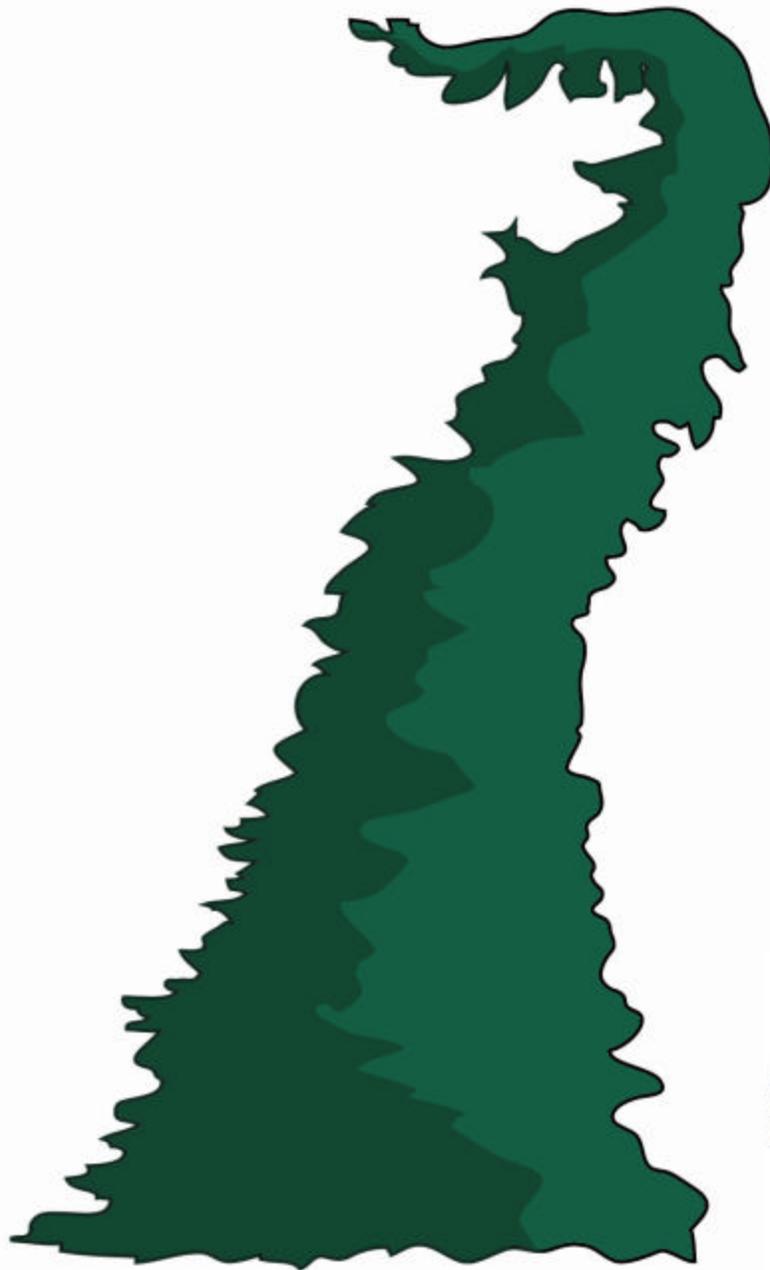


GREAT Day

A day-long, college-wide celebration of student creativity, research, and scholarship.

april 21, 2009



Welcome to SUNY Geneseo's Third 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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Special thank you to Anne Baldwin, Andrea Klein, Doug Anderson, and Tammy Farrell.

Thank you to President Christopher Dahl and Interim Provost David Gordon for their support of GREAT Day.

Thank you to Lane Nishikawa for delivering our keynote address.

GREAT Day is funded by the Office of the Provost.

The GREAT Day Web Site • <http://great.geneseo.edu>

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**Third 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 David Gordon, Interim Provost	Union Ballroom
	Artwork Exhibits	Kinetic Gallery, Union
	Poster Presentations	Milne Library and Union Ballroom
	Special Exhibit Conservation and Analysis of a 19th Century Iroquoian Album and its Tintypes	Milne Library Commons Area
	Special Exhibit The World Premiere of The Asian American Calendar	MacVittie College Union East Lounge
9:40 – 10:55 AM	Concurrent Presentations • Session 1	
	Session 1-A • Biomathematics Modeling Biological Systems: Studies in Epidemiology	Newton 214
	Session 1-B • Communication Exploring Facebook Communication	Welles 119
	Session 1-C • Communication	Welles 121
	Session 1-D • English - Ancient Ecstasy	Welles 131
	Session 1-E • English It's Not on Any Map; True Places Never Are	Welles 132
	Session 1-F • English Reflections through African American Migration Narrative I	Welles 133
	Session 1-G • History Civil Rights Movement Honors Theses	Welles 123
	Session 1-H • History	Welles 134
	Session 1-I • Honors Capstone I - From the East	Newton 203
	Session 1-J • Honors Capstone II - From Places Apart	Newton 204
	Session 1-K • Mathematics - Math Miscellany I	Newton 201
	Session 1-L • Mathematics	South Hall 338
	Session 1-M • Political Science & International Relation International Security Policy in the 21st Century	Milne 105
	Session 1-N • School of Business Making Connections Between Marketing Research Instruction and Real-World Research Needs	South Hall 340
	Session 1-O • Sociology Sociological Studies of Subjective Well Being	Milne 104
	Session 1-P • School of Education The Denial of Universal Human Rights: An Exploration of Examples and Justification	Welles 138

	Session 1-Q • School of the Arts Social Issues and Influences in American Music	Welles 128
	Session 1-R • School of the Arts Senior Projects in Playwriting	Sturges Auditorium
10:00 – 12:15 PM	Chamber Music Festival Part 1	The Grind Stage, Union
11:05 – 12:20 PM	Concurrent Presentations • Session 2	
	Session 2-A • Anthropology	Welles 119
	Session 2-B • Communicative Disorders and Sciences and Psychology	Welles 121
	Session 2-C • Communication Lambda Pi Eta Scholarship	South Hall 340
	Session 2-D • Communication	South Hall 338
	Session 2-E • English MiNTERactions: Explorations of Published Pieces	Welles 131
	Session 2-F • English Reflections through African American Migration Narrative II	Welles 132
	Session 2-G • English - Shakespeare	Welles 133
	Session 2-H • English - Criticism Without Borders	Welles 134
	Session 2-I • History Civil Rights Movement in Textbooks and History	Milne 104
	Session 2-J • Honors Capstone III - In Society	Newton 203
	Session 2-K • Honors Capstone IV: Biology	Newton 204
	Session 2-L • Mathematics - Math Miscellany II	Newton 201
	Session 2-M • Political Science & International Relation Politics and Policy in American Government	Milne 105
	Session 2-N • Physics & Astronomy	Newton 214
	Session 2-O • Sociology Sociology Student Research Project Panel	Welles 140
	Session 2-P • School of the Arts Podcast Presentations on Notable Photographers and Computer Artists	Welles 123
	Session 2-Q • School of the Arts Opera Scenes Workshop - Operas of Mozart	Sturges Auditorium
	Session 2-R • Women's Studies Women's Studies Senior Project Presentations	Welles 128
12:30 – 1:30 PM	Artwork Exhibits	Kinetic Gallery, Union
	Dance Performance: Geneseo Bhangra	Union Ballroom
	Poster Presentations	Milne Library and Union Ballroom
	Special Exhibit Conservation and Analysis of a 19th Century Iroquoian Album and its Tintypes	Milne Library Commons Area
	Special Exhibit The World Premiere of The Asian American Calendar	MacVittie College Union East Lounge
	Buffet Luncheon	Union Ballroom
1:45 – 2:45 PM	Keynote Address Introductions by Christopher Dahl, President and Jack and Carol Kramer Lane Nishikawa From Dream to Reality: The Journey of One Voice	Wadsworth Auditorium

2:55 – 4:10 PM	Concurrent Presentations • Session 3	
	Session 3-A • Anthropology, Geography and History	Welles 119
	Session 3-B • Biology and Chemistry	Newton 214
	Session 3-C • Communication	Welles 138
	Session 3-D • Communication	Welles 140
	Session 3-E • English Sexualities and the Prison-House of Gender	Welles 131
	Session 3-F • English Reflections through African American Migration Narrative III	Welles 132
	Session 3-G • English Sex, Power, Wigs: Queen Elizabeth the First @ the Movies	Welles 134
	Session 3-H • Foreign Languages & Literatures Buen amor / loco amor: Love in Medieval and Early Modern Spain	Welles 123
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	Session 3-J • Honors Capstone V From those who Compute	Newton 203
	Session 3-K • Honors Capstone Session VI From the Humanities	Newton 204
	Session 3-L • Mathematics - Math Miscellany III	Newton 201
	Session 3-M • Computer Science and Mathematics	South Hall 338
	Session 3-N • Philosophy Thoughts about Gandhi and Taoism	Welles 133
	Session 3-O • School of Business The Federal Challenge Team	South Hall 340
	Session 3-P • Sociology - Power and Politics	Welles 128
Session 3-Q • School of the Arts Who's Afraid of Virginia Woolf?	Sturges Auditorium	
3:00 – 5:15 PM	Chamber Music Festival Part 2	The Grind Stage, Union
4:20 – 5:30 PM	Concurrent Presentations • Session 4	
	Session 4-A • Center for Community Service Learning: 2009 Civic Engagement Project	Welles 121
	Session 4-B • Communication	Welles 138
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	Session 4-G • History	Welles 140
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	Session 4-I • Political Science & International Relations State Responses to Terrorism	Welles 134
	Session 4-J • School of Business	South Hall 340
	Session 4-K • Sociology Identity Politics: A Study of Media Coverage of the 2008 U.S. Presidential Election	Welles 128

	Session 4-L • School of Education	Welles 123
	Session 4-M • School of the Arts The Japanese Culture Club Presents Soran Bushi	Sturges Auditorium
5:30 – 6:30 PM	Reception Remarks by Christopher Dahl, President	Union Ballroom
	Artwork Exhibits	Kinetic Gallery, Union
	Dance Performance: The Ghana Project	Union Ballroom Stage
	Poster Presentations	Milne Library and Union Ballroom
	Special Exhibit Conservation and Analysis of a 19th Century Iroquoian Album and its Tintypes	Milne Library Commons Area
	Special Exhibit The World Premiere of The Asian American Calendar	MacVittie College Union East Lounge

ARTWORK EXHIBITS

MacVittie College Union, Kinetic Gallery

Masaki Bannai

Faculty Sponsor: Douglas Anderson, School of the Arts

? (anger)

Oil Painting,

Stacy Barone

Faculty Sponsor: Doug Anderson, School of the Arts

Serenity

Linoleum print image.

Minerva Campbell

Faculty Sponsor: Dan DeZarn, School of the Arts

Face 22

This piece is composed of 22 plaster cast replicas of a simplified face. They are arranged in such a way that they lose the qualities one would normally associate with persons features. We tend to read others emotions and inner thoughts through their facial expression. I am interested in examining the face not as something meant for expressive use, but rather as an object that takes up space. It is my intention to remove as much humanness from the face as is possible in the display of this piece.

Jonathan Gilroy

Faculty Sponsor: Douglas Anderson School of the Arts

Impulse One

This piece is about balancing expression and analyzation on paper. After the expression is made I create conscious layers of line in around the impulse. This allows for a visual balance of the two states of mind.

Impulse Two

This piece is about balancing expression and analyzation on paper. After the expression is made I create conscious layers of line in around the impulse. This allows for a visual balance of the two states of mind.

Jennifer Greenman

Faculty Sponsor: Doug Anderson, School of the Arts

Desolate Door

Colored print of a photograph previously taken.

Yuki Kawae

Faculty Sponsor: Douglas Anderson and Dezarn Dan, School of the Arts

Dream Big

This is a painting with composition that emits energy to the viewers. I painted it for one of my best friends, who wants to go into the Film Industry. My friend is depicted as the Gorilla grabbing onto the highest tower around to get his dream in "Hollywood". It is written backwards to show the direction, or point of view, of the gorilla. There is a lot of big movement through out the piece, for example, the mountain, sign, and the city sends sense of movement of the arm. This composition leaves the audience with satisfying feelings. It can inspire hope and power, making the viewers believe that they could do anything if they really wanted to. My art is always for the audience; I want their reactions to my work to stimulate their lives.

Modern Seed

This is a sculpture that represents the versatility of texture and objects. This is a plant like figure that is growing in such geometrical shapes. This organic form is represented with materials that would not be found in nature, such as metal and plastic. But this piece shows how these contrasting ideas can go well together in order to create something visually pleasing.

Untitled #1

This is a piece that is focused on subtlety and texture. The geometrically formed white boxes contrast to the rest of the painting, which has a thick texture of spread rubber and gold and neon green spray paint. I created this piece to heighten the audience's sensitivity toward art work through the strong energy of this contrast.

Claire Littlefield

Faculty Sponsor: Thomas Macpherson, School of the Arts

Spuds as Pantocrator

This is my friend Emily depicted as a stern judge, a role that she doesn't fit at all. Gazing impassively at the viewer, she holds up a text, her pursed lips and angry squint super imposing. I just thought it was a classy use of irony.

Life as told by toaster

In this still life, an apple and a clementine take up the foreground of the piece and are reflected into a giant toaster in the back. At first, it seems as though the reflected images are exactly as they should be, but upon further inspection, this is proven to not be the case. Imperfections in the fruit can only be seen in the reflection. A skull is also seen in the reflection. Altogether, a great deal of morbidity is reflected in this normally benign object.

Joseph Martin

Faculty Sponsor: Doug Anderson, School of the Arts

Cast Out

A watercolor and ink painting of an alternative view of the Genesis story.

Reaching For More

A interpretation of the fall of man done in two ceramic pieces.

Ryoko Mishina

Faculty Sponsor: Douglas Anderson, School of the Arts

The Dream of Pinocchio

My art has been concerned with the transformation of animals into objects. I create my imagined flamingo by using the combination of many objects. My title refers to the story of Pinocchio who wants to be a real boy. I put the emotion of desire that the object flamingo has a wish to be a real flamingo. Placing object flamingo and a real flamingo in the opposite side makes to look like a mirror reflection. A mirror reflection can only be temporal for a desire. The object flamingo's desire is able to portray only temporary moments of likeness in the reflection.

Curious George Creates a Vacuum

My creation of this transformation art comes from my curiosity. Like Curious George's curiosity leads him to try new things, I combine two different things to make a new creature. My aim is that the transformation of alligator into a vacuum gives people a curious look. The imagined creatures bring people into the mysterious world of my art.

Tim Park

Faculty Sponsor: Douglas Anderson, School of the Arts

Reflection

Reflections are everywhere you go. Even in places that you would least expect.

Angela Raczka

Faculty Sponsor: Doug Anderson, School of the Arts

Bicicletta

Black and White Photography of bicycles found in Italy

Carla Staples

Faculty Sponsor: Doug Anderson, School of the Arts

Late Moon Over Sturges

Digital photograph. No Photoshop. Nightscape

Kathryn Starzewski

Faculty Sponsor: Doug Anderson, School of the Arts

Boy

Max Wheeler

Faculty Sponsor: Paul Schacht, English

The Water Problem Connection

"The Water Problem Connection" attempts to combine the different ways that the characters in three books (Alice in Wonderland, by Lewis Carroll; Mrs. Dalloway, by Virginia Woolf; and The Hours, by Michael Cunningham) deal with their

problems, while illustrating how water is a theme that flows through all three. This painting also broadens the concept of character by including the author, Virginia Woolf, in her overcoat, walking to her death. I was inspired by the use of water in Mrs. Dalloway and by the fact that Woolf, herself, committed suicide by drowning. Her literary creation, Septimus Smith, experienced the feeling of being underwater. He sees the trees as though they are submerged and manipulated by undulating waves. Later in the book, after feeling trapped and without recourse, he ends his torments by plunging from an upper story window. I also noted the way Alice, from Alice in Wonderland, deals with her problem of being too big for the small doorway into the garden. Once again, water is present when her tears form a large pool. The painting progresses from top to bottom. In the top left of the painting, Alice is crying and her tears are contributing to the ocean that has formed. Below this, in the mid-right section, Virginia Woolf is wading into this water. The bottom half of the painting contains the suffering Septimus looking out of his window at the watery scene he envisions. Alice illustrates a childish way of dealing with difficult situations. Virginia Woolf and Septimus both represent adults who seek refuge from their problems in death. Since the painting is dealing with death, the setting sun was included to signify a level of finality. The few token lilies on the embankment next to Virginia Woolf are intended as morbid symbols. These were actually inspired by the conversation between Clarissa Vaughn and the florist in the beginning of *The Hours*. When offered lilies, Clarissa declines noting that they are "too morbid." *This painting was produced for English 170, The Practice of Criticism. (See Session 2-H - Criticism Without Borders.)*

SPECIAL EXHIBIT

Milne Library, First Floor Common Area

Special Exhibit 1 • Conservation and Analysis of a 19th Century Iroquoian Album and its Tintypes

Laura Kraft, Chris Keegan, and Sarah Lydon

Faculty Sponsor: Russell Judkins, Anthropology

Our exhibit provides a unique glimpse into the past of the Iroquois of western New York through the display of a beautiful late 19th century photo album and its well-preserved collection of tintypes. The use of a multidisciplinary approach in the research process has allowed us to realize the importance of these pieces. The exhibit begins by stressing the importance of the conservation of such valuable historical and cultural artifacts, as well as the tools and skills used to do so. The blending of two separate cultures, that of the westernized American culture and that of the traditional Iroquois culture, is next addressed through an analysis of the clothing and personal accessories displayed in the tintypes. The final phase of the exhibit describes the extensive research undergone on names found written on the backs of several tintypes. Our main goal is to discover the identities of the individuals depicted in this album so that we may return the tintypes to their descendants and community. Repatriation such as this is an essential element in dealing with native groups, as it allows them a more complete view of their personal heritage.

DANCE PERFORMANCE

12:30 pm Union Ballroom Stage

Geneseo Bhangra

Faculty Sponsor: Randy Kaplan, School of the Arts

A six-minute bhangra performance by the members of Geneseo's competitive South Asian dance team.

The members of the team include:

Poonam Bhatt, Vivian Chiu, Courtni Clarke, Chiara Guardo, Trupti Hatwar, Sangeeta Jayakar, Tina Jensen, Ishraq Kabir, Adam Kroopnick, Andre McDuffie, Hamza Murtaza, Nibin Pachikara, Pamela Reyes Mercedes, and Derek Weng.

POSTER PRESENTATIONS

Milne Library, First Floor Common Area

Biomathematics

1 • Fractal Dimension Metrics across a Vegetational Chronosequence

Kevin Aagaard

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

We used fractal geometry to examine how the structure of a forest changes over time. Data were collected from three sites near Geneseo, NY (old field, shrub land, young forest, old forest). We found, that when measuring using the same scale, the fractal dimension (D) across communities exhibited an asymptotic relationship ($p < 0.05$). However, on the scale of the dominant vegetation at a particular site, the D was constant ($p = 0.3341$). The use of fractal dimension to analyze forest organization will further our understanding of the space filling structure of plants in a forest stand as they compete for natural resources.

2 • A Model of Cooperation

Joseph Kane

Faculty Sponsors: Gregg Hartvigsen, Biology, Chris Leary, Mathematics

Computer models can help us to better understand the conditions under which cooperation may emerge. In this model, individuals occupy the elements of a toroidal lattice and are assigned a probability (P) of interacting with surrounding individuals. During an iteration each individual i gets one chance to play. If a random number is $< P(i)$ then it plays and evaluates the $P(j)$ values of a variable number of neighbors. Individual i then attempts to cooperate with the neighbor with the highest $P(j)$ within this set of neighbors. If neighbor j cooperates then the original individual increases its probability of cooperating by epsilon [$P(i) = P(i) + \text{epsilon}$] and decreases if j defects [$P(i) = P(i) - \text{epsilon}$]. When a set of only one neighbor is evaluated the system goes to either all cooperation or all defection. However, if a set of more than one neighbor is evaluated then coexistence of cooperators and defectors is possible. Furthermore, the system can become stable with fewer cooperators than defectors. This result suggests that when we ask more than one person for help then we are more likely to have cooperators in the system even if the majority of people are defectors.

