizational Politics, Stress, and Employee Work Performance

Ryan Lockenvitz and Collette Spagnolo

To be a successful manager one must first understand the intricacies of office politics and the stress that it can put on employees. By helping managers become aware of negative stresses caused by office politics, they will be more apt to recognizing early warning signs which will help prevent future issues from arising and actually make good stress work in their favor. Office politics is defined as the seemingly self-serving actions taken by individuals in the pursuit of career advancement that may come off to peers as unethical and/or unfair. The two main forms are Nepotism and Machiavellianism. Stress is a subjective feeling that work demands exceed individual's belief in his/her capacity to cope. It can be both positive and negative. Office politics has a direct effect on the amount of stress created within a work environment, which directly affects overall employee performance. Because of the impact that stress can have on an organization's earnings, managers should be aware of ways in which they can help alleviate distress and promote eustress among their employees.

An International Study on the Effects of Occupational Health and Safety on Employee Efficiency

Drew Prescott and Aaron Kapur

Promoting employee safety and health is an essential human resource function that provides an organization with legal protection, an improved public image, and increased employee well-being and satisfaction. Laws, organizations, and management styles exist both domestically and globally that create different standards and thereby different health and safety conditions for various nations. The nations of India, China, and the United States have all undergone recent legal shifts towards the promotion of occupational health and safety. However, there is a fine line between what the governments mandate and what corporations actually practice, especially when the nation is experiencing rapid economic growth. It is extremely important to understand the international and domestic human resource practices of ensuring employee health and safety because it relates directly to an employee's physical health, mental well-being, and overall productivity.

Organizational Culture and the Glass Ceiling

Caitlin Dennehy, Jason Boisvert and Patrick O'Reilly,

Research has proven that an organization's culture can create a glass ceiling since the culture of many work places favor masculine characteristics. As a result, women have to adapt to these traits, otherwise they will not be able to advance in the work place. The glass ceiling exists and prevents women and minorities from advancing in the workplace. It is apparent that the glass ceiling is ingrained in an organization's corporate culture and not the result of individual behavior on the part of women or men as sometimes assumed. The model of the glass ceiling has changed into a new dynamic model in order to better explain the new passive cultural barriers as opposed to the old active barriers to advancement. Our recommendations help aid managers in identifying if their culture fosters a glass ceiling, and how the organization can eliminate it. An organization can identify this problem by analyzing past and present documents. They can also analyze their informal social practices to see if they are skewed towards male ideals. An organization can eliminate these unfair practices through education and training and can prevent them from happening in the future by adopting more efficient interview techniques.

Transformational Leadership and Employee Performance Across Cultures

Luke Haffen, Bruna Garcia and Brad Kenyon

Transformational leadership has proven to be successful at improving employee performance throughout the United States, however, it does not perfectly translate into other cultures. Based on individual values and norms of each culture, certain dimensions of transformational leadership are more effective than others. Applying the local customs and traditions from any given culture to transformational leadership is the best way to make employees and overall organizations the most effective across cultural boundaries.

Session 3-Q • School of Education

South Hall 340

Pre-service Students Engaged in Undergraduate Literacy Research

Faculty Sponsor: Maria Liwanag, School of Education

Session Chair: William Jones

Curr 313: Mini-Inquiry Research Projects on Reading Programs and Reading Strategies

Katelyn Charbonneau

The goal of this presentation is to showcase the literacy research experiences of pre-service teachers who developed mini-research inquiry projects using surveys, miscue analysis and literature discussions as literacy research methodologies. The survey method will help pre-service teachers utilize their class created checklist to collect data on what makes a text engaging. In a research miscue method, pre-service teachers will ask readers to read complete texts while their oral reading and retelling are tape recorded for later in-depth analysis of reading strategies. In the literature discussion method, pre-service teachers will tape record their discussions of multicultural texts so they can transcribe and analyze their own discourse about reading reflections and experiences with multicultural texts. **Commentator: Ann Marie Lauricella**

Navigating the Information Delivery System (IDS) on the Milne Library Website: Report on Initial Findings of a Pilot Study