3 • The Structure of Student Association Networks at SUNY Geneseo

Chris Lonnen

Faculty Sponsor: Gregg Hartvigsen, Biology

Network analysis is useful for describing the interactions of complex systems. As access to high quality data has opened up, epidemiologists have found networks representing human interactions particularly useful. We investigate the structure of student association networks at SUNY Geneseo. We construct networks using course enrollment data from the spring and fall 2008 semesters at SUNY Geneseo for each weekday in each semester. Two students are connected to each other on a given day for every class they have together. We show that the mean distance between students grows logarithmically with the number of students in the network, correlating strongly with the growth expected by the Watts and Strogatz model "small world" network. These results provide insight into the nature of student interactions and establish a basis for future characterization of student association networks.

4 • Slavemakers Don't Make Good Neighbors: Spatial Patterns of *Formica* Ants in the Arboretum

Dillon Meier

Faculty Sponsors: Jennifer Apple, Biology, Gregg Hartvigsen, Biology, and Chris Leary, Mathematics

Certain species of ants within the genus *Formica* are known for their social parasitism. These species parasitize other species by capturing them as larvae and pupae during large raids. These "slaves" become the workforce of the "slavemaker" colony and raise the slavemaker offspring. The slavemaker workers generally only leave the nest to scout and raid. This summer we discovered that in our own Arboretum the slavemaker *Formica cf. subnuda* was exploiting the slave *Formica cf. glacialis* by frequently raiding the slave nests and obtaining workers for their own colony. The slavemakers compete with one another for a limited resource (i.e., the host species brood). We predicted that the spatial pattern of the *F. cf. subnuda* nests may follow a non-random pattern because of competition between colonies for *F. cf. glacialis* workers. GPS coordinates of eighty-seven host nests and ten slavemaker nests were recorded from June 2008 – October 2008 using Trimble equipment. These data are being manipulated in ArcView software for spatial analyses.

5 • The Behavior of the Basic Reproductive Ratio (R_0) in Morbillivirus Epizootics

Caitlin Ryan

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

Dolphin morbillivirus (DMV) has been responsible for recurrent mass strandings and deaths within many cetaceans, including the striped dolphin (*Stenella coeruleoalba*) population in the Mediterranean Sea. We simulate the DMV epidemic in the striped dolphin population using an individual-based network model. In the model, we use the basic reproductive ratio (R_0) equal to 2.0, where R_0 is the average number of secondary infections caused by an infectious individual in a fully susceptible

population. However, as the epidemic progresses, the actual number of secondary infections (rR_0) does not remain constant. Since striped dolphins have complex and dynamic social interactions, we tested the rates of decline of rR_0 across different networks ranging from regular to approximately random. We found that as the epizootic progresses rR_0 decreases. However, the rate of decrease is dependent on the duration of the epizootic and network structure (P). The change in rR_0 , assessed during the epizootic peak, suggests that when dolphins are relatively social (high levels of mixing) DMV spreads rapidly while the rate of actual secondary infections (rR_0) decreases rapidly. This work suggests the importance of rR_0 as a tool for understanding the dynamics of epizootic.

6 • Changes in the Geneseo Student Network and its Effect on the Likelihood of Influenza Spreading

Stephen Verdini

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

The Centers for Disease Control and Prevention reports that every year in the United States an average of 5% to 20% of the population gets the influenza virus, leading to more than 200,000 hospitalizations. Using a computer model of the Geneseo network, which factors in class schedules and residence, the spread of influenza was simulated using data from the fall 2007 semester and again using data from the spring 2008 semester. The network data showed that the Geneseo student body was more connected through class schedule and residence in the fall of 2007 than they were in the spring of 2008. As a result influenza had a higher probability of spreading in the simulations using the fall data than in the simulations using the spring data. It is important to be able to track how the Geneseo network changes per semester as well as how potential administration decisions would affect the network, because the Geneseo campus could become more prone to the spread of influenza as well as other viruses.

7 • Average Distance between Points on Fractals

Dennis Ruppe

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

Fractal geometry provides many quantitative descriptions of objects that have been useful in a range of scientific disciplines, from biology to physics. One such measure is lacunarity, which measures how a shape fills space and how clustered it is. We discuss some examples in which lacunarity fails to distinguish between sets that appear to cluster differently. We define a measure of the average distance between points in a set. We calculate the average distance for many variations of the Cantor set. We find that our measure can provide new insight into the structure of a fractal.

Chemistry

8 • Solid Phase Microextraction - High Performance Liquid Chromatography to Extract and Separate *Trans*-resveratrol from Red Wine Samples

Megan Ralbovsky

Faculty Sponsor: James Boiani, Chemistry

Trans-resveratrol is a phenolic compound found in red wines. It is an antioxidant believed to reduce the risk of cardiovascular disease. Due to the potential health benefits of this compound, it is critical to develop successful and reproducible ways to extract and separate this compound from other complex molecules found in red wines in order to quantify it and better study its properties. One such way is by solid phase microextraction (SPME) coupled with high-performance liquid chromatography (HPLC). Typically with HPLC, there is a pre-extraction cleanup step in order to isolate the desired compound from the rest of the components in a mixture. In this research, SPME was used to extract *trans*-resveratrol from various red wine samples on a carbowax fiber. Methanol was used to transfer the *trans*-resveratrol from the fiber to the HPLC. Reversed-phase HPLC was then used to separate the *trans*-resveratrol and confirm that this compound was in fact isolated by using a solvent of acetonitrile and water along with a 0.01 M phosphate buffer (pH 6). A standard addition was carried out in order to create a calibration curve to determine the concentration of *trans*-resveratrol in each red wine sample.

9 • Identification of a Halogenase Gene in *Anaphalis margaritacea* by PCR

Wanda Lam and Eunwoo Shim

Faculty Sponsor: Eric Helms, Chemistry

Naturally occurring halogenated compounds have been isolated, for the most part, from marine organisms and microorganisms. However, only a few halogenated organic compounds have been isolated from higher plants. Interest in these compounds stems from their considerable biological activity. Since most of the sequenced halogenase genes or enzymes come from bacteria, little is known about halogenases in higher terrestrial plants. The roots of *Anaphalis margaritacea* (pearly everlasting), which were used by the Iroquois to treat diarrhea and dysentery, produce a thirteen-carbon, chlorinated polyacetylene. Biosynthetic investigations of this plant will shed light on the molecule's biosynthesis, function, and conditions in which it is produced by the plant. The goals of this project are to locate the halogenase-coding gene in the plant's genome by PCR, purify the amplified piece of DNA, and finally sequence the gene. Four primers were designed around highly conserved protein domains from known sequences of halogenases enzymes found in various bacteria. This work can serve as a model for further studies of halogenase enzymes in other terrestrial plants.

10 • Potential for Solar Power Production on the SUNY Geneseo Campus

Sharon McCabe, Nolan Quinn, and Toby Maxwell

Faculty Sponsor: Eric Helms, Chemistry

The problems associated with our nation's dependence on fossil fuels can no longer be ignored. With issues of environmental degradation, fuel costs, and national security becoming more widespread, it is time to seriously invest in viable alternatives. Solar power represents a substantial, sustainable, and renewable energy resource that will help mitigate these problems. The purpose of our research is to assess the potential for solar power generation on the SUNY Geneseo campus, calculated using area of available rooftop space, various solar panel specifications, and solar radiance data. This potential solar energy production is compared against actual energy usage of the college.

11 • Advance Organic Lab Development

Lindsey Feuz

Faculty Sponsor: Dave Johnson, Chemistry

This research involves the development of an Organic Techniques experiment and focuses on the stereochemistry of alkene addition reaction to determine if the transformations occur in a syn or anti fashion. The synthesis of deuterated dimethyl 4,5-dibromocyclohexane-cis-1,2-dicarboxylate was derived from a miniscale reaction using butadiene-2,2,5,5-d4 sulfone. The NMR analysis showed the bromine addition to the carbon to carbon double bond of deuterated cyclohex-4-ene-cis-1,2-dicarboxylic acid occurred by an anti addition through a bromonium ion intermediate to yield a trans stereochemistry for the bromine substituents. In addition, the stereochemistry of dimethylcyclohexene-trans-4,5-dicarboxylate derived from butadiene sulfone and dimethyl fumarate is being studied. The alkene in dimethylcyclohexene-trans-4,5-dicarboxylate will be undergoing an epoxidation reaction and a bromination reaction with ¹H NMR analysis being utilized to verify the stereochemistry of the two products to determine syn or anti additions.

12 • Congebrate Luminescent d8 Compounds

Thomas Hilimire

Faculty Sponsor: James McGarrah, Chemistry

Flat screen displays are becoming more prevalent in our daily lives (i.e. TVs and cell phones). The next generation of these devices will use organic light emitting diodes (OLEDs) technology. Although contrary to the first word, "organic", OLEDs work because small amounts of highly luminescent inorganic compounds are doped into the organic matrix. The described project investigates mechanisms that will be usefully in enhancing the luminosity of these compounds in thin organic films. To model the thin organic film environment molecular cages are designed to encapsulate these luminescent inorganic compounds in aqueous solution, a more amenable and homogeneous environment that readily allows for optical and structural characterization of the inorganic chromophore. The described work will illustrate how these cages are synthesized and discuss their use for modeling the various conformers of the inorganic chromophore in the thin organic film environment. We are focused on platinum (II) containing chromophores that have been demonstrated to have tunable emission energies throughout the visible spectrum. In the low polarity of an organic film these compounds display concentration dependent behavior that has been described as being due to dimerization. The cage strategy is designed to capture dimers, thus exploring this hypothesis.

13 • Studying the Binding Affinity of PDT Photosensitizers for DNA using Isothermal Titration Calorimetry

Bilgehan Onogul

Faculty Sponsor: Ruel McKnight, Chemistry

The use of photosensitizers in a photodynamic therapy (PDT) approach to rid blood samples of pathogens has been under investigation. However, many of these attempts have yielded unfavorable results. The main reasons for the failure in previous experiments were mainly due to 1) the lack of activity of the compounds and 2) unwanted hemolysis of red blood cells following application of the drug. Our recent efforts has been focused on investigating photosensitizers that target DNA since mature red blood cells lack DNA and thus is expected to reduce the risk of hemolysis as well as targeting the compound to the pathogenic DNA. In the current study, the DNA binding efficiency and preferred mode of binding of a series of rhodamine-related chalcogenoxanthylum dyes was investigated by isothermal titration calorimetry (ITC). The chalcogenoxanthylum derivatives of this study showed tight binding to ctDNA ($K = 106$ to 107 M⁻¹). Our results suggest that the 9-substituent is a strong determinant of the binding mode, ranging from a preference for intercalation [9-(2-thienyl)], to mixed-binding (9-phenyl), to minor groove binding in a [9-(2-thienyl-5-diethylcarboxamide)] derivative. There appears to be a direct correlation between DNA affinity, preferred mode, and the anti-pathogenic potency of these compounds.

14 • DNA Binding Affinity and Mode Studies of Potential PDT Candidates using a Topoisomerase I DNA Unwinding Assay

Shivani Polasani

Faculty Sponsor: Ruel McKnight, Chemistry

The interaction of therapeutic drugs with nucleic acid has been under investigation for many years now. Information on the exact DNA binding mode as well as the relative binding affinity has been essential to our understanding of drug-DNA

interactions. One area that has been under investigation is the use of photosensitizers to rid blood samples of pathogens using the technique of photodynamic therapy (PDT). The approach has been mostly ineffective due to the non-specific actions of the photosensitizers. To circumvent these problems, photosensitizers that target the pathogenic DNA are currently being investigated. Since mature red blood cells lack nucleic acids, hemolysis should be greatly reduced. Herein, we report the relative DNA binding ability and preferred binding mode of a series of rhodamine-related chalcogenoxanthylum dyes using a topoisomerase I DNA unwinding assay (Topo I assay). The Topo assay revealed that the mode of binding adopted by the derivatives is directed by their 9-substituent. Derivatives containing a 9-(2-thienyl) substituent preferred an intercalative mode whereas those with a 9-phenyl substituent bound by both intercalation and via the minor groove. Our results show a direct correlation between the DNA binding affinity of the compounds and their abilities to rid blood samples of pathogens

15 • Self-Assembly of the Amyloid Beta Protein on the Surface of Gold Colloidal Nanoparticles

Nicole Briglio, Hyunah Cho, and Nicole Gaulin

Faculty Sponsor: Kazushige Yokoyama, Chemistry

The Amyloid Beta protein (ABeta) is involved in the process of fibrillogenesis, a key hallmark of Alzheimer's disease. Studying the self assembly or protein folding on the surface of gold colloidal nanoparticles will give insight into the proteins conformation at the interface. Solutions of ABeta1-40 with various sizes of gold nanoparticles ranging from 10 to 100 nm were examined under pH conditions ranging between 4 and 10. Interestingly, only protein coated 20 nm gold colloidal nanoparticles exhibited a reversible color change. It is possible that a key intermediate of fibrillogenesis is involved in this process. The reversibility is being studied at temperatures beyond body temperature in search for a hint of protein denaturation leading to Alzheimer's disease.

16 • Electron Microscopy Study of the Amyloid Beta Protein on the Surface of Gold Colloidal Nanoparticles

Hyunah Cho, Matthew Kowalik, Sean Cullen, Marisa Anne Evarts, and Jamie Ann Millard

Faculty Sponsor: Kazushige Yokoyama, Chemistry

Our goal is to investigate the nanoscale aggregation of the Amyloid Beta Protein under interfacial condition, which is important process involved in the Alzheimer's disease. We succeeded to characterize microscale property of the gold colloids by using the Transmission Electron Spectroscopy (TEM). Various sizes of the gold colloidal nanoparticles were investigated for their interactions with amyloid beta protein or ovalbumin. There were two distinct conditions of conformations depending upon the solution was acidic or basic. A cluster of gold colloids were formed at pH was 4, while the gold colloids were monodispersed at pH 10. This study enabled us to determine the role of the protein in interaction between gold colloid nanoparticles.

17 • Study of Protein Attached on Gold-Surface

Sean Cullen and Makaia Papasergi

Faculty Sponsor: Kazushige Yokoyama, Chemistry

We have been establishing a Surface Plasmon Resonance (SPR) measurement in our laboratory by using a portable SPR analytical sensor. SPR is the excitation of the electrons of a surface plasmon (SP) by light at the interface between a conductor and an insulator. Through SPR measurements, the thickness of the film and/or interaction at the interface can be studied. Our interest is in the interaction of light with SPs in thin-gold films coated with the protein Cytochrome-C. The use of this interaction has applications in optical modulators and sensors and as a means to characterize the properties of dielectric over-layers on the metal. Recently, we succeeded in obtaining the SPR signals for water, the calibration of the instrumentation, and the characterization of Cytochrome-C SPR signals as they compare to water. The next step will be to characterize the SPR signal of the gold surface coated in Cytochrome-C with varying concentrations of 20nm gold colloid. The characteristics of the SP reflectivity minimum will be analyzed to find the dielectric properties of thin over-layers of Cytochrome-C with 20nm gold colloid, which may indicate structural properties of the protein, its interaction with the thin-gold film, and how these are affected by the addition of the 20nm gold colloid.

18 • Thermal Stability of Congo Red Dye-Amyloid Beta Peptide Complexes

Andrew Fisher, Amanda Amori, and Sophia Hahn

Faculty Sponsors: Kazushige Yokoyama, Chemistry, and Ruel McKnight, Chemistry

Thermodynamic properties of complexes of Congo Red (CR) dye with a series of different of amyloid Beta (AB) sequences were studied through their absorption spectrum over a temperature range of 10 degrees Celsius to 70 degrees Celsius. Based on the van't Hoff plots, the enthalpy of formation (ΔH), the Gibbs energy (ΔG), and the entropy change (ΔS) were extracted. While all ΔG values of complexes reside around -25 to -30 kJ/mol, only the CR-AB(1-42) complex existing at the lower temperature exhibited significantly exothermic ΔH and a negative ΔS . This implies that a tighter folding structure in this temperature range. Currently, the binding of CR to amyloid sequences is being examined using Isothermal Titration Calorimetry (ITC) in an effort to verify the above results.

19 • Ethyl-Violet Dye as a Tool to Study Diffusion Rate of Acid and Base in Sol-Gel Matrix

Sophia Hahn, Matthew Kowalik, and Sean Cullen

Faculty Sponsor: Kazushige Yokoyama, Chemistry

Ethyl-violet dye exhibits a color change according to the pH condition and was used to investigate the diffusion process of acid and base inside a silica-based sol-gel matrix. The ethyl violet was encapsulated in a silica sol gel sample, and the buffer was added to monitor the change of the color. The pH2 buffer is used for color change in acidic condition and pH10 is used for color change in basic condition of sol-gel matrix. As the buffer solution penetrates into the location of the dye, the color became violet under basic condition and light blue under an acidic condition. This color change was monitored by UV-Vis: absorption spectroscopy. Quite interestingly, the pH dependence color change was found to be a reversible process. From this study, acid and base diffusion rate in sol-gel matrix was extracted.

Sociology

20 • Gender and Alcohol Consumptions of Geneseo Students

Jasmine Frey and Crystal Velez

Faculty Sponsor: James Bearden, Sociology

Previous research suggests that college women drink to feel more comfortable as well as to attract a significant other. Other studies suggest that women's drinking may be more interdependent, that is, more responsive than men's to the needs and wishes of other people. These hypotheses will be tested with data from a survey of Geneseo students.

21 • Business Elite Representation in the Obama Cabinet

Cara Kowalski

Faculty Sponsor: James Bearden, Sociology

President Barack Obama is, for many Americans, a symbol of change. Our democratic system, however, is heavily immersed in a capitalist system and is also faced with the growing power of corporations; in past presidencies, large percentages of Cabinet members have had ties to business. Will a large proportion of President Obama's top officials also have connections with the corporate community? To what extent do/will such connections influence their roles in government? I hypothesize that at least 60% of Obama's officials are part of the business elite. My poster will present the results of this tabulation and its implications for elite theory.

22 • President Obama and the Business Elite

Eric Kelly

Faculty Sponsor: Bearden James, Sociology

The most profound and visible theme of Barack Obama's presidential campaign was change. He promised change in the way government spends money, the way in which it handles controversial issues, and who the focus of the government programs will be on. Will President Obama bring the promise of change to those that he surrounds himself with? The present research will focus on the number of elite economic and social connections that exist among members of President Obama's cabinet. These connections will be compared to those of members of former President Bush's cabinet at the start of his second term in 2005. It is predicted that there will be fewer elite connections among members of Obama's cabinet relative to members of Bush's cabinet.

SPECIAL EXHIBIT

MacVittie College Union

Plasma Screen, East Lounge and other Union locations

Special Exhibit 2 • The World Premiere of The Asian American Calendar

Dominick Ciruzzi, Kun Ma, Christine Lin, Mateh Kamsutchon, Marisha Kulseng, Min Baek, Carmen Chan, Vivien Cheung, Sarah Girouard, Hanna Kim, Robert Krisel, Andrew Jung, Minji Lee, Christina Lee, Frank Lin, Haleema Murtaza, Amanda Rosales, Mary Su, Heather Woods, and Daniel Yoon

Faculty Sponsor: Randy Kaplan, School of the Arts

Since 2006, students have been working to generate the first Asian American Calendar, as a research project co-sponsored by School of the Arts/GENseng and Rochester's Asian Pacific American History Project, APA-Hip. While there are numerous calendars chronicling the achievements of other ethnic and religious groups, Asian Americans have been overlooked. This year, 2009, twenty students representing Geneseo's Classes of 2006 through 2011 will set the record straight. Upon completion of the project, the calendar will be donated to APA-HiP whose staff will take the Calendar to its next step toward publication.

POSTER PRESENTATIONS

MacVittie College Union, Ballroom

Anthropology

23 • Interlanguage and Second Language Acquisition

David Bliss

Faculty Sponsor: Zhiming Zhao, Anthropology

At the core of the study of Second Language is the theory of interlanguage. It is a mixture of elements of the language learner's native language, the target language, and elements found in neither. As the language learner makes progress, his or her interlanguage takes on more aspects of the target language. My poster will include more information about what interlanguage is, and how it develops.

24 • The Development of the Past Tense Morpheme: A Case Study of Summer and Her Quadruplet Sisters

Colleen McNamara

Faculty Sponsor: Zhiming Zhao, Anthropology

This presentation will present the findings on a research study conducted to observe the development of the past tense morpheme (-ed) in regular and irregular verbs in quadruplets, specifically that of a child with developmental delays. The project sought to find how quickly the past tense would develop and in what order by the child with developmental delays. The influence of her three sisters at the same developmental stage was studied as well.

25 • Language Socialization of Children through Play Behavior

Lauren Kimmel

Faculty Sponsor: Zhao Zhiming, Anthropology

The purpose of this study is to explore how language socialization through peer play with gender neutral toys contributes to the development of language use in conjunction with the appropriate feminine and masculine behavior of that culture. In this project the variables of politeness and interruptions were observed amongst boys and girls, ages three to four, in a pre-school classroom in a day care setting.