Caitlin Pemberton

Eye Movement Miscue Analysis (EMMA) is a combined research methodology used to examine the complex relationship between eye movements and oral miscues that occur when readers read. The Information Delivery Services (IDS) development team partnered with the School of Education's EMMA lab to investigate the functionality accessibility of the IDS search engine. Participants performed various search tasks in the EMMA lab while their responses, search behaviors, and eye movements were recorded using the EMMA methodology. This presentation highlights some of the participant responses to search tasks, sample data collected by the Eyenal and Gazetracker software, and offers recommendations for the development of the IDS search engine. **Commentators: Katherine Ksiazek and Brian Morgan**

Pre-service Teachers' Perceptions, Views and Beliefs about Literacy and the Influence on Literacy Instruction

Abigail Saylor

The goal of this research is to survey pre-service teachers' perceptions, views and beliefs about literacy using Kucer's (1996) Literacy Belief Profile. Students taking Curr 313 will be asked to complete survey forms three times (e.g. early March, April and May) to determine how their responses change, if there are any, over the course of the semester. Survey results will be used to develop the second phase of the project where students will be asked to respond to semi-structured interview questions regarding their perceptions, views and beliefs about literacy. Responses will be analyzed to determine what, how and in what ways do pre-service teachers' beliefs about literacy influence decisions about how to teach literacy.

Student Commentators: Sara Ertel and Lauren Petriello

Session 3-R • School of the Arts-Studio Art

Welles 138

Podcast Presentations on Notable Photographers and Computer Artists

Faculty Sponsor and Session Chair: Michael Teres, School of the Arts-Studio Art

The Digital Photographer Marcelo Benfield

Darcy Miller

A podcast will be presented that highlights both the work of photographer Marcelo Benfield and demonstrates his place in photographic history, especially his role as a fashion icon. Additionally, Darcy will analyze some pieces of Benfield's work from the perspective of a fellow photographer

Alfred Eisenstaedt Father of PhotoJournalism

Chad Bogar

Alfred Eisenstaedt was one of the most influential photographers of all time. The podcast being presented will highlight some of his most well known work. Chad will include some of his own photographs imitating Eisenstaedt's style.

A Visual Quotation and Biography of Walker Evans

Jaclyn Vetrano

This podcast not only explains how Walker Evans came to become a photographer, but also an analysis of a few of his many pieces. Jaclyn also incorporates some of her own photography that was taken with Evans' style and strategy in mind.

Session 3-S • Study Abroad & Humanities**Welles 128****Student Panel Discussion on Humanities II in El Sauce, Nicaragua Study Abroad Program 2010***Faculty Sponsor: Wes Kennison, Study Abroad & Humanities**Session Chair: Meredith Doyle*

Nyasha Adams, Kia Akbar, Meredith Doyle, Taylor Grogan, Kim Hall, Jackie Krecker, Emma Leigh, Rebecca May, Anna McDonough and Jyl Ristau

The SUNY Geneseo campus ran a pilot Humanities II program in El Sauce, Nicaragua this past summer for one month. We had a chance to study the Western Humanities outside of the typical "Western" context and surrounding and study them in the context of what is normally considered the "Third World". SUNY Geneseo is breaking the mold for Humanities in this respect and we are one of the first institutions in the country to be studying Western Humanities outside of Europe or The United States. Our presentation will include a brief introduction of the Humanities II program in El Sauce, Nicaragua with our own personal experiences, but what we would most like is that it be a panel so that we may answer questions that attendees may have about the program and how the Humanities II program most affected us. Our goal is to describe what the program entailed for us, what we got out of the experience, and to answer questions from students, faculty, staff, and community members about the program.

Session 3-T • Women's Studies**Welles 140****Multicultural and International Perspectives on Women and Gender***Faculty Sponsor and Session Chair: Melanie Blood, Women's Studies***Multiculturalism Literature in Grades 9-12: A Comparison of Multicultural Efficacy in Rural and Urban Schools****Daniel Hart**

Hart will be going into schools in rural and urban communities surrounding Geneseo and collecting data for the study. It is both a quantitative study-in which he will be surveying high school teachers to determine what texts they are teaching in their ELA classrooms- as well as a qualitative study- where he will be interviewing high school students, asking them what texts they found meaningful and enjoyable.

The Poetry of Women in the Middle East**Sarah McGuire**

McGuire is looking at how women use poetry as a form of political expression in Middle Eastern countries, and how their interpretations and concerns compare with those of mainstream media representations, which brings up questions of culture, power and imperialism.

Successful Performances of Indian Womanhood in the Professional Workplace**Brittney Walker**

Throughout India, there are multiple expectations of womanhood as constructed by Hindi, Muslim and Indian nationalist groups. These expectations result in the performance of gender by female Indian professionals in order to succeed in the workplace.

CONCURRENT PRESENTATIONS**SESSION 4 • 4:20 - 5:35PM****Session 4-A • Biology****Newton 201***Session Chair: Elisabeth Cox, Biology***Behavioral, Spatial and Genetic Characteristics of Geneseo's Slavemaking Ants and Their Hosts****Sara Lewandowski***Faculty Sponsor: Jennifer Apple, Biology*

Slavemaking ants are social parasites that raid nests of another ant species, steal their brood, and raise it as a workforce in the slavemaker colony. I analyzed behavioral and spatial patterns of two slavemaking ant species, *Formica subintegra* and *F. pergandei*, and their host, *F. glacialis*, in the Roemer Arboretum. The slavemaking species differed in raid frequency, suggesting that *F. subintegra* may be more specialized for slavemaking than *F. pergandei*. Host intraspecific aggression, assessed through behavioral assays, was not related to spatial distance between nests, but was positively related to genetic distance, measured using DNA microsatellites. Statistical analyses were used to assess the spatial patterns in the locations of slavemaker and host nests to gauge the potential impact of slavemaking on nest distribution. Slavemaker nests tend to be further from their neighbors than are host nests, while the host nests exhibit a clustered pattern. Preliminary analyses do not suggest a relationship between host spatial and genetic distances. These trends, which differ from many ant communities

lacking slavemakers, suggest that slavemaking may influence host nest distribution, creating open areas around slavemaker nests where parasitism pressures are high. These findings increase our understanding of the interactions of slavemaking ants and their hosts.

TMD-1/tropomodulin Cooperates with GFI-2 to Promote Proper Terminal Web Structure During Tubulogenesis.

Nicole Vissichelli

Faculty Sponsor: Elisabeth Cox, Biology

The *Caenorhabditis elegans* intestine provides an excellent model system for studying tubulogenesis. The unbranched intestine is polarized with an apical membrane, that borders the fluid filled lumen, and a basolateral membrane. A cytoskeletal support network called the terminal web underlies the apical membrane, containing both actin and intermediate filaments. TMD-1/tropomodulin is an actin regulatory protein present in the terminal web. I have found that loss of *gfi-2* enhances the phenotype of *tmd-1* loss-of-function mutants. GFI-2 is a putative myosin phosphatase regulatory subunit that also binds to intermediate filament regulators. RNA interference (RNAi) was used to deplete the expression of *gfi-2* in wild-type worms and *tmd-1* mutants. Phalloidin staining and immunostaining for IFB-2 were used to visualize actin filaments and intermediate filaments, respectively. *gfi-2(RNAi)* embryos are normal, *tmd-1* mutants have intestinal expansions, and *tmd-1* mutants treated with *gfi-2(RNAi)* exhibit strong intestinal defects. Results indicate that loss of function of both *tmd-1* and *gfi-2* causes a compounded decrease in density of actin filaments in the terminal web, an alteration in intermediate filament structure, and an increase in embryonic lethality. These results suggest a previously undocumented connection between proteins regulating intermediate filaments and actin filaments and their involvement in accurate intestinal development.

Molecular Studies of Tropomodulin Isoforms, *tmd-1* and *tmd-2* in *C. elegans*

Soohyun Oh

Faculty Sponsor: Elisabeth Cox, Biology

In spite of its prevalence in animal development, formation of endothelial tubes is a poorly understood. *C. elegans* has a simple 20-cell intestine whose lumen forms via cord hollowing mechanism. Tropomodulins are actin filament capping proteins that regulate the growth and stability of the filament at a pointed end. *C. elegans* has two tropomodulins, TMD-1 and TMD-2. Both of these proteins appear to play role in regulating intestinal lumen morphology and diameter. To analyze the expression pattern of TMD-1, we have cloned it with GFP (Green Fluorescent Protein) fused at the N-terminus in an expression vector. One of my projects has been to confirm the DNA sequence of the expression vector by gene sequencing. My results show that the DNA sequence contains only minor changes that are not expected to affect the functionality of the fusion protein. We are also interested in studying the role of the *tmd-2* gene in intestinal morphogenesis. Two deletion alleles of *tmd-2* have been generated (400 and 800 bp deletion), however, where these deletions occur in the *tmd-2* gene has not been precisely mapped. I am currently determining the location of these deletions by nested PCR and gene sequencing. Together these projects will contribute to our understanding of tropomodulins in tube development.