Biology

26 • Using Molecular Markers to Estimate the Impact of Slavemaker Ants on their Hosts

Alexandra Truex

Faculty Sponsor: Jennifer Apple, Biology

Slavemaking is a form of social parasitism in ants in which the slavemaker ants conduct raids on neighboring colonies of the host species, seizing the developing offspring which will become slave workers in their own nests. The enslaved host workers carry out all necessary tasks of colony maintenance and care for slavemaker brood, while the slavemaker workers remain in the nest except during raids. In the Arboretum, the slavemaker *Formica cf. subnuda* enslaves the host species *Formica cf. glacialis*. Last fall, we sampled *Formica cf. glacialis* ants from 7 free-living and 11 slave-making colonies. We are testing microsatellite primers that were developed for other *Formica* species to find polymorphic microsatellite loci that we can use to estimate the genetic relatedness of the host species in free-living colonies and among the slaves in slave-maker colonies. The relatedness coefficients among the slaves in a slavemaker colony will indicate how many colonies the slavemakers exploited to assemble their work force. Using polymorphic loci, the host colonies from which the slave ants came from could potentially be identified. This information will help us understand the degree to which slavemakers impact host ant populations.

27 • Screening for the Bacterial Endosymbiont *Wolbachia* in Grasshoppers and Other Orthoptera

Stephanie Paladini

Faculty Sponsor: Jennifer Apple, Biology

A recent statistical analysis of survey data suggests that over half of all insect species are infected with *Wolbachia*, widespread endosymbiotic bacteria that infect the reproductive tracts of their hosts. They are transmitted through egg cytoplasm and affect host reproduction. Because *Wolbachia* can cause cytoplasmic incompatibility, a population will experience a reduction of genotypes associated with uninfected individuals as *Wolbachia* spreads. Genetic patterns produced by *Wolbachia* infection can be mistaken for naturally occurring demographic processes, which cause a dramatic loss of genetic diversity. Thus the actual history of a population could be obscured by infection. To determine whether *Wolbachia* could be a factor in producing patterns of mitochondrial DNA variation in the grasshopper *Hesperotettix viridis*, ovary DNA was amplified via polymerase

chain reaction using sets of *Wolbachia*-specific primers. *Wolbachia* DNA was detected in *H. viridis* with the 16S ribosomal DNA internal primers INTF1/INTR2. This primer set is being used to screen additional species of grasshoppers and related insects that were collected locally. The majority of research on *Wolbachia* has focused on taxa such as flies and wasps. While *Wolbachia* has been detected in crickets, its presence in grasshoppers would spur a new area of inquiry in the field of entomology.

28 • In situ Experimental Studies of Eurasian Watermilfoil (*Myriophyllum spicatum*) Downstream from Agricultural Watersheds: Nutrient Loading, Foliar Uptake, and Growth

Bradley Cohen and Christopher Ryczek

Faculty Sponsor: Isidro Bosch, Biology

Recent studies in Conesus Lake, New York, documented significant decreases in the biomass of the invasive aquatic weed, Eurasian watermilfoil, near the mouths of streams draining sub-watersheds where reductions in nutrient loading occurred as a result of the implementation of agricultural Best Management Practices (BMPs). In situ experiments were conducted to further investigate the relationship between stream loading, foliar uptake, and growth of Eurasian watermilfoil. Shoots of Eurasian watermilfoil plants were incubated for 24 hrs in ambient lake water and in lake water with enriched concentrations of nitrate and soluble reactive phosphorus. These concentrations were comparable to nutrient pulses from a rain event. The plants were then allowed to grow in situ for a 2-week experimental period. For all experiments combined, the shoot biomass increased significantly in the enhanced nutrient treatments when compared to the ambient treatment at the Sand Point macrophyte bed (which had reduced loading) but not at the Eagle Point macrophyte bed (which had high loading). Overall, these results indicate that foliar uptake of nutrients in rain pulse events can contribute to the growth of Eurasian watermilfoil and reinforce the hypothesis that reductions in stream loading through agricultural BMPs can help reduce the nuisance growth of this invasive macrophyte.

29 • Bacterial Symbiosis in Clonal Sea Star Larvae (Echinodermata)

Adam Dumas and Geoff Griffiths

Faculty Sponsor: Dr. Isidro Bosch, Biology

We are expanding on the understanding of asexual cloning in a sea star larva that is abundant in the open North Atlantic Ocean and the Gulf Stream off the coast of Florida. Actively cloning larvae live in close association, possibly in a mutualism with autofluorescent bacteria. Cloning is an energetically expensive process, so we suspect that these bacteria may play a crucial role in providing nutrition to the clonal larvae. The bacteria live in the extracellular matrix of larvae surrounding the digestive tract and very likely absorb nutrients from larval digestion. We are culturing bacteria found in larvae and isolating colonies to amplify the bacterial DNA and perform polymerase chain reactions (PCR). The PCR products will then be subjected to gel electrophoresis and sequenced in an attempt to identify the species of bacteria. Ultimately our goal is to experimentally infect larvae with isolated strains of bacteria and to determine if the association is necessary for larval cloning.

30 • Sugar Content of Maple Twigs with Differing Growth Rates

Patrick Byrne

Faculty Sponsor: George Briggs, Biology

Trees store carbohydrates over the summer to provide for growth in the springtime. In sugar maple (*Acer saccharum*) these carbohydrates are released into the xylem as sugars during the winter/spring and sweeten the xylem sap, allowing for production of maple syrup. We hypothesized that faster growing branches, presumably branches located in more favorable situations and having elevated photosynthetic rates, should have higher sugar contents. We collected sap from twigs varying in the amount of growth in the previous year and analyzed it for sugar content.

31 • De-etiolation Response in *Brassica rapa*

Shauna Davis and Nicole Brunet

Faculty Sponsor: George Briggs, Biology

When seeds germinate in darkness they have elongated stems, lack chlorophyll and exhibit little leaf expansion. Light triggers a process known as the de-etiolation, reversing these features. De-etiolation responses result from specific photoreceptors, including phytochromes and riboflavins. Because these pigments differ in their absorption spectra, the action spectra of de-etiolation responses vary depending upon the pigment responsible. We are using LED's (Light Emitting Diodes) to investigate the de-etiolation response in *Brassica rapa* (Wisconsin Fast Plant). LED's with different emission characteristics were used to identify the pigment systems operating to effect de-etiolation.

32 • Stomatal Limitation of Photosynthesis during Drought

Kellie O'Keefe

Faculty Sponsor: George Briggs, Biology

Stomatal openings allow carbon dioxide to enter the leaf and make it available for photosynthesis. During drought stomates close to lessen water loss, potentially limiting photosynthesis by decreasing the carbon dioxide concentration inside the leaf. We studied the extent of stomatal and non-stomatal limitation in plants exposed to a drought cycle. Using a portable photosynthesis system we measured the photosynthetic rates, transpiration rates, stomatal conductance (a measure of the degree of stomatal opening) and internal carbon dioxide concentrations in well-watered plants. Measurements were continued as these plants were then allowed to dry to wilting and then rewatered.

33 • Myrosinase Activity in Soil Containing *Brassica rapa*

Thomas Suchy and Will Bossard

Faculty Sponsor: George Briggs, Biology

When *Brassica rapa* seeds are planted in soil which has already been used to grow *Brassica rapa*, plant growth rates are substantially reduced. Such an effect can be the result allelopathy, where chemicals secreted by plants deter the growth of the other plants. We conducted studies to see if myrosinase, an enzyme found in other members of the genus *Brassica*, might be responsible for the allelopathic effects. Myrosinase acts on glucosinolates hydrolyzing them and producing isothiocyanates and glucose. The isothiocyanates have been found to produce allelochemical effects when present in soil. We used a myrosinase assay and determined that soil in which *Brassica rapa* had grown exhibited myrosinase activity and presumably isothiocyanates were present as a result.

34 • PCR Cloning of a Partial NBS-LRR Gene from Grape (*Vitis aestivalis* Michx)

Laura Banks and Emily Hiza

Faculty Sponsor: Ming-Mei Chang, Biology

Vitis aestivalis, an American grape, is known to possess disease resistance against grape fungal pathogens. The disease resistance of plants can be attributed to their endogenous resistance genes, most of which were found to contain NBS-LRR domains. Thus, finding these domains increases the probability of locating/isolating these genes. In this study, genomic DNA was isolated from grape leaves. The material was processed through a series of isolation and purification steps. Degenerate PCR primers were used to amplify the sequence between the P-Loop and GLPL within the NBS domain. The PCR product was then ligated into a cloning vector and transformed into *E. coli*. One of the white colonies was selected through blue-white selection. The transformation efficiency was $(1.73 - 4.46) \times 10^4$ / μg of DNA. The plasmid DNA was isolated from the overnight bacterial culture using an alkaline lysis method and further purified before sending out for sequencing. Here, we report the result from the sequence analysis of the DNA clone.

35 • Identifying and Cloning a Partial NBS Sequence from Grape (*Vitis aestivalis* Michx)

Stacy Hennick and Andrew Wight

Faculty Sponsor: Ming-Mei Chang, Biology

Proteins containing Nucleotide Binding Site and Leucine Rich Repeat (NBS-LRR) are known for assisting plants to fight against their pathogens and insects. Using PCR (polymerase chain reaction) cloning, we attempt to isolate and amplify DNA fragments between the P-loop and the GLPL motif within the NBS domain of NBS-LRR genes in the American grape (*Vitis aestivalis* Michx). Genomic DNA was isolated from grape leaf and subjected to degenerate PCR. The amplified DNAs were inserted into pSC-A-amp/kan, plasmid vectors, which were then transformed into *E. coli*. One of the recombinant clones was identified using Blue/White screening from which the plasmid DNA was isolated. The concentration of plasmid DNA before and after purification was 3.47 $\mu\text{g}/\mu\text{l}$ and 257.8 ng/ μl respectively. The presence of PCR insert was confirmed by restriction enzyme digestions and agarose gel electrophoresis. The purified plasmid DNA was then sent out for sequencing. Further sequence analysis will be discussed in this poster.

36 • TMD-1/Tropomodulin Regulates Intestinal Lumen Diameter in *C. elegans*

Vincent Cannataro and Jackie Morris

Faculty Sponsor: Abbi Cox, Biology

Caenorhabditis elegans is a small transparent nematode that is a great model system for studying the development of endothelial tubes, which are present throughout the animal kingdom. Development of these tubes is poorly understood even though they are prevalent in humans; existing in many tissues and organs including the kidneys, lungs, and capillaries. *C. elegans* has a simple 20 celled endothelial tube that functions as its intestine. We have found that *C. elegans* with mutations in the TMD-1/tropomodulin gene have areas of their intestine where the lumen (fluid filled space) is expanded. Tropomodulin is a protein that binds to the slow-growing ends of cytoskeletal actin filaments and regulates their length and stability. The *C. elegans* intestine has a meshwork of actin that underlies the apical (luminal) surface, and we have found TMD-1 localizes there. Currently, we are interested in determining the molecular mechanisms by which tropomodulin regulates lumen diameter. One hypothesis is that tropomodulin regulates lumen diameter by regulating contraction of the apical actin network; another possibility is that tropomodulin acts by promoting mechanical strength of the luminal surface. Both of these hypotheses are being systematically tested and our current state of progress will be reported.

37 • The Creation of an Intestine-Specific RNAi Strain of *C. elegans* to Study Tubulogenesis.

Laura Cole and Robert Taylor

Faculty Sponsor: Abbi Cox, Biology

Tubes are an important component of many tissues and organs, yet little is known about their mechanism of development. To better understand this process, we are attempting to identify new genes involved. The soil nematode *Caenorhabditis elegans* is being used as a model system since its optically transparent intestine can easily be observed. Within this system, the gene silencing process RNA interference (RNAi) will be used to selectively knockdown genes suspected of playing a role in tubulogenesis. Some genes involved in intestine development may be essential earlier in development and/or may be required for other tissues to develop. To circumvent these issues we are generating a strain of *C. elegans* that will be sensitive to RNAi only in the intestine. This strain will be created by rescuing an rde-1 mutant *C. elegans* strain, which is not able to do

RNAi, with a construct that will drive expression of *rde-1* only in the intestine. Gene knockdowns using RNAi will be performed using a feeding method, which involves culturing *C. elegans* on bacteria that produce dsRNA targeting a gene of interest. This approach will allow us to observe the roles of genes selectively in the intestine during its development.

38 • Generation of a GFP Transgene to Visualize TMD-1 Expression in *C. elegans*

Gregory White and Silva Malan

Faculty Sponsor: Abbi Cox, Biology

Tropomodulins are a group of actin-capping proteins that are highly conserved in eukaryotes from *C. elegans* to humans. Tropomodulins bind to the slow-growing end of actin filaments and regulate their length and stability. We are particularly interested in the role of the tropomodulin, TMD-1, in endothelial cells during intestinal development in the nematode, *C. elegans*. To understand the role of TMD-1 in this process, it is important to know its subcellular localization over time. Immunostaining techniques using anti-TMD-1 antibodies have been used in the past to gain insight into its localization. This technique is limited, however, in that it perturbs the actin cytoskeleton and it can only be used in fixed specimens. To gain more insight into TMD-1 localization in living *C. elegans* embryos, we are in the process of constructing a GFP TMD-1 fusion construct using recombinant DNA techniques. GFP is a green fluorescent protein from the jellyfish, *Aequoria victoria*, which is commonly used to tag proteins of interest in cell biology. Once the TMD-1::GFP transgene is constructed, we will introduce the DNA into *C. elegans* by microinjection to generate transgenic worms. The localization of the TMD-1::GFP fusion protein will then be assessed by confocal microscopy.

39 • Comparing Begging Success Rates in Smallest and Largest House Wren Nestlings

Amanda Gajewski

Faculty Sponsor: Kristina Hannam, Biology

When resources are limited, parents should invest in offspring most likely to enhance the parent's fitness, at the expense of others' survival. House Wrens (*Troglodytes aedon*) typically raise a brood of 5-7 nestlings, one of which is noticeably smaller. Parents deliver food items one-by-one to the nestlings, so successful begging by each nestling is critical to being fed. How a nestling begs, and its position in the nest may be important factors in determining which nestling is fed. We are interested in comparing success of the largest nestling to the smallest nestling in our observations of begging and feeding behaviors. Video recordings were made at nest boxes in the Geneseo area for each nest for ~ 60 minutes. Begging behaviors were analyzed quantitatively taking note of both the largest and smallest nestling individually. For each nest we recorded the number of total begging bouts, the number of bouts by the largest/smallest nestling, and the accuracy of bouts. We further noted who was the first to beg, was the closest to the parent, and was successful (fed) at begging. We will present results of analyses comparing the begging behavior and success of the largest and smallest nestlings in the nest.

40 • p63 Expression is Downregulated in A431 cells in Response to Treatment with Dexamethasone

Masaki Bannai

Faculty Sponsor: Jani Lewis, Biology

Our previous work has shown that dexamethasone (dex) treatment of the squamous epithelial cell line, A431, causes loss of tumor suppressor E-cadherin. This is followed by gain of vimentin expression. These changes are a hallmark of an epithelial to mesenchymal transition (EMT) suggesting that dex is promoting this development in A431 cells. The transcription factor p63 is a homologue of p53, another known tumor suppressor. Using microarray and real-time rtPCR analysis of RNA from untreated and dex treated A431 cells, we have found that p63 is also downregulated in the dex-treated A431 cells. Our findings suggest that p63 is influenced by the same downstream effectors that influence E-cadherin expression in A431 cells.

41 • Creating Phylogenetic Comparisons in Order to Determine Unknown Serotonin Receptors in *Aplysia*

Laura Lobaugh

Faculty Sponsor: Duane McPherson, Biology

Many recent studies have demonstrated that a transmitter can convey any signal throughout an organism. A prime example of this is the strong effect that serotonin has on muscle contraction in *Aplysia*. Serotonin amplifies the force of muscle contraction in the foot of *Aplysia*, so it is important to find out how serotonin has this effect on cell function. Neurotransmitters like serotonin act through specific receptors. Many serotonin receptors are linked to G-proteins. Therefore we are trying to identify G-protein linked serotonin receptors in *Aplysia*. To do this, a probe based on a portion of the amino acid sequence of related serotonin receptors will be constructed. Using this probe, we will attempt to isolate and amplify the *Aplysia* serotonin receptor. *Aplysia*, a sea slug, differs greatly from mammals. The genetic differences make it difficult to pinpoint the particular sequence with only the background information from vertebrates. The approach to achieving this goal is to create a phylogenetic comparison containing serotonin receptor amino acid sequences from not just vertebrates, but also a variety of invertebrates. By generating this comparison, conserved sequences can hopefully be discovered among the different creatures, allowing us to establish the building blocks needed to isolate the unknown serotonin receptor in *Aplysia*.

42 • CD73-Mediated Adenosine Production in the Brain is Increased Following LPS Injection

Tina Jensen

Faculty Sponsor: Kevin Militello, Biology

Adenosine is an endogenous neuromodulator that plays a critical role in numerous biochemical processes in the central nervous system. This compound interacts with G-protein coupled receptors on glial cells and infiltrating immune cells to mediate the response to numerous brain pathologies. One major source of local production of adenosine is ecto-5'-nucleotidase (CD73). CD73 is a cell surface enzyme that catalyzes the breakdown of adenosine monophosphate (AMP) to adenosine and phosphate in the extracellular space. We hypothesized that CD73 activity is increased 24 hours after intraperitoneal injection of lipopolysaccharide (LPS), an endotoxin found on the surface of Gram-negative bacteria that induces global inflammation. To test this hypothesis, acute brain slices were prepared using standard techniques and treated with exogenously administered AMP. Free phosphate accumulation was measured as a function of time to quantify CD73 activity. To ensure that the measured phosphate was due to this enzyme, a specific inhibitor of CD73, adenosine 5'-(α , β -methylene) diphosphate, and slices from CD73 KO mice were used to diminish the signal. These results indicate that CD73 activity in the brain is significantly increased 24 hours post-LPS injection and suggest that adenosine is involved in mediating the anti-inflammatory response upon exposure to inflammatory endotoxins.

43 • Identification and Extraction of Natural Molluscicidal Agents from *Citrus sinensis* and *Anthemis nobilis* and Investigation of their Activity

Kian Bichoupan

Faculty Sponsors: Susan Bandoni Muench, Biology, and Eric Helms, Chemistry

Schistosomiasis is a parasitic disease that affects 200-300 million people globally, of whom 85% are in Africa. While drug treatment alone has not decreased the prevalence of schistosomiasis, there has been increased interest in the control of transmission with the use of naturally occurring molluscicides. There is currently great interest in naturally occurring molluscicidal agents that would be used to control the transmission of schistosomiasis. Previous research has been done on the toxicity of essential oils on *Citrus sinensis* (Sweet Orange) and *Anthemis nobilis* (Roman Chamomile). An experiment was conducted on *C. sinensis* and *A. nobilis* to determine the compounds in them responsible for their molluscicidal activity. A Soxhlet extraction was conducted on both samples with both polar and non-polar solvents. The extractions were chemically analyzed and identified with GC-MS and HPLC. Bioassays will be conducted on *Bulinus truncatus* as well as *Biomphalaria glabrata* and lethal concentrations (LD50 and LD90) will be calculated with the Reed-Muench method in order to determine the strength of each plant extract.

44 • Gender Conflict and Mate Choice in *Biomphalaria glabrata*

Shazia Sohrawardy

Faculty Sponsor: Susan Bandoni Muench, Biology

Freshwater snails in the genus *Biomphalaria* transmit *Schistosoma mansoni*, a causative agent of human schistosomiasis. Understanding reproduction in the snail hosts of human schistosomes may be useful for snail control. Previous experiments with some freshwater pulmonate species suggest that smaller individuals may prefer to mate as males, while in other species, gender roles in mating are unrelated to size. Snails were measured and isolated for 5-7 days. For each experiment, mate choice was observed in four replicates of three snails each. In each dish, two snails, one large and one small, were tethered to the sides of the container using dental floss. A third snail, either large or small was introduced to the dish and left free. Time and position of the free snail relative to the tethered snails was recorded every five minutes. According to my preliminary research, smaller snails tend to assume the male role while larger snails assume the female receptive role, supporting a role for size in determining gender in *Biomphalaria glabrata*. More often than mating, gender conflict occurs, with both snails attempting to mate in the male role. In this case, biting and shell swinging occurred and mating did not.