Session 4-B • English

Welles 131

George Orwell's *Keep the Aspidistra Flying*: A British Novel of the 1930s

Faculty Sponsor: William Harrison, English

Session Chair: Sarah Graham

Where the Devil is Eric Blair?: An Examination of Eric Blair's Relationship to his Pseudonym, George Orwell

Shea Frazier

Who was Eric Blair? A lower-middle class British citizen, a member of the Burma police, a writer: even now, those details and that name probably don't resonant with very many people. And why should they? After all, it was only after adopting the penname George Orwell in 1933 that Eric Blair became someone worth remembering, someone new, and someone wholly unlike the man he used to be. Whether or not Blair himself acknowledged the schism, there remains a distinct dissociative quality between George Orwell and Eric Blair, it was as if Blair ceased to exist and Orwell, the persona he created, took his place. This transmogrification from Blair into Orwell is what brings insight into one of Orwell's more complicated narratives: 1936's *Keep the Aspidistra Flying*. Paradoxical and often incoherent, the novel is hard to categorize on its own: it may be a satire, a serious social-realist narrative, or neither. However, looking at it in the context of the developing Blair/Orwell identity, *Keep the Aspidistra Flying*'s difficult, confusing components construct a transformational narrative, chronicling the circumvention of the man, Eric Blair, by his own alter ego.

Defined by the Home: Housing and Class Connections in George Orwell's *Keep the Aspidistra Flying*

Sarah Graham

Focusing on the relationship between social class and living arrangements, George Orwell's *Keep the Aspidistra Flying* portrays textually 1930s class differences in London, England. That a character's class defines how he or she lives is made noticeably clear by Orwell, but his portrayal centers on the most central marker of class stratification: where each character lives. After World War I, there was a shortage of housing in London because little funding was available to build new houses. Slum clearing and updating was also put on the back burner and allowed to grow worse, thus allowing lower-class housing fall into greater ruin with the arrival of the Great Depression. As Charles Mowat explains, "[a]ny estimate of the condition of Great Britain in the thirties is bound to be [...] affected by the continuing evidences of inequality between classes, including both those in work and the unemployed, in matters of income and capital, nutrition, the death rate, infant and maternal mortality,

and shelter.” (emphasis added, 490). Using *Keep the Aspidistra Flying* as the primary text, I will attempt to show how Orwell argues that housing and class are dependent on each other, especially in regards to the exclusive nature of class, the size of personal space, ownership of personal space, levels of health, and freedom of sexuality.

Struggling For An Answer to Capitalism: Evelyn Waugh and George Orwell’s Pessimistic Approach

Joseph Wolf

The themes and styles of the Depression Era novels *Vile Bodies* (1930) by Evelyn Waugh and *Keep the Aspidistra Flying* (1936) by George Orwell appear to reflect an increasing distrust of capitalism as an economic and social structure for England and the world. These two authors come at the issue from differing sides of the British class divide. Waugh satirizes the frivolous actions, attitudes, and tendencies of wealthy British youths to show the impermanence of their class and situation in an unstable society. He also analyzes how these actions may or may not contribute to their downfall and ultimate erasure from the public consciousness. Orwell, on the other hand, criticizes capitalism from the beggared and dark battle Gordon Comstock fights. Gordon rejects opportunity and compliance with standard economic society in order to stand against what he calls the “Money God”. This casts Gordon into deep despair that lasts until his ultimate reacceptance of the mainstream economic system. Although a distinct displeasure with capitalism is well vocalized in these novels, the issues raised are not resolved. Rather than articulating true alternative solutions or modifications that could be made, these authors only pessimistically embrace war as an inevitable final outcome.