45 • The Effect of D, L- Sulforaphane on Cells Derived from the Melanoma/Breast Cancer Cell Line, MDA MB-435

Ashley Adams and Cory Higley

Faculty Sponsor: Robert O'Donnell, Biology

Sulforaphane is a chemical that is found in cruciferous vegetables that has been found to activate phase II enzymes, part of the body's first line of defense against cancer. We tested the direct effects of sulforaphane on cell proliferation in vitro using MDA MB-435 cells. These cells are grown in 90% DMEM and 10% serum at 37° Celsius and are split weekly at 1:6. A cytotoxicity assay yielded effective killing of the cells at the highest doses tested. Cells were exposed to a constant amount of drug for 24 hrs, 7.5 hrs and 4.5 hrs to see the effect of sulforaphane on the cell cycle using flow cytometry. Effective blockade of the cell cycle in the G2 phase was seen as early as 4.5 hrs as well as evidence of apoptosis after 24 hrs. Because the cell proceeds through the cell cycle being regulated by a series of cyclins, cyclin-dependent kinases, and other proteins we wanted to investigate whether sulforaphane's mechanism of action was through these cell cycle controls. Since the levels of cyclin B rise as the cell progresses through the G2 phase of the cell cycle and into the mitosis phase of the cell, we chose that cyclin as the starting point for investigating sulforaphane's mechanism of action in MDA MB-435, and are currently using a western blot analysis and immunoblotting techniques to examine levels of cyclin B. Additionally, we are just beginning to use immunofluorescence techniques to examine the levels of cyclin B in control and treated cells. If the sulforaphane is effective and selective for tumor cells, it could possibly be used not only as a chemopreventative agent for cancer but also for cancer treatment.

46 • Proton Radiation Therapy and PARP Inhibition

Adam Biedny and Christopher Bishop

Faculty Sponsor: Robert O'Donnell, Biology

Poly (ADP-Ribose) Polymerase (PARP) is involved in chromosomal DNA repair. The use of PARP inhibitors, like 3-Aminobenzamide, have been shown to enhance both the in vitro and in vivo efficacy of various chemotherapeutic drugs and ionizing radiation through the prevention of DNA strand repair. Besides increased cytotoxicity, the lack of repair increases genomic instability, which in turn may lead to apoptosis. In preliminary experiments, we have found that the PARP inhibitor, 3-Aminobenzamide, increases the cytotoxicity of the common chemotherapeutic agent, etoposide, on the melanoma cell line MDA MB 435. Incubation of cells with 3-Aminobenzamide followed by treatment with etoposide (a topoisomerase II inhibitor) killed 24.5% more of the control population than etoposide alone. We are currently extending these experiments to radiation-exposed cells using proton radiation from the 5SDH Tandem Pelletron Accelerator. These experiments are being done in collaboration with Dr. Padalino and his students in the Physics Department. Current trials are establishing doses and optimal conditions for treating the cells. Once the radiation parameters are established, we will radiate cells in the presence and absence of 3-Aminobenzamide to determine if the PARP inhibition can enhance the radiation effects. The inhibition of PARP could be used as a novel cancer therapy for increasing cell death in clinical applications that use proton radiation therapy.

47 • Lead(II) Chloride Modulates Currents in Metabotropic Glutamate Receptor mGluR7a Expressed in *Xenopus* Oocytes

Charles Hannum

Faculty Sponsor: Robert O'Donnell, Biology

Lead exposure can be detrimental to the intellectual development of children. This study investigates the effects of lead (PbCl_2) on the metabotropic glutamate receptor mGluR7a which has been shown to be important in various forms of learning and memory. Using two electrode voltage clamp technique, current responses to varying glutamate concentrations (12, 37, 111.1, 333.3, 700 and 1000 μM) were compared in the presence and absence of 11 μM PbCl_2 in *Xenopus* oocytes injected with mGluR7a and β ? effector G-protein-coupled inwardly rectifying potassium (GIRK) channel mRNA. 11 μM PbCl_2 inhibited 92.99 ± 3.53 , 69.36 ± 8.95 , 70.89 ± 4.88 , 57.12 ± 3.98 , 26.33 ± 12.84 and 44.04 ± 3.17 percent of mGluR7a responses at 12, 37, 111.1, 333.3, 700 and 1000 μM glutamate respectively. As glutamate concentration increased, current inhibition was significantly reduced (One-Way ANOVA: $p < 0.001$). This inhibition was greater than the control inhibition on GIRK (6.70 ± 0.63 percent). These findings imply that PbCl_2 acts on mGluR7a in a partially competitive manner. A significant increase in glutamate current desensitization in the presence of 11 μM PbCl_2 was seen at glutamate concentrations of 333.3 μM and 1000 μM (Paired-Samples T Test: $p = 0.01$, 0.004 respectively). 11 μM PbCl_2 also produces an apparent rightward shift in the EC_{50} of glutamate.

48 • A Comparison of the Effect of Sulforaphane on the Cell Cycles of HL 60

Melissa Kaye, Nastassia Shaw, and Matthew Chung

Faculty Sponsor: Robert O'Donnell, Biology

Sulforaphane is an isothiocyanate compound found naturally in cruciferous vegetables such as broccoli or kale, that has been shown to prevent or slow tumor growth. Experiments by students in the lab last year showed that tumor cells treated with sulforaphane were blocked in the G2 portion of the cell cycle. Our experiments wanted to determine if there was a difference in sensitivity between normal and tumor cells. Cell toxicity experiments have shown that at different dilutions, the leukemia cells are affected more heavily than the fibroblast cells. Flow cytometry experiments to analyze DNA content have not yet shown much difference in how the cell cycle is arrested, but we are continuing to test the effects at different doses. Through learning more about how uncontrolled growth in cancer can be halted, these experiments could potentially lead to information that would play an important role in the treatment of cancer.

49 • The Effect of Artemisinin on Normal Human Fibroblasts

Joseph McDonald

Faculty Sponsor: Robert O'Donnell, Biology

Artemisinin, a compound extracted from a species of wormwood plant in Asia, has traditionally been used in the effective treatment of many drug resistant strains of malaria; however, new findings have suggested its capabilities as a new chemotherapeutic agent. As part of a larger experiment, human fibroblasts from the MRC-5 cell line were grown and exposed to artemisinin to test if the drug had cytotoxic effects on these cells. The fibroblast cells were plated in a 96-well plate and a mid-level dose of 1000 μmol of artemisinin was put into the first column of wells and serially diluted down to create a dose response curve. Cell number was quantitated using the CyQuant Cell Proliferation assay (Invitrogen). The preliminary results suggest that artemisinin is cytotoxic at a dose range of 500 μmol to 31.25 μmol , and further experiments incorporating holotransferrin might offer new insights into the drug mechanism and provide a comparison to human tumor cells to determine if there is a differential sensitivity.

50 • The Effect of DNA Cytosine Methylation on the Response of *Escherichia coli* to Viral Attack

Kathleen Bronchetti, Alexa Cavalli, Michael Reinhardt, and Pamela Reyes Mercedes

Faculty Sponsor: Robert Simon, Biology

DNA cytosine methylase, encoded by the *dcm* gene, is found in almost all strains of *Escherichia coli* that have been examined. Thus there is an interest in finding the reason for the evolutionary maintenance (selection) of this cellular process. Methylation associated with Restriction-Modification systems is known to protect *E. coli* from foreign DNA including viral DNA. However the *dcm* gene is an orphan methylase, not associated with a restriction enzyme and its role is unknown. This project was aimed at determining whether *dcm* associated cytosine methylation could also play a role in protecting *E. coli* from viral (bacteriophage) attack. Isogenic strains from the Keio collection of *E. coli* K-12 with and without the *dcm* gene were obtained, and used: a. To compare the plaquing efficiency of a variety of known *E. coli* somatic viruses (FX174, T1, T2, T4 T4r). To date there is no consistent pattern. Bacteriophage T2 shows no difference in plaquing efficiency on strains with and without the *dcm* gene. Surprisingly, some bacteriophages, such as FX174, have higher plaquing efficiency on *E. coli* with the *dcm* gene. b. To look at the sensitivity of the strains to environmental viral samples obtained from sewage and soil.

51 • Aerobiology Research

Kyle Healy, Christine Barbaccia, Rafi Yusuf, Trevor Palia, and James Maier

Faculty Sponsor: Ray Spear, Biology

Aerobiology is the study of living particles in the air. Our lab is specifically focusing on concentrations of airborne pollen using a Rotorod collection sampler. The collection sampler, located on the roof of the ISC, utilizes rotation impaction technology to gather pollen. A rotating head at the bottom of the sampler spins at a set rate and has special adhesive rods which pick up air particles as small as two microns in size. Switching the rods every 24 hours allows us to observe the pollen concentrations for that given day. With this data, we will be recording the daily pollen concentrations over the growing seasons. We further hope to develop a phenology of flowering plants and allergens in the air to help us look into how this correlates with medical allergy incidences.

52 • Intensity of Land Use as a Predictor of Biodiversity

Kun Ma

Faculty Sponsor: Ray Spear, Biology

Human activities have significant impact on biodiversity through land fragmentation and disturbances of habitats. A gradient scale of land-use intensity from lowest to highest should determine biodiversity levels and create a gradient of biodiversity from highest to lowest. To test the validity of this predicted gradient, I studied landscapes from two locations, Crocker Pond in White Mountain National Forest, Maine and Hundred Acre Pond in Mendon Ponds Park of suburban Rochester, New York. Percentages of land used for different purposes, as well as pre-settlement and post-settlement forest cover and land use data were collected and used as indicators of fragmentation and habitat availability, while pollen data were analyzed as indicators of biodiversity. The gradient scale was used to predict how intense land-use for biofuel production will affect biodiversity.

Communication

53 • Sexual Health Communication: Exploring Beliefs, Memorable Messages and Stigma

Kaitlin Doyle

Faculty Sponsor: Meredith Harrigan, Communication

With alarming sexual health statistics emerging from the Geneseo campus, there is a heightened need to understand the communicative habits of students. This paper assesses the role that beliefs, memorable messages, and cultural stigma may have with sexual behavior, while searching to create alternative forms of peer sexual health communication. Qualitative methods of data collection and analysis were used to conduct seven semi-structured interviews that indicated three shared beliefs among students. Also important, were the patterned rejection of the memorable messages received by the participants, and the numerous stigmas surrounding sex-related topics. The results of this research will serve as the foundation for customized sexual health programs that reinforce low-risk behaviors through positive communication in the Geneseo population.

54 • Hook Ups, Friends with Benefits and One Night Stands: Examining the Longitudinal Correlates of Casual Sexual Behavior

Amanda Hamilton

Faculty Sponsor: Meredith Harrigan, Communication

This study involves collaborate research with Dr. Ronald D. Rogge, Assistant Professor in the Department of Clinical and Social Psychology at the University of Rochester. Although recent studies have suggested that casual sexual behavior like the hook-up is prevalent in as many as 78% of college students, few studies have examined the longitudinal effects of such behavior on students. The current study explores sexual behavior occurring outside the context of romantic relationships. The initial assessment used includes measures of: neuroticism, adult attachment, commitment avoidance, libido, sexual history, peers sexual behavior, current sexual behavior, alcohol use and individual well-being (psychological distress and vitality). It also asks respondents to complete a series of measures focused on the person with whom they had most recently been physically intimate including: relationship satisfaction, emotional intimacy, social support, sexual satisfaction, need satisfaction and sexual

behavior. The longitudinal follow-up assessments assess the stability, quality and level of commitment of any relationships specified in the first assessment as well as taking measures of individual well being (e.g., distress, vitality, need satisfaction, current sexual behavior). Analyses will examine if sustained levels of casual sexual behavior are associated with lower individual functioning over time and a lower likelihood of engaging in a committed romantic relationship.

55 • Caught Green-Handed: An Exploratory Study of the Effects of Social Capital and Communication on Student Environmental Initiatives

Alicia Kowsky

Faculty Sponsor: Andrew Herman, Communication

Students all over the nation are attempting to connect with local leaders and administrators to tackle problems such as global climate change, carbon neutrality and conservation on college campuses. Each student approaches administrators differently to develop local policy to address the problems. Each student receives different responses from administrators, positive or negative, and is able to find some level of success for their goals. The question is why some students are more successful than others at reaching their goals. Can a student's communication and social capital benefit them and their campaigns? Through exploratory research, I will interview a handful of students to find out their experiences, both with connecting with administrators, and working with others in their campus communities. I hope to draw a positive connection between a large amount of social capital and student success with environmental initiatives. If this conclusion is drawn, it will be proof for future student eco-activists, that they will be able to be more successful if they work together as a community instead of as a single student.

56 • Facts and Foibles of Cybermedicine

Aidan Bryant

Faculty Sponsor: Ginni Jurkowski, Communication

Is cybermedicine evil? Used correctly and carefully, cybermedicine can save your life. Should it be regulated or should people rely on self-regulation? How can people protect and help themselves at the same time?

57 • Online Activism

Katelyn Palumbo

Faculty Sponsor: Ginni Jurkowski, Communication

Activists are fighting for change around the world and across all walks of life. The internet has become a tool to bridge geographical divides as well as close the information gap. The most significant result of online activism is PARTICIPATION. The internet has brought grassroots movements into the living-rooms of everyday citizens.

58 • The Good, the Bad, the Unavoidable

Meryl Robinson

Faculty Sponsor: Ginni Jurkowski, Communication

The miracle of the Internet has a price: advertising. Ads can be obnoxious, ads can be discreet. Love 'em or hate 'em, ads make it possible to be the Internet junkies we are. Despite everything that is inherently evil in online advertising, could we afford not to have it? What's an advertiser to do?

59 • Young Activists: Striving for Social Change

Allison Sass

Faculty Sponsor: Ginni Jurkowski, Communication

Social networking websites are a useful way for people of all ages to develop a prominence on the web. Young activists utilize networking websites to provide them with something much more substantial: a voice for their cause. Since most networking websites offer free membership and provide pre-made layouts, young activists across the globe can now strive for social change, regardless of their financial situation or web design expertise.

60 • Ed Web

Meri Teasdale

Faculty Sponsor: Ginni Jurkowski, Communication

Hard copies of books, documents, and other forms of media are rapidly disappearing. The Internet has quickly become the world's number one source for information and archival data. Information must be accessible, yet incorporate technology. How do the teachers do it?

61 • Gender, Age and the Business World

Jennifer Wheaton

Faculty Sponsor: Ginni Jurkowski, Communication

Differences in communication can be a result of the gender or age of people involved. A diverse workforce offers challenges and opportunities. Employees who understand the differences can take advantage of these occasions.

62 • Digital Persuasion

Daniel Skahen

Faculty Sponsor: Ginni Jurkowski, Communication

Advertising is using online media to persuade and convert leads into customers. The impact on media, marketing and the relationship between the vendor and the customer is explored.

63 • Public Relations in Action – Student Agencies Create Brands for Small Business and Community Clients

Daniel Skahen

Faculty Sponsor: Mary Mohan, Communication

This poster showcases strategic and creative processes used by students in Comn 341 Public Relations Case Problems course to create integrated marketing communications packages for small business and community clients. Student teams create their own unique identity as a working agency by designing a logo, tagline and other professional materials. These agencies then tackle specialized communication problems of entrepreneurial businesses, urban neighborhoods and rural villages. A representative sample from completed and ongoing projects will be displayed on the poster, including Rochester's South Wedge and Charlotte branding initiatives. Projects such as these exemplify a service learning and theory into practice approach to learning and teaching.

64 • Introduction to Music Supervision

Rebecca Lovell

Faculty Sponsor: Chris Pruszynski, Communication

Music supervision is one of the fastest-growing careers in the music industry. At the core of every music supervisor's job lies an important task: choosing an effective piece of music to place in a film, television show, commercial, or other form of media. This instructional video introduces viewers to everything else the career entails. Viewers will understand how to develop cue sheets and obtain rights to copyrighted music.

65 • The Portrayal of Women in Advertisements and Television and its Role in the Perpetuation of Gender Stereotypes

Michele Ronan

Faculty Sponsor: Atsushi Tajima, Communication

Mass media has a significant influence on the learned gender roles and stereotypes as well as self-image. Due to their sheer volume, advertisements stand out as the form of media which has considerable impact on the viewers, followed closely by television programming. These media outlets often contain distorted representations of gender roles as well as inaccurate depictions of women. Starting in childhood they form the impressions which will last a lifetime; interfering with one's own self-image as well as their opinion of others. As we become adolescents and then adults, this established viewpoint becomes internalized and our own self-worth may become compromised. This presentation discusses the influence TV advertisements have on children; the impact sexism in advertisements has on women, as well as its role in the Americanization of Asian American women. It also explains the power of hegemony and how the exploitation and stereotyping of women leads to self-objectification, loss of self-worth as well as an overall skewed image of gender roles.

66 • Television and Adolescent Alcohol Consumption

Maureen Wenzel

Faculty Sponsor: Atsushi Tajima, Communication

This is a study to look into how much popular teenage television shows include underage drinking in their plot, focusing the study on one show in particular, Gossip Girl. Gossip Girl is arguably the most popular show among teens. This study looks at the number of times underage drinking occurs in Gossip Girl, and who, where, and why drinking occurs. This presentation will also look at others research on trends in underage drinking, and whether or not the media has a direct effect on teenage alcohol consumption.

Communicative Disorders & Sciences

67 • Speech and Language Intervention Materials: Original Student Works

Sarah Bayerl, Francesca Crobak, Amy Dunn, Samantha Ferguson, Erin Filippini, Cathryn Hayes, Kaitlin Kenneally, Roberto Marro, and Colleen Rogan

Faculty Sponsor: Linda Deats, Communicative Disorders & Sciences

Displayed speech-language therapy materials were designed by CDSc students enrolled in their first or second semester of clinical experience in the Speech and Hearing Clinic at SUNY Geneseo. The materials are used to teach new communicative

skills and are based on client specific speech and language goals. While their aim is to foster the acquisition of new skills, the materials are also motivating for clients as their areas of interest are often the basis of the creation. The materials on display were designed for individuals who are working on language, articulation, voice and fluency skills.

68 • Fluency Intervention: Educating Parents and Teachers

Lisa Balistreri, Allison Barrette, Alexandra Becker, Laura Bennett, Brianna Bicknell, Meghan Duffy, Katarina Ernestus, Erin Filippini, Cathryn Hayes, Jillian Healy, Ashley Keppeler, Roxanne Kohilakis, Tara Murphy, Amy Phillips, Sarah Regan, Rebecca Reina, Sarah Regner, Alexa Schuessler, and Kristine Weber
Faculty Sponsor: Linda House, Communicative Disorders & Sciences

Students have completed notebooks with detailed material in the area of fluency disorders. These notebooks are designed to educate parents, teachers and significant others in the child's environment.

69 • Increasing Community Awareness of Autism Spectrum Disorders

Allison Barrette

Faculty Sponsor: Linda House, Communicative Disorders & Sciences

Incidence of autism spectrum disorders (ASD) has increased dramatically over the past ten years. Current statistics site the prevalence of autism to be as high as 1 in 350 young American children. It is imperative that professionals have knowledge of symptoms, diagnostic information and treatment strategies for ASD. Families must have accurate information regarding red flags of ASD, as early diagnosis is crucial. Many parents don't know what resources are available for diagnostics, therapies and support. It is important for anyone working with young children to be knowledgeable about how to direct families if ASD is suspected.

70 • Articulation Testing: Original Tests

Jessica Cirillo, Megan Goolden, Emily Hanagan, Sarah Hunter, Mary Shaughnessy, and Kathleen Vokes

Faculty Sponsor: Linda House, Communicative Disorders & Sciences

Assessing articulation errors in children and adults is an important role of the Speech Language Pathologist. Although many tools are commercially available, having the availability of supplemental, specialized creative tools enhances the accuracy of the findings. Six original student created tools are being presented.

71 • Phonetics: Original Works

Mallory Diberardino, Sarah Regner, and Aileen Sweeney

Faculty Sponsor: Linda House, Communicative Disorders & Sciences

Three original works created using the International Phonetic Alphabet will be presented.

72 • Stuttering in School Age Children: A Resource Guide for Teachers

Erica Rohrabacher

Faculty Sponsor: Linda House, Communicative Disorders & Sciences

Stuttering in School Age Children: A Resource Guide for Teachers is a quick and easy reference guide for teachers on how to approach stuttering in children. The resource guide includes the affective, behavioral and cognitive aspects of stuttering, the etiology of stuttering, how to approach a child you suspect is having a stuttering problem, other helpful tips and facts, and information on what a child who stutters may feel about the disorder.