Session 4-C • English

Welles 132

Hot Bods on Earth and in Outer Space: Investigations of Gay and Lesbian Literature

Faculty Sponsor: Graham Drake, English

Session Chair: Claire Littlefield

Cat on a Hot Streetcar Named Desire: Interrogations of Femaleness --Or, the Mad Heroine Coded as Homosexual--in Two Plays by Tennessee Williams

Nicholas Becht

Cat on a Hot Streetcar Named Desire: Interrogations of Femaleness --Or, the Mad Heroine Coded as Homosexual-- in Two Plays by Tennessee Williams Tennessee Williams utilizes heterosexual female protagonists with unstable identities in two of his major plays, “A Streetcar Named Desire” and “Cat on a Hot Tin Roof,” in order to covertly represent and explore themes of male homosexuality and desire, they are Blanche DuBois and Maggie Pollitt, respectively. He does this because he is writing for a largely conservative and heterosexual audience of which anyone who might be homosexual would likely be in the closet, this is clearly evocative of Eve Kosofsky Sedgwick’s notion of the “Open Secret”. Through their involvement and presumably sexual partnerships with men of dubious heterosexuality, Blanche DuBois and Maggie Pollitt become aligned with homosexuals and associated with homosexuality. Williams employs elements such as Camp and subverted forms of the Patriarchal Gaze in order to further interrogate and trouble our sense of Blanche’s and Maggie’s femaleness.

Student Commentator: Claire Littlefield

A New Way For Life: Striving for Post-Humanity in Octavia Butler’s Fiction

Daniel Hart

Abstract: Octavia Butler is one of the only writers of science fiction who identifies as a black lesbian. This genre of writing, usually dominated by the white male experience, finds new light as Butler’s characters display myriad unique perspectives and identities. The conflicts and issues her fiction delves into hold significance to the Queer community. This paper explores two of her novels, *Dawn* and *Adulthood Rites*, as well as her short story “Bloodchild,” elucidating upon connections Butler makes between her fiction and the dehumanization any given person may feel as a part of humanity’s need to maintain hierarchical structures of inequality. Though Butler writes from the social position of a black lesbian, her fiction suggests a displacement of social structure would be favorable to any attempts to fix what humans have already established. Thus, Butler suggests the only solutions to human inadequacy are extinction or post-humanization.

Student Commentator: Claire Littlefield

Characters in Nightwood Examined Through the History of Homosexuality

Elizabeth Huss

There is a complex history that documents the transformation of the perception of homosexuality. It is only in learning and understanding this history that we can fully comprehend the meaning in a literary work dealing with homosexuality. In *Nightwood*, Djuna Barnes explores how different characters deal with their sexualities. The characters are subjective, and readers must look to other sources to understand them. The characters in *Nightwood* cannot be truly understood without a historical backdrop tracking perspectives on homosexuality. While it is true that sex itself does not have a history, the transformation of perspective and the separation of homosexuality into a separate category can be traced, and it is with this backdrop that Barnes’ novel must be read. Barnes writes the novel with a tone of uncertainty, which reflects the early 20th Century attitude towards sexuality, when a homosexual subculture had not yet been truly defined. **Student Commentator:**

Claire Littlefield

Session 4-D • English

Welles 133

Ancient Authority: Western Humanities I

Faculty Sponsor: Graham Drake, English

Session Chair: Caile Morris

Faith and Authority in Euripides' Medea and The Bible

Cailin Kowalewski

In this paper I argue that Medea, Jesus, and his Apostles all exist as either geographic or ideological foreigners in their respective cultures, and conflict with both social norms and human figures of authority. They instead place an emphasis on divine leadership, and their relationships with these divine figures have a direct impact on how they clash with figures of power on earth.

Modern-Day Women Just as Misunderstood as an Infamous Character from Ancient Greek

Mythology

Lauren Whitehead

My paper discusses the unfortunate connection between the modern-day experiences of two educated, powerful women and those of the infamous villain from Greek mythology, Medea. Sonya Sotomayor and Elena Kagan, while in contention for important governmental positions, both faced intense criticism in the media and from their peers based largely on their gender and untraditional lifestyles. The characterization of Euripides's Medea, illustrates her as a smart and powerful woman who is, because of these traits, inherently manipulative and untrustworthy. Sotomayor, Kagan and Medea possess positive male qualities that are interpreted as negative based on the stereotypes and stigmas associated with their gender. Based on the Washington Post article "The Supreme Court needs more mothers" by Ann Gerhart and a reading of the play Medea, I explore the uncanny and rather sad similarities between the circumstances of all three woman and attempt to understand our current society's role in propagating unfair, out-dated stigmas about women in authority positions.