73 • "Huh?": The ABC's of Hearing Issues in School-Age Children

Vicky Barton, Megan Goolden, Emily Hanagan, Jessica Kroecker, Kate Lawson, Meghan Levy, Mary Shaughnessy, Amanda Tennis, and Kristen White

Faculty Sponsor: Douglas MacKenzie, Communicative Disorders & Sciences

It is estimated that the prevalence of hearing loss in school-age children is as high as 15%. Hearing problems may be permanent or transient, exist in one ear or both, and range anywhere from mild to profound in degree. In some cases hearing sensitivity may be normal but the child demonstrates difficulty comprehending what is heard. Regardless of the cause or severity, hearing problems can have a significant negative impact on a child's ability to succeed academically. This poster presents information geared towards parents and educational personnel on various issues related to hearing and hearing loss in school-age children.

74 • A Locus Equation Perspective of Second Formant Transitions During Simultaneous Communication Produced by Inexperienced Signers: A Systematic Replication

Samantha Cunningham, Michelle Frankino, Marc Johnson, Roxanne Kohilakis, and Jordan Nieto

Faculty Sponsors: Dale Metz, Communicative Disorders & Sciences, and Douglas MacKenzie, Communicative Disorders and Sciences

This study investigated the preservation of second formant transition acoustic cues to intelligibility in speech produced during simultaneous communication (SC) from a locus equation perspective. Twelve students who had recently completed a manual communication course (inexperienced signers) were recorded under SC and speech alone (SA) conditions speaking a set of sentences containing monosyllabic words designed for measurement of second formant frequencies in consonant-vowel-consonant (CVC) syllables. Linear regression fits made to coordinates representing second formant transition onset and offset frequencies following stop consonant release of CVC syllables (locus equations) were used to examine place of articulation cues in both SA and SC conditions. Although results indicated longer sentence durations for SC than SA, locus equation slopes and intercepts obtained during SC were virtually identical to those obtained during SA, indicating no degradation of stop consonant acoustic cues during SC. This finding is consistent with previous locus equation research findings using highly skilled signers.

Computer Science

75 • Data-Driven Optimization of the IViPP Particle Visualizer

Eric Squires

Faculty Sponsor: Doug Baldwin, Computer Science

The IViPP Particle Visualizer uses a process called Constructive Solid Geometry (CSG) to draw objects. Our CSG method draws objects by generating triangles to approximate an object's surfaces. Over the past summer, I optimized our CSG process through a scientific analysis of the running time and memory footprint of the program. To start, I began investigating various aspects of the program for bottlenecks and inefficiencies. While I was making improvements to the program, a process emerged that consisted of the following general steps: observing and collecting data, hypothesizing the cause of the problem, devising and implementing a solution and comparing results to original values. After using this process to make a number of changes, IViPP's running time was improved by thousands of percent. I believe this approach could be applied to other projects for massive improvements with relatively little work. Funded by the U.S. Department of Energy through the University of Rochester Laboratory for Laser Energetics.

76 • Exploring Data Compression in a Parallel Computing Environment

Scott Smith and Philip Stachowski

Faculty Sponsors: Matthew Haas, Computer & Information Science, Corning Community College, and Homma Farian, Computer Science

In computing, there are two conflicting goals, save time or save space. Data compression gives us the advantage of saving space at the cost of time. As files are getting larger but the bandwidth to transfer the files are staying relatively the same, the importance for fast and efficient data compression is as important as ever. Computer hardware is getting less expensive everyday and having more than one computer in an organization is more common every day. The time needed to compress data can be reduced by utilizing the CPU power from unused computer hardware. Using networked computers, a solution to compress data in parallel will be explored and tested against a standard single CPU solution.

77 • Parallel Computation of Smoothed Particle Hydrodynamics

Michael Gruszewski, Dillon Slutzky, and Garrett Jones

Faculty Sponsor: Homma Farian, Computer Science

The Navier-Stokes equations are a set of differential equations that are computationally expensive to solve, and serve as a bottleneck for many interactive applications. By offloading the fluid computation on a back-end cluster, we aim to achieve interactive frame rates for applications that wish to manipulate large-scale fluid scenes. The 3D time-dependent incompressible Navier-Stokes equations are reformulated using Smoothed Particle Hydrodynamics. Computation of particle trajectories is distributed across multiple machines of a cluster, where the result of each time step is sent to the client for post-processing, i.e. rendering. Scalability in simulation performance, user interactivity, and visual plausibility are emphasized in this project.

78 • Instant Messaging in Java

Graham Cook

Faculty Sponsor: Gahyun Park, Computer Science

Today e-mail and instant messaging (IM) are the two predominant forms of communication among computer users. E-mail has long been one of the most widely used Internet applications featuring asynchronous communication – people send and receive messages at their convenience. In contrast with e-mail, IM invented in the late 1990s allows real-time communication between two or more participants over the Internet. IM users enjoy instant feedback as they can send messages back and forth with

anyone on their buddy list as long as that person is online. In this project, I have developed IM software with the hybrid architecture which combines the client-server and peer-to-peer architectures. The servers are used to track the IP addresses of users while chatting between two users is done peer-to-peer without involving any intermediate servers.

79 • World Wide Web in Java

Timothy Schmitt

Faculty Sponsor: Gayhun Park, Computer Science

The World Wide Web (WWW) is one of the most important Internet applications. It has played a crucial role in the widespread use of the Internet and has dramatically changed people's lives -- enabling them to communicate, work, and play in a global context. The Hyper Text Transfer Protocol (HTTP) is the primary transfer protocol that a browser uses to interact with a web server. In this project, I have implemented HTTP in two programs: a client and a server. The two programs, executing on different end systems, communicate with each other by exchanging HTTP messages. I have also developed a web cache that helps improve web access and retrieval time.

80 • Development of College Course Registration and Planning System

Jacob Button, Aaron Menezes-Pinto, Bill Niblock, and Matthew Topper

Faculty Sponsor: Christian Shin, Computer Science

Powerful database-driven web applications demand an equally powerful and accessible interface for viewing and manipulating information. As database technology evolves, the methods of interacting with databases must evolve with it. Current university course registration systems in general fail to provide an appropriately modern interface. In order to rectify this shortcoming, our system combines several important functions related to university course registration in an efficient and intuitive manner. In our system, users are able to view their academic progress, create potential schedules, and obtain detailed course information. This project also integrates with the Geneseo Textbooks database. Our system interface utilizes current industry-standard web technologies. This project also has made use of AJAX, jQuery, MySQL, PHP and XHTML. We conform to the current W3C web standards to ensure proper rendering on standards-compliant browsers. This technology also could be incorporated into the current university course registration systems to provide a better user experience.

81 • Development of Automobile Manufacturer Website and Database

Thomas Harrigan, Chris Kestell, Chris Mascia, and Kristin Shumway

Faculty Sponsor: Christian Shin, Computer Science

As e-commerce has grown and expanded, so has the use and availability of database and web technologies. Businesses recognize the potential of websites and databases to attract customers, increase sales and store vast amounts information. While large businesses such as Amazon and eBay utilize server farms that require entire buildings and warehouses for storage, even small, localized businesses rely on single servers set up to maintain sales data, customer information, employee records, etc. An electronic database exceeds its paper alternative in nearly every aspect, allowing searchability, easier maintenance, a smaller volumetric footprint, as well as a simpler means of duplication, backup, preservation, and security. Corporations are taking advantage of these new technologies to simplify and streamline the collection of customer, sales and vendor information. Vehicle manufacturers are one of many types of industries using web technologies to their benefit. Many vehicle manufacturers have corporate websites to promote their current line of vehicles. Although these websites are very informative, they may not meet the growing needs of the corporation with regards to the collection and analysis of sales, customer and dealership information. Using the freely available MySQL database software and open source PHP programming language, we have constructed a web application to meet the needs of a car manufacturer as well as its dealerships and their customers. The web application allows the manufacturer to promote its vehicles as well as analyze the inventory, customer, sales and vehicle maintenance information of its dealers.

School of Education

Posters 82 through 97 present unit plans for elementary school children that were developed for the Social Studies and Curriculum Integration (CURR317) course using local historical artifacts from the Livingston County Museum.

82 • Unit Plan - The World War II Soldier

Cara Aldridge, Allison Bain, and Natalie Templeton

Faculty Sponsor: Ann Marie Lauricella, School of Education

On December 7, 1941, Japan attacked American grounds in Pearl Harbor and by December 12, 1941 America was declaring war. At this time, America banded together to not just support the soldiers but to also support their country. Americans used all of their economic, industrial, and scientific resources to put towards the war which in return helped America emerge as one of the world's superpowers. Throughout the war, technology advanced and therefore warfare weapons did as well. New guns, as well as aircraft and bombing were created. Approximately sixty million people died as a result of World War II; twenty million were soldiers. To this day we still honor our American soldiers by displaying their uniforms and awards they had received. Because of the extraordinary amount of nationalism displayed during World War II, our group chose to focus on the

composition and disposition of a World War II soldier. We used our artifacts: a gun, uniform, and the Purple Heart award, to show students various perspectives on World War II. Overall, we wanted students to not just learn the facts about the war but to also see how an American soldier takes on the responsibility of going to war.

83 • Unit Plan - Native Americans: Savage or Civilized?

Jesse Berube, Shelby Sponholz, Molly Peck, and Kaeliegh Hendrickson

Faculty Sponsor: Ann Marie Lauricella, School of Education

In history and modern times, Native American's have been depicted as savages. By exploring the use of tools and cultural aspects of the Native American societies and the lives of the indigenous people of Livingston County, students will discover that the Native American's engaged in cultural practices beyond the stereotypical image of the noble savage. Throughout the five-day unit, it will become evident to students that the use of war-clubs, lance-heads, mortars and pestles, and corn-husk dolls were an important part of their daily lives. As students investigate the cultural significance of these items, they will be able to trace traditions used in their own modern day lives. By the end of the unit, students will be introduced to the injustices against the modern day Native American's and will understand how cultural practices may be misunderstood or misrepresented by those who lack understanding.

84 • Unit Plan - Watching through Binoculars: A Close-up Look at the Birds of Livingston County

Carissa Canovas, Jillian Randall, Lauren Forgét, Lauren Shafer, and Amanda Moon

Faculty Sponsor: Ann Marie Lauricella, School of Education

Our group will be presenting a fourth grade unit plan on local artifacts from Livingston County. The artifacts we chose were five different birds: Common Loon, Great Blue Heron, Belted Kingfisher, Cooper's Hawk, and the Great Horned Owl. These five birds are common in the Genesee Valley but are rarely seen. We will be incorporating lessons and activities that will capture students' interest using many different educational disciplines: conservation, American folklore, diet, migration patterns, and habitat. We hope to promote a focus on the local environment and an interest in birding in the area.

85 • Unit Plan - True or False: The Whole is Greater than the Sum of the Parts

Lauren Crispino, Mary Ann Parkes, Stephanie Bergin, and Hannah Huhr

Faculty Sponsor: Ann Marie Lauricella, School of Education

These artifacts were created or modified for use in the early 1900s. The early 1900s in America was a point in time when the Industrial Revolution was changing the way many Americans made lived and made a living. By studying all the individual parts of the cloth making, weaving, sewing, and washing, process we can see the importance that each individual part of technology has in making the greater whole.

86 • Unit Plan - Value of Sports Equipment through Time: What's a Sport Worth?

Casey Cuneo, Leighann Cavanaugh, Erin Hall, and Stephanie Campbell

Faculty Sponsor: Ann Marie Lauricella, School of Education

Sports have been a means of recreation for as far back as people were on this Earth. Each artifact is a different sports shoe, each from a different period in time. Since no artifact is from the same period, we will be studying not only the monetary worth of the sports shoe, but how history and the love of the game influenced the worth of the artifact. In each lesson, we will be addressing a different standard from the National Council for the Social Studies to ensure that the students will be exposed to a vast array of social studies content.

87 • Unit Plan - A Study of Action and a Call to Action: A Study of the Underground Railroad

Lindsay DeFeo, Chiara Guardo, Hannah Birdsall, and Danielle VanAuken

Faculty Sponsor: Ann Marie Lauricella, School of Education

The goal of our lesson is to explore historical understandings about slavery while helping students develop a sense of civic duty by investigating the abolitionist movement. Students will recognize that slavery in the United States was oppression of blacks by a white majority in the south. Students will explore connections to support the assertion that the slaves were the economic backbone of the South, which prolonged their enslavement, in spite of moral concerns. They will explore the justifications used for the maintenance of slavery, and compare those arguments with those for abolition. The students will come to understand the Underground Railroad, African-American culture, and historical dates and facts about slavery. The students will also evaluate how the history of slavery impacts society today.

88 • Unit Plan - Retsof Salt Mine

Jessica Dowd, Teresa Dobler, Kristine McGovern, and Christina Magliano

Faculty Sponsor: Ann Marie Lauricella, School of Education

The Retsof Salt mine of Livingston County was once the largest salt mine in North America (the second largest in the world) and provided Rock Salt that was very useful for deicing. Although important for what the industry offers, it is important to understand the dangers of working in an underground mine; the Retsof mine collapse in 1994 when an apparent earthquake

measuring 3.6 on the Richter scale was recorded. This unit takes a look at the safety issues and processes of mining and traces the evolution of safety equipment from the turn of the century to the present.

89 • Unit Plan - Rules for Toys: What Toys Can I Play With? What Toys Can't I Play With?

Ashley Klopff, Catherine Stratton, and Alissa Smith

Faculty Sponsor: Ann Marie Lauricella, School of Education

We will be looking at toys from the beginning of the 20th century and the beginning of the 21st century and whom they were designed for. During the early 1900's, toys for boys and girls were very specific and designed for each gender; few toys were available that both genders were allowed to play with. Now, in the early 2000's, more toys are designed gender-neutral, however gender roles still exist but are less strictly enforced.

90 • Unit Plan - What Would YOU Sacrifice for Freedom?

Caitlin McNally and Bethany Anderson

Faculty Sponsor: Ann Marie Lauricella, School of Education

The life of a slave was hard but there was no way out for them; they were nothing more than property of their owners with no way to freedom. In the late 19th century, there was a movement amongst the citizens of the United States to free the enslaved, but the question was how to do it. Those who believed that slaves should be free developed a system, called the Underground Railroad. This encompassed a series of secret houses and hiding places led by abolitionists. These "conductors" helped the slaves secretly move north to Canada, and most importantly freedom. This journey was anything but safe and the slaves had to determine if their reason for wanting to be free was worth the risk it would take.

91 • Unit Plan - Local Artifacts: The Exploration and Evolution of School

Kimberly Nowak, Carle Hindle, and Emily Patterson

Faculty Sponsor: Ann Marie Lauricella, School of Education

Our exhibit explores the evolution of education with a concentration on locally found artifacts. This presentation specifically focuses on the transformations that the cobblestone school house (The Livingston County Museum), slate chalk board, and traditional desks have undergone. Through this project we have explored how changes in technology and setting have affected the education of the masses. Our main question of focus is: The tools have changed but what about the learning?

92 • Unit Plan - Did the Shakers Get it Right? Are We Truly Better-off Living our Convenience-based Lives, or are there More Benefits in a Minimalist Way of Life?

Abigail Oaks, Pat Combo, and Lyndsey Lattin

Faculty Sponsor: Ann Marie Lauricella, School of Education

We have designed a unit plan that is designed to make students not only learn about the Shakers and their way of life, but also to develop connections between their own lives and the lives of the Shakers. By the completion of the unit we want students to be able to understand that they can make relevant connections between their lives and the lives of past peoples and communities, with a focus specifically on the Shakers for this unit. We want students to understand the simplicity of the Shakers and the idea of constructing something to last; is less really more?

93 • Unit Plan - Examining the Stitches of Time: Do Community Values Effect Education?

Holly Ogden, Patricia Verdino, and Amyrose Lomele

Faculty Sponsor: Ann Marie Lauricella, School of Education

This poster will present a social studies unit plan for 5th graders based on sewing samplers from the Livingston County Museum. Our unit will incorporate both 19th century New England, and modern day New England. This comparison will demonstrate how community values evolve over time, and thus impact and change educational values. During the 19th century, New England was going through many changes. On the brink of Industrial Revolution, the people of New England were starting to see the benefits of technology. This change in attitude led to changing values within the community. Today, the New England communities are continuing to experience technological advances, further evolving their attitudes and values, especially toward education. We hope that our students will be able to recognize how educational values, goals and expectations for students have evolved, as determined by what a community considers important. An understanding of the impact of community on educational values will allow students to understand the relationship between the communities in which they live, and how community is reflected in schools.

94 • Unit Plan - Weapons of Destruction or a Way to Survive?

Donnamarie Rivera and Susan Croakman

Faculty Sponsor: Ann Marie Lauricella, School of Education

This unit will be focused around Native Americans and in particular the Iroquois Nation along with some of the tools that they used in their everyday life. One goal is for students to gain an understanding of the Iroquois people and their importance as a Nation. Additionally, students will challenge their own possibly violent stereotypes about Native Americans through their in-depth exploration of the weapons and tools of the Iroquois people.

95 • Unit Plan - Artifacts: What Can We Learn from a Pair of Shoes?

Jayne Siegel and Samantha Shilling

Faculty Sponsor: Ann Marie Lauricella, School of Education

Our presentation is centered on research we have done at the Livingston County Museum. Each of us picked a different type of shoes to research. Using our research each of us constructed an individual lesson tying in these historical artifacts with an everyday lesson to show how historical artifacts can be an integral part of the classroom. We will be presenting our research as well as our ideas for the lesson at the presentation.

96 • Unit Plan - Has technology affected social interactions and communication?

Tara Simons, Jamie Edwards, Christine Choi, and Christine Yi

Faculty Sponsor: Ann Marie Lauricella, School of Education

During the 19th Century there was a great increase in technology. The development of new and improved technology led to an increase in various forms of communication such as verbal, visual, and face-to-face interaction. Communication is important because it helps to facilitate the development of social bonds between people as well as foster the growth of citizenship within one's community and country. Effective communication stands the test of time, and allows for history to be relayed to future generations. The advancement of technology has transformed the traditional methods of communication.

97 • Unit Plan - How SHOULD We Communicate?

Maura Stanczyk, Elizabeth Stanczyk, and Jessica Herrmann

Faculty Sponsor: Ann Marie Lauricella, School of Education

In this unit we will discuss some of the important aspects of communication. We will concentrate on how communication affects our everyday life, the importance of communication on awareness, and the progression of communication as both advancement and a hindrance. We will accomplish these goals by focusing on innovations of the early twentieth century. Some examples include the telephone which was improved from the original telephone made in the late 1800s, the talk-o-phone which gave people increased access to information, and the switchboard which made communication processes quicker and more convenient. The increase in communication and other factors led to the advancement in other areas such as medicine and travel. The twenty first century still enjoys a fascination with this connectedness. Communication links our entire world.

98 • The Eye Movement Miscue Analysis of Sight-Reading Piano Music

William Jones III

Faculty Sponsor: Maria Perpetua Liwanag, School of Education

This research explores how pianists sight-read music. Sight-reading music and sight-singing is looking at printed notes and being able to play and sing the notes correctly (Knox, 2003; Zinar, 1976). The main focus of this research is to discover what strategies proficient pianists use while they are sight-reading music. To explore this, I will utilize eye movement and miscue analysis (EMMA) procedures (Goodman, Watson, & Burke, 2005; Paulson & Freeman, 2003) together with the guidance of my adviser to identify what my selected participants do when they sight-read music. EMMA is a research procedure where participants' eyes are tracked and their oral readings recorded to show what reading strategies they use when they are asked to read a text they have never seen before. The goal in this research is to combine EMMA research with the sight-reading of music (MEMMA) and identify strategies that proficient pianists use. Another goal of the research is to compare the strategies that proficient pianists use with that of their novice counterparts.

99 • KKIS: Keeping Kids In School, Year 2

Katie Brown, Katie Wryk, Katie Brooks, Laura VanEtten, and Laura Jakubowski

Faculty Sponsors: Jane Fowler Morse, School of Education, and Brian Morgan, School of Education

This poster will describe the first two years of a 7 year study (KKIS) examining reasons a cohort of Rochester City School District students stay in school. Among other elements, we are evaluating the effects of extracurricular enrichment programs such as Rochester Young Scholars Academy at Geneseo and Saturday School (sponsored by SUNY Geneseo) on four year graduation rates and matriculation into college. The research team interviews participants each semester until high school graduation on topics such as extracurricular and school experiences, goals, and plans. We have conducted several sets of interviews and are coding the data to identify emerging trends. Previous research focused on factors that contribute to students' dropping out of school: poverty, large class sizes, inadequate counseling staff resulting in poor advising, emphasis on high stakes testing, test-prep curriculum, at-grade retention, etc. (Fine, 1991; Jones, Jones, & Hargrove, 2003; Kozol, 2006). The students in this study experience many of these factors, yet some of the cohort will stay in school and graduate. By interviewing these participants and examining other data, the research team hopes to shed light on what keeps kids in school, rather than what makes them drop out.

100 • Character Education through Children's Literature

Sandra Goettelman, Lindsay Randall, Emily O'Leary, Shane Melvin, and Carly Tesler

Faculty Sponsor: Michael Rozalski, School of Education

To make topics more accessible and meaningful to students, teachers frequently rely on quality children's literature to supplement textbooks and formal curricula presentations. Sandra Goettelman, Carly Tesler, Shane Melvin, Emily O'Leary and Lindsay Randall, have been working with Dr. Rozalski to create curriculum kits on several topics related to violence prevention

including: character development, bullying prevention, anger-management, empathy and problem solving skills. Each of these themes is being developed into a curriculum kit, complete with lesson plans and integrated teaching points for the Second Step curriculum, a violence prevention curriculum used in many Livingston County primary and elementary schools. The major goals of the project are to evaluate the effectiveness of the curriculum kits to improve and/or develop positive peer interactions and to provide these additional resources to teachers in local libraries and school media centers.

101 • Using Bibliotherapy to Teach Crucial Academic Skills in Social Students

Phillip Heiler and Theresa Symer

Faculty Sponsor: Michael Rozalski, School of Education

Books have longed been used by teachers to explore issues whose understanding is considered crucial to students' educational experience. In partnership with the Livingston County Historical Museum, Phillip Heiler and Theresa Symer have worked under the direction of Dr. Michael Rozalski to create curriculum kits that will teach students crucial academic skills in social studies. Each kit will include resources such as books, music and games along with sample lesson plans that teachers can implement in the classroom. The themes of the kits we are creating are the Underground Railroad, and Woman's suffrage, two very prominent topics taught in American history. The kits will be given to the Livingston County Museum to be used as resources for teachers upon completion. Our presentation will be on the resources we found and how students can learn about these topics through identifying with characters in literature.

102 • Disability Awareness through Bibliotherapy

Brittany Ischia and Jennifer Wolfe

Faculty Sponsor: Michael Rozalski, School of Education

Bibliotherapy is a concept that involves the use of books with characters that students can relate to, in order to help them overcome or better understand difficult situations that may be occurring in their lives. Brittany Ischia and Jennifer Wolfe have been working under Dr. Michael Rozalski to develop curriculum kits containing books and other media to promote disability awareness in the classroom. The goal of our project is to find appropriate resources relating to disability awareness, for teachers to use that will help create a positive, accepting community of diverse learners. When completed, the kits will be placed in Wadsworth Library to be an easily accessible and reliable resource containing books and lesson plans surrounding the topic of disability awareness.

103 • Bibliotherapy: Relating Life to Literature

Jason Miller

Faculty Sponsor: Michael Rozalski, School of Education

Books have longed been used by teachers to explore issues whose understanding is considered crucial to students' educational experience. Social studies teachers often rely on poignant stories to teach historical moments that are hard for students to grasp (e.g., the use of Elie Wiesel's *Night* or Anne Frank's *Diary of a Young Girl* when teaching the Holocaust). More recently, educators and medical health professionals have relied on powerful tales and the concept of "bibliotherapy" to help students who are struggling with personal experiences that are distracting them from their educational pursuits. Jason Miller has been working with a team of undergraduate students, under the guidance of Dr. Rozalski to create curriculum kits based on themes including: disability awareness, bullying, anger management, and character education. These kits will contain quality children's literature along with lesson plans for teachers to use when covering these topics. Once completed, these kits will be given to Wadsworth library and several area schools to be used as supplements to their violence prevention programs that are currently being implemented.

English

104 • Criticism without Borders: Image and Text

Danielle Sauers

Faculty Sponsor: Paul Schacht, English

Juxtaposing original and found images with bits of text, this slide show of photo-montages serves as an unconventional and provocative means of illuminating literary concepts such as metonymy and literary works ranging from Lewis Carroll's *Alice in Wonderland* to Michael Cunningham's *The Hours*. (Also see Session 2-H - Criticism Without Borders.)

105 • Criticism without Borders: My Last Duchess

Amanda Kurtis

Faculty Sponsor: Paul Schacht, English

Robert Browning published "My Last Duchess," a dramatic monologue, in 1842. This graphic mini-novel translates Browning's poem to a 21st -century medium in a way that captures the poem's mood and offers a perspective on the motivations and morality of its characters. (Also see Session 2-H - Criticism Without Borders.)

106 • Criticism without Borders: It's Too Late

Shannan Milligan and Michele Guido

Faculty Sponsor: Paul Schacht, English

Near the end of Thomas Hardy's 1891 novel *Tess of the d'Urbervilles*, Angel Clare returns from South America to seek forgiveness from the wife he selfishly abandoned shortly after marriage. But he is too late. This music video rewrites Angel's final meeting with Tess in a way that highlights differences between the characters' cultural moment and our own. . (Also see *Session 2-H - Criticism Without Borders*.)

Geography

107 • A GIS-Based Guided Inquiry Exercise: A Comparison of Hurricanes Andrew and Katrina

Christopher Bowering

Faculty Sponsor: Colleen Garrity, Geography

Exposure to GIS techniques in introductory and intermediate-level Geography courses can give students a better sense of the technology available for mapping and practical applications of spatial analysis. Integrating case studies of broad interests, such as devastating hurricane events can improve student engagement in a topic, and GIS exercises in this realm can be valuable recruiting tools for Geography Departments. This case study was developed to guide student inquiry through an investigation of the impacts of two major hurricanes in U.S. history. In the exercise, students examine various data sets for Hurricanes Andrew (1992) and Katrina (2005). Students integrate topographical, meteorological, and U.S. Census data in order to investigate the hazards and impacts of the events.

108 • Wind Energy Potential in New York State: A GIS Analysis of Annual Wind Speeds on Farmland

Michael Campbell

Faculty Sponsor: Colleen Garrity, Geography

With our world's fossil fuel supplies on the decline, alternative energy sources such as wind power provide a glimpse at a sustainable future. New York State is not traditionally thought of as a suitable location for wind harvesting due to its irregular topography and relatively dense population. New York does, however, have a lot of farmland, and the geographic characteristics that typify farmland tend to be suitable for wind farm implementation (low slopes, non-forested land, access to roads, existing power lines). The purpose of this study is to analyze the feasibility of wind power generation in New York State using a Geographic Information System (GIS). GIS is an immensely powerful tool in geographic and environmental analyses, and this study demonstrates how fairly a fairly basic GIS analysis can be applied to a highly complex issue such as wind energy. Average annual wind speed data are used to display locations within the NYS Agricultural District that possess sufficient potential energy for power generation. Wind equations derived from the American Wind Energy Association are utilized to analyze wind power totals. The resulting maps indicate that multiple locations throughout the state that can produce up to 1 GigaWatt-hour per year.

109 • Western New York Wintertime Sunshine

Patrick Oberle

Faculty Sponsor: Colleen Garrity, Geography

An old weather adage in western New York says that the sun disappears behind the clouds around November and reappears sometime in April or May. In this research, I address this adage by integrating 30 years of data from existing weather networks into a GIS in order to investigate wintertime sunshine patterns in this region of the state. Several weather networks are categorized by data variables reported, spatial extent of data, and their temporal resolution; GIS is used to integrate data from these networks and to generate resulting patterns of wintertime sunshine in western New York.

110 • Holy Smokes!: Examining the Geography of Smoking Deposit Units on the SUNY Geneseo Campus

Christina Olson and Doug Zaleski

Faculty Sponsor: Colleen Garrity, Geography

In this project, we examine the geography of smoking on the SUNY-Geneseo campus by investigating the 25-foot no smoking policy around buildings on campus. Using a Geographic Information System (GIS), we map campus buildings and cigarette disposal units. We then perform a spatial analysis to examine how the cigarette disposal units and the academic and residential buildings interact with one another in regards to the 25-foot no smoking policy. As a point of comparison, we also examine the proximity of cigarette disposal units to pathways. We predict that the majority of the cigarette disposal units fall within this 25-foot mandated buffer zone and also in close proximity to pathways. Using a handheld global positioning system (GPS) unit, we collected latitude-longitude locations for the cigarette disposal areas. With ArcGIS 9.2 software, we created a map of campus by combining the point locations of the cigarette disposal units with polygon shapes of campus buildings that we digitized from orthoimagery. We then calculated a 25-foot no smoking buffer zone around the buildings. The resulting map illustrates that the vast majority of units fall within the mandated smoking distance.

111 • Money and Knowledge: A Study of Geneseo Students' Awareness About Africa

Skye Naslund

Faculty Sponsor: Darrell Norris, Geography

Americans notoriously know little about the world beyond US borders. Africa in particular presents a problem for American students, as many students don't even realize that Africa is a continent composed of over 50 countries. In this study I will be examining the relationship between knowledge and money. I will conduct a survey to determine which African nations Geneseo students are most familiar with and compare that with other national statistics to figure out what explains the disparity in knowledge about different African countries.

112 • The Effects of Environmental Education on Children's Awareness and Interaction with Nature

Caitlin Domagal

Faculty Sponsor: David Robertson, Geography

The degree to which early implementation of outdoor-based environmental education increases children's awareness of, knowledge of, and interaction with nature in the short term has received relatively little scholarly attention. The purpose of this study is to measure the short-term benefits of environmental education on children's awareness and knowledge of nature and environmental issues. Also measured are the affects of environmental education on children's desire to interact with nature and the outdoors. Survey data were collected from the parents of children enrolled in summer 2008 Discovery Classes at the Maria Mitchell Association of Nantucket, Massachusetts.

113 • Selling Shellfish in Istanbul: A Field Study of Kurdish Street Vendors

Jim Kuras

Faculty Sponsor: Jennifer Rogalsky, Geography

Turkey is comprised of numerous ethnic groups, despite the government's attempts to present the state as homogeneously Turkish. Kurds, who constitute roughly one-fifth of the country's total population, are the largest minority group, and are settled mainly in Turkey's southeast. Some Kurds have left the region in search of greater opportunities in western Turkey, particularly in Istanbul. Armed with little (if any) formal education, many Kurds find themselves participating in Istanbul's informal economy. Midyeci (producers and sellers of stuffed mussels) are mainly Kurds, the majority of which are from the Mardin region. The midyeci in this study have left their homeland behind and immersed themselves in Turkey's largest city, without shedding their Kurdish identities. Through one-on-one interviews, I attempt to uncover a greater understanding of the lives and backgrounds of these street vendors, and examine the forces that have pushed them from their Kurdish homeland and pulled them toward Istanbul, which, while remaining overwhelmingly Turkish, has swelled to become the largest Kurdish city. I also examine how Kurdish ethnicity affects daily life for them in cosmopolitan Istanbul.

114 • The Morphology of a College Town in a National Landmark Historic District: Geneseo, New York

Kyle Souhrada

Faculty Sponsor: Jennifer Rogalsky, Geography

The Village of Geneseo, New York is of great architectural and historical importance as evidenced by its status as a National Landmark Historic District, a relatively rare and prestigious designation. However, in light of increasing development and competition from students in the rental market, the historic district is undergoing dramatic changes in its cultural and socio-economic landscape. This research attempts to catalog all rental properties in the historic district as well as the growth in the number and location of these properties over the past four years. Using a combination of existing data and original research, a series of maps have been produced showing the morphology of the rental market throughout the district between 2005 and 2009. This research will allow the Village, the historic district's steward organization (The Association for the Preservation of Geneseo), and the college to better understand the changing landscape of the rental market and more appropriately plan for its future growth. Lastly, this research concerns itself with the impact the college rental market is having on the historic district and whether or not the Village of Geneseo fits into the generally accepted notion and definition of a 'college town.'

Geological Sciences

115 • An Examination of Metamorphic Conditions in the Alpine Fault Zone at Gaunt Creek, New Zealand

Alyse Albro and Amanda Gidasi

Faculty Sponsor: Dori Farthing, Geological Sciences

The Alpine Fault is located in New Zealand. It is the surface feature of the Pacific Plate and Australian Plate boundary. The fault is a transpressional fault system, which has both compressional and strike-slip components. The Pacific Plate, in relation to the Australian Plate, moves both south and west. The great pressure and temperature that takes place in this region causes intense deformation within the rocks which can be seen on a macro and micro level. Two samples were collected from along the Alpine Fault at Gaunt Creek on the west coast of the South Island of New Zealand. The first sample is a schist, formed deep

below the surface in a ductile environment. The second sample is cataclazized mylonite, formed as rock became cooler and more brittle when advancing up the Alpine Fault. This research compares the structural and mineralogical differences of the two samples due to the change in metamorphic events as the rock traveled through varying environments up the Alpine Fault.

116 • Dunn Mountain Ophiolite Gabbro and Nodule Petrologic Comparison

Zack Arno and Mitch Ward

Faculty Sponsor: Dori Farthing, Geological Sciences

This research project is based on a suite of rock samples collected on Durville Island, New Zealand. Durville Island is located in the Marlborough Sounds off of the northern coast of the South Island, New Zealand. The island is unique in that it is composed of ultra mafics. 6 samples were collected from various layers of an outcrop roughly 500 feet east of Omaha bay. The samples were collected in order to determine where the outcrop would lie on the Dunn Mountain Ophiolite belt sequence. All 6 of the samples were powdered and run through an XRD to determine mineralogy and petrology. Two thin sections were also prepared to analyze structural feature and determine the formation environment. Serpentine-chlorite, quartz, albite, and actinolite compose sample mineralogy in varying amounts. The abundance of serpentine within the sample implies serpentinization; a process involving hydrothermal fluids. One layer is mineralogical differentiated with an epidote inclusion. The sample area was determined to be hydrothermally metamorphosed gabbros.

117 • The Origin of Igneous Cobbles from Heavers Creek, Kekerengu, New Zealand

Jean Danaher and Chelsea Lyle

Faculty Sponsor: Dori Farthing, Geological Sciences

Two basaltic cobbles from Heavers Creek, Kekerengu, New Zealand, were determined to be from the Tapuaenuku Igneous Complex (TIC). Although three volcanic bodies were in the proximity of the creek, this study focused on the TIC because it is the most predominant volcanic source in the area. X-Ray Diffraction and thin section analyses indicated augite and plagioclase as major mineral constituents of both samples. X-Ray fluorescence spectroscopy (XRF) was used to determine major and trace element data. The two volcanic cobbles match well chemically with each other, as well as fit in the fields defined by previously published data for the TIC. Determining a specific origin within the TIC was difficult due to lack of sufficient data in the literature. Due to the mineralogy and geochemistry of the cobbles, it is believed that they are from the TIC.

118 • Analysis of Two Rocks from the Dun Mountain Ophiolite Belt on D'Urville Island, New Zealand

Matthew Travis

Faculty Sponsor: Dori Farthing, Geological Sciences

The Dun Mountain Ophiolite Belt can be found throughout the South Island of New Zealand. It represents a sequence of rocks upthrust from the ocean floor and upper mantle at a subduction zone. On D'Urville Island, located just above the northern tip of the South Island in the Marlborough Sounds region, the top of this sequence can be found. Two samples were collected from two different outcrops on the island and were compared to see if they were the same rock, and if not what they had in common. Both samples were analyzed for major and trace element concentrations using X-ray fluorescence, and for mineral content using petrography. The results showed the two samples were different but similar. Both samples had similar chemistry, were composed mostly of serpentine and had undergone extensive hydrothermal alteration. Differences in the samples were potentially due to differences in distance from the source of fluid injection.

119 • Rotational Component of Deformation on the Central Range Fault Zone, Trinidad

Maggie Avery, Megan Carey, Nick Crider, Brandon DeFilippis, Katherine Dominguez, Luke Halter, Benjamin Hocking, William Pierce, and Mitch Ward

Faculty Sponsor: Scott Giorgis, Geological Sciences

Trinidad is an island in the Caribbean off the coast of Venezuela. The Central Range Fault zone marks the boundary between the Caribbean Plate and the South American Plate in Trinidad. This fault zone is actively recording slip; however it is not seismically active. Plate motion with no earthquake activity can be interpreted as either: (1) the fault creeps and does not generate earthquakes; or (2) the fault stores energy for release during infrequent, large earthquakes. Paleomagnetic data collected in Trinidad may help to understand which of these two scenarios describes Trinidad. A magnetic field is recorded in most rocks; it forms in parallel to the earth's magnetic field. By studying this magnetism the amount of rotation that a rock has accumulated relative to North can be determined, which gives the rotational component of slip on the Central Range Fault. The remnant magnetism recorded in the rocks of the east coast of Trinidad is near north, but only after correcting for the tilt of the bedding. This shows it is pre-deformational. A rotation of $5^{\circ} \pm 22.7^{\circ}$ was found; this is consistent with the dextral deformation of the fault and the amount of rotation found in central Trinidad.

120 • Carbon Footprint for the SUNY Geneseo Geology Department

Desirea Border, Megan Carey, Jacek Dabek, Brandon DeFilippis, Katherine Dominguez, Patricia Gregory, Luke Halter, Benjamin Hocking, Albert Kim, Patricia King, Eric Laux, Nathan Smith, and Michael Young
Faculty Sponsor: Scott Giorgis, Geological Sciences

The emission of carbon dioxide is a very real problem in the modern world as it directly effects global warming. Some of the worst offenders are the environmental control systems of buildings and transportation systems. By altering our daily lifestyle and reducing carbon production, even in minimal amounts, the resulting long-term effects can have a positive impact on the environment. The goal for this year's Introduction to GSCI class project was to approximate the carbon footprint of the Geology Department. To do this we quantified the energy consumption of the department and developed plans to reduce of carbon footprint. We determined the amount of energy consumed in the space occupied by the Department in the Integrated Science center. In addition, we calculated the amount of energy utilized for departmental trips (which includes a field trip to New Zealand along with individual professors' field trips.) By converting the energy consumed into pounds of carbon produced we determined the Geneseo Geology Department produces ~420,000 lbs of carbon annually on a year without a major field trip. Inclusion of this year's trip to New Zealand raises that value to ~995,000 lbs of carbon. While this number is staggering, there are several viable options to offset these emissions: minimizing transportation, using alternate energy sources, and purchasing carbon credits. By unearthing the damage caused by a single department, not only can we increase awareness of this global crisis, but solutions can be offered for a greener and more energy smart campus.

121 • Gravity Analysis of the Island of Trinidad

Michael Oliver

Faculty Sponsor: Scott Giorgis, Geological Sciences

The Central Range on the island of Trinidad is a locus of active mountain building. The island straddles a transpressional collision between the Caribbean and South American tectonic plates. A crustal root is expected to form below this emerging mountain range because the added topographic mass of the range requires additional isostatic support. The size and shape of the Central Range crustal root may provide information about the magnitude of the ongoing collision. A total of 2806 gravity measurements from the National Geospatial-Intelligence Agency database were analyzed. The development of a crustal root displaces the dense mantle away from the surface of the Earth and creates a gravity low. A 30 meter digital elevation model (DEM) was used to calculate the terrain correction. We present a terrain corrected, Bouguer anomaly map of central Trinidad. The data show a clear increase in the gravity from south to north across the island. This gradient documents the transition from continental crust to the south (South America) to oceanic crust to the north (Caribbean). By removing the regional gradient, the signal of the crustal root below the Central Range was isolated.

122 • Using Orthographic Projection and ArcGIS to Constrain the Kinematics of Folding in the Central Range Fault Zone, Trinidad

William Pierce

Faculty Sponsor: Scott Giorgis, Geological Sciences

The Central Range fault zone marks the boundary between the Caribbean and South American plates in Trinidad. Based on GPS measurements, this boundary is thought to be dextral transpressional in nature. Finding the strike and dip of bedding on the limbs of folds makes it possible to constrain past tectonic conditions of the area. Both a geologic map and a 30 m digital elevation model (DEM) are available for Trinidad. Using ArcGIS these two maps were superimposed and georeferenced. This allowed the contacts of the folds on the geologic map to be located and recorded. A script written in MATLAB converted these XYZ data to strike and dip measurements using standard orthographic projection techniques (i.e. the three point problem). The cylindrical best fit to this population of bedding orientations relative to the Central Range fault allows for the angle of oblique convergence to be calculated. This angle describes relative plate motion between the two plates. Partitioning of the strike-slip component of deformation towards the center of a shear zone follows the pattern expected for a transpressional fault zone. This supports the hypothesis that transpressional deformation has been long lived in the Central Range fault zone.