Student Commentator: Caile Morris

Session 4-E • English

Welles 134

Romantic Curiosities

Session Chair: Satoko Hirano

Intentions and Actions: Their Relation to a Heroic Character

Loren Merchan

Faculty Sponsor: Eugene Stelzig, English

"Gay" Isn't the Only Option –Delve into the sexuality of Lord G. Byron

This presentation will focus on the complex and debated issue of Lord G Byron's sexuality. In the past, biographers have tried to categorize Byron's sexuality into black and white terms. However, I will explore a larger spectrum of sexuality and explain why Byron sexual preferences are actually shades of gray. Additionally, I will address the possibility that Byron was, in fact, a sex addict.

An Inter-disciplinary Look at Lord Byron and Isaac Nathan's Hebrew Melodies

Elizabeth Weybright

Faculty Sponsor: Eugene Stelzig, English

Though lyric poetry has very often been set to music, it is not often that we find a collection of lyric poems written with existing music in mind. Hebrew Melodies, a collaborative project between composer Isaac Nathan and poet Lord Byron, represents this unique melding of artistic genres. In the collection we can see how Nathan's melodies inform both the form and subject matter of Byron's poetry. The Hebrew Melodies, as a whole, can be read as a collection both adhering to many of the poetic ideals of the Romantic Era, and to Byron's own characteristic style, but also departing from the norm of Byron's poetry in some sense through their concern with Biblical subjects of the Old Testament.

Memories and Narratives: Reflection of Post-1945 Hiroshima and Shelly's Frankenstein

Satoko Hirano

Faculty Sponsor: Kenneth Cooper, English

Every object is symbolic, and individuals interpret the meanings of symbols differently. Objects that appear in narratives told by individuals are closely attached with the storytellers' memories, and the objects too become narrators of the memories. Like Frankenstein's monster, the atomic bomb dropped on Hiroshima left numerous traces in the city and in people's bodies and minds. The moment of 8:15 in the morning of August 6, 1945, was once collected as memories and attached to objects, and their meanings are constantly reinterpreted and reproduced in continuous production of narratives. As a native of Hiroshima, I realize a critical generational gap in perception of the meanings of the atomic bomb remains. Based on my interpretation of five objects-as-narrators of "1945-Hiroshima", my paper will first uncover a generational gap in interpreting the narratives of Hiroshima. It will then analyze the use of narrative form in Mary Shelly's Frankenstein in order to illustrate the mechanism of continuous metamorphosis of memory through ceaseless reproduction of narratives over time.

Systems of Meaning in the Lens-Less World

Mark Sacha

Faculty Sponsor: Kenneth Cooper, English

This essay approaches the Cabinet of Curiosities as a collection of objects whose resistance to definition is considered distressing. From there, the paper engages in broader discussion of how meaning is attributed to objects. I argue that it is difficult to explain things outside the context of human experience. Using Cormac McCarthy's novel "The Road" and Stan Brakhage's avant-garde film "The Act of Seeing With One's Own Eyes", I go into detail of the post-human element and the ineffability of an image of the world in our absence.

Session 4-F • Geography and Psychology

Welles 121

Session Chair: Darrell Norris, Geography

The Spread of Cholera in Haiti: A Socioeconomic Perspective

Michael Mattiucci

Faculty Sponsor: Darrell Norris, Geography

Haiti has long been the brunt of political, social economic and environmental woes. One symptom of the compounding of these problems is disease, most recently a cholera epidemic through the whole nation. This presentation maps the spread of the disease and looks at the socioeconomic causes of this disease on a geographic level, providing explanation for the disease's success and hope for how response to the disease can happen.

Processing Emotional Expressions: The Role of Spatial Metaphors and Lateralization

Matthew Tompkins

Faculty Sponsor: Jeffrey Mounts, Psychology

A study was conducted to examine the relationship between two stimulus-response effects observed in the processing of emotion: metaphorical congruency and lateralization. Participants were assessed through a novel divided output methodology in which they made speeded responses to happy and angry faces using a pair of response keys arrayed vertically. Results were consistent with hypotheses that responses would be quicker for metaphorically congruent trials, wherein positive emotions (happy faces) were mapped to the high key and negative emotions (angry faces) were mapped to the low key, additionally, responses were faster when participants responded to negative emotions with their left hands and to positive emotions with their right hands. Not only did these results support the theories that responses to emotional stimuli both activate a metaphorical spatial code and are lateralized within the brain, but statistical analysis indicate that these effects are additive, suggesting that they can be dissociated into different stages of processing and response selection."