123 • Analysis of a Garnet Bearing Schist from Gaunt Creek, New Zealand

William Pierce and Michael Badding

Faculty Sponsor: Scott Giorgis, Geological Sciences

A garnet bearing schist with quartz veins, found in Gaunt Creek, New Zealand was analyzed in thin section to determine the deformational history recorded within the rock. Gaunt Creek cuts across the Alpine fault, a dextral transpressional fault that marks the boundary between the Australian plate and the Pacific plate. In thin section, garnets exhibit a hexagonal shape and are up to 0.5 cm in length (long axis). Based on the mineral assemblage of biotite, quartz, and garnet, it is likely this schist formed under Amphibolite facies conditions from a sedimentary protolith. The biotite grains show ductile deformation indicating moderate temperature and pressure conditions. Most quartz grains in the sample support this conclusion. The quartz grains demonstrate Regime 2 deformation with dislocation creep creating a preferred crystal orientation and serrated grain boundaries. Several quartz crystals present contain micro fractures indicative of Regime 1 brittle deformation. Considering both the garnet and quartz crystal microstructures visible in thin section, our observations illustrate initial metamorphism and subsequent deformation. This, in combination with what is known about the history of the Alpine fault, allows us to tell the story of this stream cobble.

124 • Paleoclimatic Significance of Equilibrium Line Altitudes in the Northeastern Great Basin during the Angel Lake Glaciation

Michael Badding

Faculty Sponsor: Benjamin Laabs, Geological Sciences

The rich record of Pleistocene mountain glaciation in the northeastern Great Basin has been recognized for decades. However, the climate during the Angel Lake Glaciation (the last major glaciation in this area) remains poorly understood compared to surrounding regions in the western U.S. We have begun to address this issue by reconstructing ice extents and estimating paleo-glacier equilibrium-line altitudes (ELAs) in six mountain ranges of the Great Basin, based on original and preexisting mapping of latest Pleistocene glacial deposits and landforms. Mountains at or near latitude 40°N with well-preserved glacial features delimiting Angel Lake ice extents include (from west to east) the Independence, Ruby, East Humboldt, Deep Creek, Stansbury, Oquirrh and western Wasatch Mountains. Paleo-glacier ELAs are estimated for these ranges by using the toe to headwall altitude ratio (0.35) and accumulation area ratio (0.65) methods. Although previous reconstructions of paleo-glaciers in this region report an eastward rise in ELAs with increasing distance from the Pacific Ocean, we identify an eastward decline in ELAs from the Deep Creek Mountains to the western Wasatch Mountains. This deviation from the regional trend suggests that local moisture sources, such as pluvial Lake Bonneville, influenced glacier mass balance in parts of the Great Basin.

125 • Reconstruction of the Tasman Glacier, New Zealand during the Last Glacial Maximum and Determination of the Equilibrium Line Altitude

Andrea Leggett and Kimberly Scalise

Faculty Sponsor: Benjamin Laabs, Geological Sciences

The Tasman Glacier is located on the South Island of New Zealand. The Last Glacial Maximum (LGM) in this region occurred during the Latest Pleistocene Epoch, at about 17,000 years ago. We determined the equilibrium-line altitude (ELA) of the glacier during this event to infer climatic conditions during the LGM. We identified moraines and other glacial features of the Tasman Glacier on a topographic map viewed in a geographic information system. The ELA was determined using three methods: Highest Lateral Moraine (HLM), Toe-to-Headwall Area, and Accumulation-Area-Ratio. Of the three methods, HLM returned the most reliable result for the ELA of the LGM, at 1160 meters above sea level. Research shows the HLM of today to be 1660 meters, therefore the change in ELA is 500 meters. This ELA depression is proportional to a change in temperature and precipitation since the LGM, and provides a range of possible climatic conditions of New Zealand during that event.

126 • Climate Change within Western New York

Adrian Waasdorp and Shane Dehn

Faculty Sponsor: Benjamin Laabs, Geological Sciences

Global Warming has had a significant influence on areas throughout the world, especially at higher latitudes. Through climate data research from the two central New York cities of Syracuse and Binghamton, as well as subsurface ocean temperature analysis from the North Atlantic, it is possible to determine how the climate in Western New York has been affected. This data suggests that the climate within Western New York is not immune to global warming and since 1952 our annual average temperature has increased. This research has also shown that summer and winter precipitation amounts have increased significantly at the locations of Binghamton and Syracuse, respectively. This data can be correlated with observable increases in subsurface ocean temperature increases for the North Atlantic, as well as El Niño cycles and volcanic eruptions to help determine causation to the observed climate change. As a result, it is determined that this decadal climate change has occurred in unison with global scale climate change and is being driven by the North Atlantic Oscillation, which is strengthened by subsurface ocean warming.

127 • Reconstructions of Latest Pleistocene Glaciers and Paleoclimate in the Ruby-East Humboldt Mountains, Nevada, USA

Lindsay Wendler

Faculty Sponsor: Benjamin Laabs, Geological Sciences

During the last glaciation, the largest system of valley glaciers in the central Great Basin was in the Ruby-East Humboldt Mountains of northeastern Nevada. Although the glacial geologic record of these mountains is well documented, little is known about the climate during the last glaciation. To address this issue, we applied a numerical model of glacier mass balance and ice flow to the Lamoille Canyon of the Ruby Mountains. The model uses a set of meteorological input data, including temperature, precipitation, radiation balance, and several other parameters to compute the mass balance of snow and ice in a glacial valley. The mass balance is then entered into an ice-flow model that simulates ice extent. The model has accurately simulated modern mass balance of the Lamoille Canyon, and can therefore be used to set limits on climate during the last glaciation. This is done by collecting a broad range of temperature and precipitation combinations that are able to grow a glacier to the extents in Lamoille Canyon indicated by mapped moraines. We discuss the significance of these model results in the context of previous estimates of glacial climates in the Great Basin.

128 • Wooded Peak Formation, Lower Maitai Group, D'Urville Island, New Zealand

Michael Calzi and Patrick Morgan

Faculty Sponsor: Jeff Over, Geological Sciences

The Wooded Peak Formation, a package of Middle to Late Permian Strata, is located on the southern tip of D'Urville Island, northeast of Nelson, South Island, New Zealand. An 8.8 m outcrop of the Wooded Peak Formation was analyzed for paleontological and stratigraphical properties, using a scanning electron microscope and thin sections. The Wooded Peak Formation consists of interbedded carbonate-rich and clastic-rich strata. The carbonate-rich layers contain dolomite and calcite and the clastic-rich layers contain potassium aluminosilicates (clay minerals). Elongated, greenish-brown calcareous tube-fossils pervaded the sample, a greenish black pyritic biograined interbedded with olive gray fine grained clastic-rich dolostone. The tubes were oriented vertically in the carbonate-rich strata and horizontally in the clastic-rich strata. This is indicative of punctuated aggradation, or alternating periods of high and low sedimentation. Although the fossils resemble bryozoa and blue green algae, due to fragmentation, a definitive identification was not possible. The Wooded Peak Formation was deposited on the shelf margin under normal marine conditions.

129 • Changes in Microfossil Fauna across the Cretaceous-Tertiary Boundary at Woodside Creek, New Zealand

Andrew Gerwitz and Nicholas Sullivan

Faculty Sponsor: Jeff Over, Geological Sciences

The Cretaceous-Tertiary (K-T) extinction event, which occurred approximately 65.5 million years ago, was one of the most devastating extinction events recorded in the fossil record, resulting in the disappearance of 20% of all animal families. Hypothesized causes for the extinction include extraterrestrial impact and volcanic activity that resulted in dramatic global climate change. Cretaceous and Tertiary strata exposed at Woodside Creek represent a continuous depositional record across the extinction boundary, revealing chemical and faunal changes. Four samples of fine grained, siliceous limestone collected from Woodside creek were analyzed for microfossils. Two samples from below the K-T boundary contain planktic foraminifera of the family Rotalidae and radiolarians of order Nassellaria. Two additional samples of similar lithology collected above the K-T boundary yielded minimal macro or microfossil fauna of any kind. Due to the similar lithology of Cretaceous and Tertiary age rock samples, the factors that led to the diminished microfossil faunas had little to no effect on the depositional and environmental conditions of New Zealand at the time.

130 • Fining Up (?) The Base of a Turbidite from Heaver's Creek, New Zealand

Bryne Grady

Faculty Sponsor: Jeff Over, Geological Sciences

Turbidites are the deposits of turbidity currents, a type of density flow in which water holding suspended particles moves more rapidly than the water around it. When turbidity currents slow, the suspended particles settle and graded beds are typically deposited where larger particles grade upwards to smaller particles, a characteristic referred to as "fining up." Heaver's Creek is in the northeastern South Island of New Zealand which was a deep marine setting during the Oligocene epoch (33.9–23 mya) when turbidites were regionally deposited on slopes and submarine fans. In the late Oligocene, the Kaikoura Orogeny began and much of the area has since been deformed. The basal portion of a turbidite was taken from an outcrop at Heaver's Creek with the goals to determine (1) if the outcrop has been overturned during the Kaikoura Orogeny, (2) if the sample is "fining up" in thin section, and (3) a specific, descriptive name for the sample. Geopetal features indicate that the outcrop has not been overturned. Grain size distribution of the sample in thin section does not show any clear graded bedding or fining upwards of the muddy sublithic arenite.

131 • Dacryoconarids and the Eifelian-Givetian Boundary (Middle Devonian) in the Marcellus Shale of Western New York State

Patrick Morgan

Faculty Sponsor: Jeff Over, Geological Sciences

The Eifelian-Givetian Boundary corresponds to a Middle Devonian anoxic event in Europe and North Africa that is contemporaneous with the end of the Kacák Event, and recognized by the first occurrence of the conodont *Polygnathus hemiansatus*, as well as the first occurrence of the dacryoconarid *Nowakia otomari*. At present, dacryoconarids in the Marcellus Shale do not allow the precise location of the Eifelian-Givetian Boundary, although other indicators suggest that the boundary lies at or below the David Elliot Bed in the East Berne Member of the lower Oatka Creek Formation. The dacryoconarids *Viriatellina fortistriata?* LUTKE 1985, *Viriatellina* sp. A, and *Nowakia* (*Dmitriella*) *sulcata sulcata?* ALBERTI 1993 = *Nowakia halihanensis* n. sp. (Lindemann, submitted) were recovered from drill core AKZO-9454, near Hampton Corners, New York. *Viriatellina fortistriata?* ranges from the Onondaga Limestone (Eifelian) into the Chittenango Member of the Oatka Creek Formation; *Viriatellina* sp. A was only found in the Onondaga; *Nowakia* (*Dmitriella*) *sulcata sulcata?* ALBERTI 1993 = *Nowakia halihanensis* n. sp. (Lindemann, submitted) was recovered from the Halihan Hill Bed of the Oatka Creek Formation and may prove to be an indicator of lowest Givetian strata.

132 • Proposed Location of the Eifelian-Givetian Boundary in New York using Magnetic Susceptibility

Matthew Travis

Faculty Sponsor: Jeff Over, Geological Sciences

The Eifelian-Givetian (E-G) boundary in the Middle Devonian is defined by the appearance of the conodont *Polygnathus hemiansatus*, and has widely been associated with the Kacák-otamari events. The E-G boundary has not been previously identified in New York due to a lack of biostratigraphical preservation. In magnetic susceptibility (MS) curves from Morocco at the GSSP and at other localities in Europe, the E-G boundary is found just after a positive shift in MS values that is immediately preceded by a large positive spike. MS data from New York shows a similar shift in MS values occurs above the Cherry Valley Limestone in the East Berne Member of the Marcellus Formation, which we believe to be the E-G boundary.

History

133 • Going for the Gold: The Race against Time to Clean Up Beijing for the 2008 Olympic Games

Michael Bartkowski, Kristin Hare, and Jill Kautz

Faculty Sponsor: Tze-ki Hon, History

This past summer, the 2008 Olympic Games took place in Beijing, China. As the Olympic Games approached, it was still unclear whether Beijing would be prepared to host these games. In order to get ready for this monumental event, Beijing had to undergo a massive cleanup of the city. This had a major impact on the environment and the people of China. This poster will present some of the pollution issues that Beijing had prior to the Olympics, what was done to address these issues, and how effective the methods of cleanup actually were.

134 • Olympic Opening Ceremony: China's New Model Performance

Josh Glass and Shanna Reulbach

Faculty Sponsor: Tze-ki Hon, History

The poster will compare a performance from the opening ceremony of the 2008 Beijing Olympics to the model performances created during the Cultural Revolution. It will focus on the continuity between the subject matter of the arts during the Cultural Revolution and the message of the Olympic performances. An emphasis on nationalism and cultural pride will be highlighted, along with the mixture of traditional Chinese arts with more Western forms. Both types of performances were polished to perfection, and they both have political messages. Visually, we plan to include pictures of the model performances and the opening ceremony, along with short descriptions of them, and then a larger section for comparing and contrasting the two.

135 • 2008 Olympics: An Athlete's Dedication to the Sport

Savannah Buschang and Kathleen Peterson

Faculty Sponsor: Tze-ki Hon, History

Our poster will focus on the 2008 Olympic Games in China. We will focus on gymnastics and the lifelong training that is involved in the sport. We will also show the dedication and traditions for Chinese athletes.

136 • The 2008 Olympics: Their Impact on Beijing

Jaelyn Davey and Lauren Krystan

Faculty Sponsor: Tze-ki Hon, History

For the GREAT day presentation we would like to cover the topic of the 2008 Olympic Games. More specifically, we would like to look at the effects that the Olympics had on China and specifically Beijing where the games were held. Additionally, we would like to look at the culture of China and see how holding the games in this specific area inversely affected the Olympics as a whole. By doing this we will look at the media involved during the Olympics as well as specific components of the games including the opening and closing ceremonies, the medal presentations and the design of the buildings where the events were held. We will use all of this information to draw overall conclusions of the effects on Beijing for holding the 2008 Olympic games.

137 • The Chinese Basketball Association and Its Role/Significance in Modern China

John Morrissey, Brian Hartle, Samuel Wick Finn, Justin Cleveland, and Brian Whitney

Faculty Sponsor: Tze-ki Hon, History

The Chinese Basketball Association is emblematic of many of the post 1979 changes. Despite being an American sport, it has taken a large role in Chinese society. Our project will look at how the 1979 economic reforms have allowed the Chinese Basketball Association (CBA) to flourish. Sub-topics will include Chinese players playing in the NBA and their relationship with the powerful Chinese government (namely their obligations to the Chinese National Team). We will also look at the NBA's role in Chinese popular culture and how this would not be possible during other periods of Chinese history, such as the Cultural Revolution.

138 • World Cup Women's Soccer China

Tim Penrose and Megan Haydanek

Faculty Sponsor: Tze-ki Hon, History

We are going to discuss how China's loss of the US Woman's soccer team was still a success or something to be celebrated.

139 • Cultural Impacts of Tourism in China

Brian DeBoyace, Adam Dumas, Melissa Gradel, and Jessica Mlyniec

Faculty Sponsor: Tze-Ki Hon, History

Our poster will show what effects, if any, international tourism has had on Chinese Culture in the recent decades. China was an area that was long closed off to foreigners and as such international tourism is a recent phenomenon which needs to be analyzed. We plan on contrasting China pre 1978 (before international travel was encouraged) with the China of today, and see to what degree China has further westernized in the past 30 years as a result of tourism. We will also explore the costs and benefits of international tourism on the nation, comparing the economic and cultural impacts.

140 • China's Sin City

Allen Ferreri, Megan Darlington, Hunter Roney, and Steven Matthews

Faculty Sponsor: Tze-Ki Hon, History

The focus of our poster will be on Macau and the high amount of gambling and tourism that has dominated the city in modern times. Macau was given back to China on December 20 1999 by the Portuguese and is now one of China's biggest tourist cities. Our interest in Macau mainly stems from the western nature of the city and just how much it seems to resemble our Las Vegas. Macau is China's sin city and has even been quoted as generating more money than the Vegas strip for the first time in 2006. Macau is also an offshore financial centre, a tax haven and a free port with no foreign exchange control regimes. This city like many other modern Chinese cities is a perfect example of how China is implementing western capitalism into their communist system. This poster will compare Macau and its businesses to those in Vegas.

141 • Ping-Pong Diplomacy

Ferrin Gersbach and Michael Cintineo

Faculty Sponsor: Tze-ki Hon, History

In the year of 1971, the United States Table Tennis team was invited to visit China. This was a monumental event which took place between the two nations because during this time, diplomatic talks between China and the U.S. had ceased. Leading up to what is known as the Ping-Pong Diplomacy, the United States and Soviet Union were in the middle of a Cold War. The U.S. was not negotiating or talking with Communist nations. Due to this, all communication between China and the U.S. had halted. It was not until there was an invitation on behalf of the Chinese for the U.S. Table Tennis team to visit China, that talks were reinstated. On April 10, 1971, the American Table Tennis team traveled to China, played matches against the Chinese team, and toured the country. This historic event was marked by Americans, for the first time since the Communist takeover in 1949, stepping foot on Chinese soil. After this event, Nixon visited China, a 20-year restriction on trade on China had been lifted, and the Chinese Table Tennis Team visited the United States. The relationship between the United States and China had changed greatly because of a ping-pong tournament.

142 • The Rape of Nanjing: The Unknown Holocaust of the East

Aylan Briedis, Cara Nelson, and Amanda Rzađca

Faculty Sponsor: Tze-ki Hon, History

The massacre at Nanjing by the Japanese was one of the bloodiest atrocities of World War II. Yet this tragic event is largely unknown in the Western world. It's not taught in high schools where the majority of our fellow students at Geneseo received their historical education. Our goal is to make people aware of the event and the reasons why it hasn't been discussed in history books. We wish to answer questions including why Emperor Hirohito was never tried for the crimes against humanity that were caused during his reign. It is our intent to educate our peers and renew historical interests in students who have not taken history classes in college. This atrocity was not known to us prior to this year and for this reason we wish to explore it further.

143 • The 2008 Sichuan Earthquake

Rachel Hilton

Faculty Sponsor: Tze-ki Hon, History

My poster-report will be on the Sichuan Earthquake, which occurred on May 12, 2008 in the Sichuan province of China. The earthquake is the nineteenth deadliest earthquake of all time, killing around 69,000 people, and having thousands more missing. Of all those killed, nearly 2,000 were students and teachers who were caught in schools that collapsed. The earthquake measured a 7.9-8.0 on the Richter scale. About 15 million people live in the area in which the earthquake occurred, and now many of those are homeless. The Sichuan Earthquake is the deadliest earthquake to hit China since the Tangshan earthquake of 1976. The Tangshan earthquake killed at least 240,000 people. The Sichuan Earthquake is also the strongest to hit China since the 1950 Cayu Earthquake which was measured at an 8.5 on the Richter scale.

Mathematics

144 • Voice-Printing Individual Great Horned Owls Using Wavelet Analysis

Nicole Kingsley

Faculty Sponsor: Caroline Haddad, Mathematics

In an attempt to track individual Great Horned Owls without the obstacles involved in tagging, voice recognition may be an effective alternative. By recording owl hoots and studying their waveforms, mathematical methods can be used to determine unique characteristics. Traditionally, signal analysis has employed Fourier techniques which localize the signal in the frequency domain. In recent decades, however, wavelet analysis has become an effective method of examining a signal in both the frequency and time domains. We use wavelet packet decomposition to identify characteristics in hoots that are unique to each individual owl.

145 • Visualizing Differential Equations with Java

Malcolm Kotok

Faculty Sponsors: Aaron Heap, Mathematics, and Doug Baldwin, Computer Science

I developed a computer program to give students a more visual look into differential equations. The Java applet transforms the mathematics on paper into a colorful animation to give students another point of view of what they are studying. The applet creates visualizations for a differential equation model of spring motion. The program provides an easy to use interface for users that allow them to enter and visualize different variations of an example of a second order differential equation. It consists of a graphics section, an input section, and a solution section. Users input constants and initial conditions into the appropriate text fields, and click "SOLVE". The program then generates the solution and the graph based on the initial conditions. A spring is drawn to show exactly what is happening. An "ANIMATE" button is available to set the spring in motion. Both the spring and a "dot" on the graph are then animated in real time to give users more of a feel for what is happening. In addition to the animate button, users can click and drag the dot to control the animation manually. This project provides an interesting combination between computer science and mathematics.