Session 4-G • History

Welles 123

American History on Film: Slavery, Suffrage, and the American Revolution

Faculty Sponsor and Session Chair: Catherine Adams, History

Steven Fischer

This presentation will review and analyze a selection of films, documentaries, and made for television movies that explore the history of slavery in the United States. Subtopics will include: the slave trade, slavery in the Antebellum South, and resistance to slavery. The presenter will also briefly comment on the factual accuracy of some of these films and address the important role these films play in teaching the general public the history of slavery in America.

American Women's History in Film.

This presentation will review and discuss several recent films, made for television movies, and documentaries focusing on the diverse historic experiences of women in America. Subtopics will include: Women in Early America, the early women's rights/suffrage movement, Native American, European Ethnic American, and African American women's history, women as activists in the feminist movement, the Civil Rights movement, and 3rd wave feminism. Presenters will evaluate the factual accuracy of these works, provide historical context for understanding these films, and discuss how and why these works play a critical role in making American women's history available to the public.

Session 4-H • History

Welles 119

Faculty Sponsor and Session Chair: Tze-Ki Hon, History

Sports and Politics in Modern China

Maggie Boquard, Arielle Fregoe, Dayshawn Simmons, Michael Cecere and Chris Digiacamendrea

Our general theme is sports in China. We will begin with a look into the history of ping pong in China and how it has affected Chinese diplomacy. We will then lead into the 2008 Beijing Olympics and cover a few other sports and their political ties.

Stuffed! Tofu on the Chinese Table: It's History and Uses

Rachel Shellman and Shauna Linehan

This presentation will look at the history of tofu in China as an ingredient for many meals, where it comes from, how it is made, how it is used, and the nutritional value. As an aside, we will make a reference to tofu in the U.S. as a novelty food, highly considered for its high protein content.

Tale of Two Cities: One Country, Two Systems

Benjamin Jay, Alyssa Kagan and Emma Rumley

China has been established as one country, but it maintains two economic systems. While much of China is socialist, some areas like Macau and Hong Kong have been designated as separate entities with capitalist economies. These special administrative regions have a large degree of autonomy and are responsible for their own domestic affairs, while China is responsible for their national defense and foreign relations. Though Hong Kong and Macau are part of the same country as the rest of China, they developed very different cultural and political systems and stand in stark contrast to socialist China. Currently Macau is the largest gambling center in the world, tripling the volume of the Las Vegas Strip. Hong Kong also presently has the biggest IPOs for public companies worldwide, beating out New York City. Within these special administrative regions, the capitalist systems have developed very differently.

Session 4-I • Political Science and International Relations Current Issues in International Security

Welles 24

Session Chair: Robert Goeckle, Political Science and International Relations

Iran's Nuclear Program

Faculty Sponsor: Edward Drachman, Political Science and International Relations

Johnson Lin

Iran's nuclear program is a serious issue for the international community, particularly Israel. Iran has sought greater uranium enrichment, most likely to develop nuclear arms. Many in the international community believe that Iran's nuclear ambitions must be limited. Five possible options for slowing Iran's nuclear development are sanctions, pre-emptive strikes, regime change, clandestine operations (to sabotage nuclear facilities and assassinate Iranian nuclear scientists) and to allow Iran to continue its nuclear development. These five options will be examined, and the pros and cons of the options will be analyzed. Student Commentator:

US Foreign Policy in the Twenty First Century: Cyber Warfare

Thomas Schonig

Faculty Sponsor: Robert Goeckle, Political Science and International Relations

As technology improves at an exponential rate and the internet continues to connect people, little attention has been paid to the potential dangers presented by technological dependence. This represents a major oversight of US policy, as the weaponization of computers and internet technologies are new areas of warfare in which nonstate actors are afforded significant agency to damage state infrastructure and private economic assets. Furthermore, computers have become essential in conventional warfare, and policy misalignment on cyber issues may compromise US military power.

Selling Fear for Prophet: An Emigration of Hope

Thomas Buneo and Andrew Kuntz

Faculty Sponsor: Victoria Farmer, Political Science and International Relations

In the wake of September 11th, the threat of terrorism loomed amidst the concerns of states across the world. The lesson of how vulnerable our society was to terrorist attack also came with a lesson of how easy a democratic system could fail the public. The United States, amongst other leading democracies with strong liberal values, enacted various laws, from surveillance to immigration reform, to protect themselves from further aggression while the media refused to get ahead of public opinion. Were the terrorists winning? Analysis will show the efforts of the United States and others lead to greater insecurity and uninformed decision-making, in part due to the undermining of liberal values that the West was championing and the terrorists were attacking.

Session 4-J • School of Business

South Hall 338

Faculty Sponsor and Session Chair: Paul Scipione, School of Business

Low-Ku: An Adventure in Aberrant English

Allison Abbott, Mary Aldridge, Rich Armstrong, Mike Clark, Bridget Greene, Celeste Hoelzl, Hoonji Jang, Kaori Kimura, John Lithen, Kayla Markel, Nick Moscatello, Jisoo Mun, Audrey Noniashvili, Emily Robbins, Matt Sagliocca and Valerie Sanders,

Please see the more detailed attached description of our experiment/paper, which will also be sent to Dr. West's email address. Our experiment is all about txtng. Class members have each chosen a well-known phrase, sentence or aphorism in traditional English (e.g. "The cat jumped over the moon") and translated it into txt English. Audience members will be asked to participate in the experiment by trying to guess the corresponding phrase in traditional English from the txt form. Participants will earn 5 points (maximum of 100) for each txt phrase correctly translated into traditional English. Those who achieve scores of 80 or more will participate in a drawing for a door prize. Our purpose in offering this language experiment is to educate each of you on the many dangers of txt to traditional English. Hopefully members of the SUNY Geneseo community are smart enough to know both forms of English and when their use is appropriate (or inappropriate). Tnx 4 uR intRst!

Session 4-K • School of Education

South Hall 340

Faculty Sponsor and Session Chair: Elizabeth Hall, School of Education

Strengths and Struggles

Krista Coburn, Nathan Clough, Anthony Genazzio, Andrew MacDonald, Ellen Beisheim, Fred Young, Melissa Price and Tyler Geraci.

Faculty Sponsor: Elizabeth Hall, School of Education

The objective of this presentation is create an understanding and awareness of students in the LIVES Program (Learning Independence, Vocational, and Educational Skills) at Geneseo. Students in the LIVES Program surveyed approximately 80 SUNY Geneseo College students in order to show the similarities and differences between the two groups of students.

Pay it Forward

Emily Borghard

The idea of "Pay it Forward" as an educational lesson plan originated from having watched the movie which was very inspirational. I then went and researched this concept of paying it forward to discover it is a true concept that is out there, with a website, and stories of people who have "paid it forward" or who have been paid to. I can "teach" this lesson, in a short time frame and gather people's interest of the idea, a simple act of kindness can go a long way. A small child came up with the idea of "paying it forward" which has now spread across the nation and needs to continue to spread, and what better way to do so, then teach it through our schools? The foundation has worked with me to allow me to present this in Geneseo, giving me materials for the presentations, and this can be one more presentation of the idea, stories to share and inspiring people to go out and Pay it Forward!

Session 4-L • School of the Arts-Theater

Sturges Auditorium

New Work by Student Playwrights

Faculty Sponsor and Session Chair: Melanie Blood, School of the Arts-Theater

Samuel Plotkin, Kate Royal and Emily Cirincione

Emily Cirincione, Samuel Plotkin, and Kate Royal are members of the student playwriting group The Literature that gives playwrights a chance to hear new plays read out loud, and then performed in workshop settings. The plays presented here have all been rewritten based on the initial readings and workshop productions.

"Human 2.0" by Samuel Plotkin

In this play written for his senior project in Theatre, Plotkin explores fundamental questions of life and death and what it means to be human. His play uses elements of the gothic as well as science fiction.

Performers:

Dr. Ava Adams: Britt Faulkner
Evelyn: Christina Baurle

"Variations" by Kate Royal

Royal's play riffs on clichéd sayings we use in difficult emotional situations. Her play follows a relationship from its beginning to its ending, using the same dialogue with different subtexts to demonstrate the different stages of the relationship.

Performers:

Him: Jacob Roa
Her: Britt Faulkner

"Moving Out" by Emily Cirincione

"Moving Out" is a scene from what will hopefully be a longer play. Jess and Mike are finishing up the process of moving out of their apartment because their relationship has ended. For these two, a lot has remained unsaid since the initial break-up, so when Mike comes by to get the last of his things, this fragile situation has a high risk of boiling over.

Performers:

Mike, Age, 25, and has an MA in English: Paul Nardone
Jess, Age 25, and works as an investment banker: Kristina Tortoriello

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