Physics & Astronomy

146 • Preparation of Deuterated Polymer Targets for the OMEGA Magnetic Recoil Spectrometer

Joseph Katz

Faculty Sponsor: Kurt Fletcher, Physics & Astronomy

Uniform deuterated polymer films are used as targets for the new Magnetic Recoil Spectrometer (MRS) at the OMEGA laser system at the University of Rochester's Laboratory for Laser Energetics. The MRS is designed to measure the neutron energy spectrum produced in inertial confinement fusion (ICF) experiments by detection of deuterons elastically scattered from the polymer target. The goal of our project is to produce circular films with areas ranging from 2 to 15 cm² and thicknesses ranging from 40 to 300 microns. Design parameters stipulate that the polymer thicknesses must be characterized to within 5% with less than 5% variation throughout the sample. Two separate processes have been developed to create the films, one using evaporation deposition and a second using a heated press.

147 • Microchannel Plate Detector System Time of Flight Measurements

Kevin Lasky

Faculty Sponsor: Kurt Fletcher, Physics & Astronomy

A microchannel plate (MCP) detection system was assembled and tested for use with an existing 30keV Duoplasmatron ion source. This system consists of a Del Mar microchannel plate detector (MCP-MA25/2), an Ortec 1 GHz amplifier, a timing discriminator (model 9327), and a time-to-amplitude converter (TAC). The microchannel plate detector was placed in a chamber under high vacuum; the detector requires pressures lower than 5×10^{-6} Torr. A negative bias of 1000V was placed on the detector to ensure the proper collection of secondary electrons created when heavy ions (alpha particles) pass through a thin carbon foil. The amplifier and time discriminator, along with the TAC converted the signal from the detector to a signal that could be adjusted on an oscilloscope and sent to a computer MPA system. A time of flight experiment will be performed to calibrate this system by verifying the energies of approximately 5.0-MeV alpha particles from their measured velocities. The MCP and a surface barrier detector will be used to determine the time for the particles to travel a known distance which will then be used to calculate the velocities. The calibration of this system will enable the user to determine the velocities of particles with unknown energies, such as the low energy ions produced by the Duoplasmatron.

148 • Reflectivity Measurements of Layering Spheres for Cryogenic ICF Targets

Kevin O'Connell

Faculty Sponsor: Kurt Fletcher, Physics & Astronomy

To improve the uniformity of the ice layer, a DT target is placed in a spherical cavity called a layering sphere and is illuminated with infrared light, promoting ice sublimation. Areas of greater thickness sublimate faster thereby depositing the material onto

thinner sections. The cavity wall consists of a rough gold coating designed to create Lambertian scattering which should uniformly illuminate the DT target with laser light. To improve this process, the reflectivity of the spherical cavity wall was measured to determine its uniformity. A DFB laser of wavelength 635 nm was used to illuminate the inner cavity. A fiber optic periscope with a right angle prism was used to measure the surface reflectivity of cylindrical slices. Irregularities in the data correspond primarily to laser bright spots and port windows. Funded in part by the US department of Energy through the Laboratory for Laser Energetics.

149 • Construction of a New Beamline at the SUNY Geneseo Pelletron

Steven Hupcher and Megan Crossman

Faculty Sponsor: Charles Freeman, Physics & Astronomy

A newly constructed Thomson Parabola will be used to study the energy spectra of protons and other ions at the Multiterawatt (MTW) laser facility at LLE produced from the illumination of a planar target with an ultra-intense laser light ($>10^{19}$ W/cm²). Charged particles ejected in the forward direction will be spatially separated and recorded on image plates in the parabola. Beams of protons and alpha particles from the tandem pelletron at SUNY Geneseo were used to establish an energy-to-position calibration for the Thomson Parabola, as well as to calibrate the response of the imaging plates to various particle fluxes. A new beamline with a general-purpose scattering chamber was constructed at the SUNY Geneseo 1.7 MV pelletron accelerator laboratory. The beamline is equipped with a general-purpose 28 inch scattering chamber which includes a target manipulator system, faraday cup, and a mounting for a surface barrier detector.

150 • Investigating the Relative Biological Effectiveness of a Low Energy Proton Beam on Breast Cancer Cells

Susan Thomas, Steven Hupcher, and Donovan Kelly

Faculty Sponsor: Stephen Padalino, Physics & Astronomy

Proton therapy has become an accepted form of radiation therapy for tumors in the head, brain, neck, lung and prostate. Compared to other forms of radiation, protons can be applied to a more localized area. Due to the unique energy deposition of the proton beam which produces a flattened Bragg peak in the energy spectrum, it is possible to avoid damaging healthy tissue around the tumor. Past studies have consistently shown survival curves for healthy tissue which indicate effective doses in the range of 2-20 Gy. This study utilized a NEC 5SDH Tandem Pelletron Accelerator in the investigation of the irradiation effects on breast cancer cells. A 3 MeV proton beam passed through a 25 micron thick Kapton window which allowed the cells to remain in atmosphere while being irradiated. Proton energy loss and beam straggling through Kapton and air were determined theoretically using TRIM and confirmed by calibration experiment using Radiochromic Film. A shutter system placed between the window and the cell sample was used to control radiation exposure time. A range of radiation exposure times were tested in an attempt to find the optimal dose.

151 • Simulation and Optimization of Ceramic Armor under Impact from Bullets

Seth Frutiger, Robert Dabek, and Jeremy Reeves

Faculty Sponsor: James McLean, Physics & Astronomy

This project consists of utilizing a computer program called LS-DYNA to simulate an armor plate. The plate is manufactured by Armor Dynamics and consists of ceramic cylinders held together in an array. LS-DYNA is a program that simulates many physical parameters. Using the program we can build a simulation of a bullet impacting the armor plating. The simulations are run on the Geneseo computer cluster. These simulations are then examined for many different attributes, for instance, the velocity with which the bullet exits the armor plate, and the amount of ceramic which reaches a critical stress and is deleted. The initial velocity, size, impact location and angle of the bullet can be varied to test resistance to penetration. We have improved the physical accuracy of the simulations, and implemented different simulation formulations. We have examined thermal transfer during the impact, but determined that to be negligible. This research is important because it allows us to easily test different designs of the armor plating without a significant commitment of time and money. Armor Dynamics benefits from our research because we can rule out poor designs and suggest better ones.

152 • Gamma X: A Full Capture Mode Detector Array for Carbon Activation

Melissa Cummings and Cassie Brown

Faculty Sponsor: Stephen Padalino, Physics & Astronomy

A diagnostic was developed to determine the $\langle \sigma \rangle$ of a DT reaction via the production of tertiary neutrons. High energy neutrons, in the range of 20 to 32 MeV, were incident upon a carbon disk which became activated via the $^{12}\text{C}(n,2n)$ reaction. The activated carbon was then quickly transported to the counting station where it was placed in a NaI detector system where the C11 decay via positron emission could be detected in the form of back-to-back 511 KeV annihilation gamma rays. The 6 paired detectors in the system were aligned orthogonally on Cartesian axes. In comparison to the previous 2 detector system used at Rochester, the new 6 detector system has improved counting statistics substantially by increasing sample size and collection solid angle. To obtain a better understanding of the effects of non-uniformly activated samples, radioactive copper pellets were distributed within the carbon sample matrix in a variety of volumetric distributions. In doing so the effects of non-isotropic activation on the efficiency of the detector system could be determined. Funded in part by the US DOE through LLE.

153 • High-Speed RaPToRS

William Becker and Robert Henchen

Faculty Sponsors: Ed Pogożelski, Physics & Astronomy, and Stephen Padalino, Physics & Astronomy

The High-Speed Rapid Pneumatic Transport of Radioactive Samples (HS-RaPToRS) system, designed to quickly and safely move radioactive materials, was assembled and tested at the Mercury facility of the Naval Research Laboratory (NRL) in Washington D.C. A sample, which is placed inside a four-inch-diameter carrier, is activated before being transported through a PVC tube via airflow. The carrier travels from the reaction chamber to the end station where it pneumatically brakes prior to the gate. A magnetic latch releases the gate when the carrier arrives and comes to rest. The airflow, optical carrier-monitoring devices, and end gate are controlled manually or automatically with LabView software. The installation and testing of the RaPToRS system at NRL was successfully completed with transport times of less than 3 seconds. The speed of the carrier averaged 16 m/s. Prospective facilities for similar systems include the Laboratory for Laser Energetics and the National Ignition Facility.

154 • WIYN Open Cluster Study: UBVRI CCD Photometry of the Open Cluster NGC 6716

Alex James, Sarah Muller, and Ryan Rickert

Faculty Sponsor: Aaron Steinhauer, Physics & Astronomy

We present UBVRI CCD photometry of open star cluster NGC 6716. Calculated cluster parameters include reddening, metallicity, distance and age. In addition star temperature and mass were inferred. This is part of an ongoing photometric survey of this cluster and our work provides independent results aimed at reducing systematic errors in the cluster parameters.

155 • The Distribution of Matter in the Universe

Ching Man Wong

Faculty Sponsor: Aaron Steinhauer, Physics & Astronomy, and Gregg Hartvigsen, Biology

The Hubble Deep Field and Hubble Ultra Deep Field are the most detailed views of the early universe and also provide a glimpse of the distribution of matter over large distances. Current theories of the universe suggest the distribution of galaxies over large scales to be homogeneous. We explore the galactic distribution in both images from our local neighborhood to the most distant, visible objects. Our results from the raw data for the distribution of matter are consistent with homogeneity up to 5500 megaparsecs but the density of the galaxies appears to fall off beyond that.

Psychology

156 • Terror Management Theory and Environmentalism

Marisa Garber, Kristy Bowers, Matt Lauster, Melissa Steenburgh, Kelly Ludovici, and Rich Atkins

Faculty Sponsor: James Allen, Psychology

Terror management theory (TMT) predicts that reminders of mortality cause increases in existential anxiety. Furthermore, research and theory in TMT indicates that individuals cope with this anxiety by firmly defending a cultural worldview that gives a sense of permanence and meaning to their lives. However, researchers have not investigated environmentalism as a possible cultural worldview that might respond to TMT pressure. Consistent with the TMT predictions, reminders of mortality caused pro-environmental protection participants to derogate a target who violated an important environmental norm. However, and also consistent with TMT, reminders of mortality caused anti-environmental protection participants to be more positive toward the target who violated the environmental norm.

157 • Energy Efficiencies May Not Reduce Energy Consumption: A Test of the Jevons Paradox

Kelly Ludovici, Kristy Bowers, Marisa Garber, Matt Lauster, Melissa Steenburgh, Rich Atkins, Christina Piccarillo, and Dan Bach

Faculty Sponsor: James Allen, Psychology

The Jevons' paradox describes a common observation that energy efficiencies are often associated with increases in total energy consumption rather than decreases in energy consumption. Macro level studies of countries and industries have often confirmed this phenomenon. However, few if any studies have investigated the Jevons' paradox on an individual or psychological level. Based on the Jevons' paradox, we hypothesized that individuals who are in command of energy efficient technologies, such as fuel efficient automobiles, will engage in more energy consumptive behaviors than do individuals commanding less efficient technologies.

158 • Death, Mindfulness, and Being Mindful of Death

Hideaki Imai

Faculty Sponsor: James Allen, Psychology

This study investigated the relation between attitudes toward death and overall well-being and mindfulness. Currently, the dominant theory in the death-psychology is Terror Management Theory (TMT). TMT states that reminders of mortality cause unbearable increases in existential anxiety. According to TMT, individuals deal with this anxiety by engaging in various death

denying activities. However, Death Acceptance (DA), an alternative perspective to TMT, predicts that some individuals conceive of death as an inevitable end of life, and do not associate death with existential terror. Consistent with DA, research indicates that Death Acceptance is positively associated with both psychological and physical well-being. In the present study, we attempted to replicate these findings. In addition, German philosopher Martin Heidegger (1962) argued that Death Acceptance makes individuals realize what is important in their lives. Based on this argument, we also predicted that Death-Accepting (i.e., non Death Avoidant) individuals would be high in mindfulness. The current results were consistent with the DA perspective. Specifically, results indicated a positive relation between Death Acceptance (measured in terms of death as a gateway to a better afterlife) and well-being. In addition, there was a negative relation between Death Avoidance and mindfulness, when controlled for the participants' religiosity.

159 • Effects of Environment, Task Type, and Time for Sustained Attention Tasks

Jessica Gunner, Madison Pilato, Chad Moore, Alex Mitchell, and Alanna Klose

Faculty Sponsor: Joan Ballard, Psychology

Previous research has shown a vigilance decrement over time for performance on vigilance (VIG) and response inhibition (RIN) tasks. To our knowledge, these tasks have not been directly compared to a third attention task, the n-back task. Therefore, to evaluate the vigilance decrement and the effect of setting on n-back performance, we completed a 2 (setting) x3 (task type) x3 (time block) mixed factorial design. Approximately half of a 40-subject sample completed the tasks in the fMRI scanner, while the others completed them in a laboratory. The tasks were equated on all parameters except required response. Our previous work with VIG and RIN tasks showed no significant performance difference in the scanner compared to the laboratory setting. Therefore, we expect no such difference for the n-back task. We also have observed different patterns of performance across time for RIN and VIG tasks. However, the n-back task may require additional working memory. If so, the performance pattern across time may differ from both RIN and VIG.

160 • Time-related Changes in BOLD Signal for Vigilance, Response Inhibition, and n-back Tasks

Jessica Gunner, Madison Pilato, Chad Moore, Alex Mitchell, and Alanna Klose

Faculty Sponsor: Joan Ballard, Psychology

Functional Magnetic Resonance Imaging (fMRI) is used to measure differences in Blood Oxygen Level Dependent (BOLD) signal across different experimental conditions. These signals are used to make inferences about brain activity during specific cognitive tasks. We previously examined changes in BOLD signal across time for vigilance (VIG) and response inhibition (RIN) tasks. In the present study, a new sample of subjects completed both VIG and RIN as well as an n-back task. Each nine-minute task was divided into three 3-minute time blocks. BOLD signals were calculated for each block. Previous research has shown BOLD signal changes throughout the duration of the VIG task, while changes only occurred early for the RIN task. We expect to replicate these patterns. However, the n-back task may require additional working memory compared to VIG or RIN tasks. If so, patterns of BOLD signal for the n-back task may differ from those of both VIG and RIN.

161 • Competition and Cooperation in Latino Children's Sibling Relationships

Meredith Cannella, Valerie Abrigo, Laura Geiler, and Cesar Perez

Faculty Sponsor: Ganie DeHart, Psychology

This project is a study of Latino children's interactions with siblings in semi-structured play situations. Its purpose is to investigate how Latino children's sibling interactions—in particular, their use of competition and cooperation—compares to the interactions typically observed among Anglo children. Research conducted on Latino children's family relationships is extremely limited, despite the fact that the Latino population is the fastest growing minority group in the United States. In previous research, Latino parents were found to encourage their children to identify with their prescribed roles in the family and community, while repressing goals for individual gain, needs, and self determination (Coll & Garcia, 1995). No previous research on Latino children's competition and cooperation has specifically examined sibling relationships. However, previous research suggests that Latino sibling relationships are less competitive and more cooperative than those of the general Anglo population. Researchers recruited Latino families with at least two children between the ages of 5 and 10, living in the New York, Mt. Morris, Geneseo and Rochester areas over the course of the past three years. This poster summarizes the initial findings on the cooperative and competitive behavior observed among Latino siblings in free play settings.

162 • Relational, Physical, and Verbal Aggression in 7-Year-Olds' Sibling and Friend Interactions

Katharine Kimball, Kaitlin Rohena, Lauren Miller, Rebecca Heller, and Alison Bradley

Faculty Sponsor: Ganie DeHart, Psychology

We conducted an exploratory analysis of relational, physical, and verbal aggression during sibling and friend interactions. Little is known about children's use of aggression with different partners or about their use of different forms of aggression, which limits our knowledge of the normative development of aggression during middle childhood. A community sample of 80 middle-class 7-year-olds was videotaped at home in separate free play sessions with siblings and friends. Results showed that all pairs were more likely to use verbal aggression followed by relational aggression then physical aggression. Siblings had higher rates of verbal aggression than friends, but friends had higher rates of relational and physical aggression than siblings. Gender made more difference in both the type and other characteristics of aggression directed toward friends than toward siblings; for sibling interactions, age composition seemed to make more difference than gender. Our results match the

generally reported tendency for verbal and relational aggression to become more frequent than physical aggression in middle childhood. Gender differences were more marked in aggression toward friends than in aggression toward siblings. A complete understanding of the normative development of aggression in middle childhood appears to require a consideration of partner and gender as well as age.

163 • Mothers' and Children's Perceptions of Sibling and Friend Relationships in Adolescence

Ashley Weimar, Leslie Krotman, Kelly Seibert, Courtney Zon, and Valerie Abrigo

Faculty Sponsor: Ganie DeHart, Psychology

As part of an ongoing longitudinal study, 17-year-olds and their siblings, mothers, and friends completed questionnaires concerning their perceptions of the sibling relationship and the friendship. The extent of agreement among various respondents' perceptions of the relationships varied, depending on which aspects of the relationships were being considered.

164 • Prospective Effects of Intimate Partner Violence on Dating Women's Sexual Compliance

Amy Credit

Faculty Sponsor: Jennifer Katz, Psychology

Sexual compliance refers to unwanted yet consensual involvement in sex despite a lack of sexual desire. We examined the association between college women's reports of partner sexually coercive and physically violent behaviors and women's subsequent sexual compliance. We hypothesized that women with sexually coercive partners may be especially likely to comply with unwanted sex because they know they will be pressured if they refuse. Similarly, women with physically violent partners may comply with unwanted sex because partners may behave aggressively in response to women's sexual refusals. 48 female students in a committed heterosexual relationship completed measures of sexually coercive and physically violent partner behaviors and a measure of sexual compliance within the relationship. At Time 2, sexual compliance items assessed consent to unwanted sex over the past month. At Time 1, 50% (n = 24) of the sample reported complying with unwanted sex at least once over the course of the relationship, and at Time 2, 27% (n = 13) reported sexual compliance during the past month. As expected, 92% of women compliant at Time 2 had reported Time 1 sexually coercive partner behavior, compared to only 43% of non-compliant women. Similarly, 65% of women compliant at Time 2 had previously reported partner physical violence, compared to only 20% of non-compliant women. Logistic regression analyses showed that Time 1 sexually coercive behavior significantly increased the odds of Time 2 compliance beyond the effect of Time 1 physical violence. These results indicate support for Basile's (1999) conclusion that many women comply with unwanted sex to avoid explicit partner pressure for submission, which often occurs in a relational context. Researchers interested in further explaining women's sexual compliance and its consequences must examine the relational context within which women comply to determine the degree to which compliance is freely chosen.

165 • Moving In and Hooking Up: Perceived Norms, Alcohol Use, and Sexual Victimization During Women's First Two Months on Campus

Erika van der Kloet

Faculty Sponsor: Jennifer Katz, Psychology

Hook ups are replacing traditional relationships in college. Regrettably, women but not men are often negatively judged for engaging in hook ups due to a sexual double standard of the acceptability of casual sex behaviors. Many hook ups originate at parties and involve alcohol use. Hooking up and alcohol use may put women at risk for sexual victimization. We compared freshmen women who did not hook up (no HU), who hooked up without sex (HU), and who hooked up with sex (HU-sex) on perceived commonality of hook ups on campus, comfort with sex during hook ups, alcohol use, and experiences of victimization since the start of college. As expected, a sexual double standard was observed such that sex during a hook up was more socially acceptable for men than women. Women in the HU-sex group were most likely view hook ups as common, yet their scores on comfort level indicate a general discomfort with engaging in sex. Also, women in the HU-sex group consumed the most alcohol and were more likely to report experiencing victimization since beginning college. Overall, results suggest the importance of providing freshmen with factual information about the reality of hook ups, alcohol use, and victimization.

166 • Determinants of Coping: Internal and External Factors

Joyce Chen and Amy Kennedy

Faculty Sponsor: Michael Lynch, Psychology

How do people cope with stress? How do inherent personality traits and the external environment shape the way we perceive and cope with stress? The purpose of the current study was to examine physiological, cognitive, and behavioral components of coping and to determine how they are influenced by individual differences in aspects of personality and environmental experience. Individual testing sessions were run by a trained research assistant who obtained informed consent from the participant. Participant's heart rate was measured by an EKG device during a baseline period and the Stroop Task. After completion of the Stroop Task free recall procedure, participants were disconnected from the EKG device and asked to complete a survey packet. The results indicated that both external and internal factors predicted physiological components of the stress response. In addition, they also predicted cognitive aspects of responding to threat and stress. Finally, internal factors predicted the use of different behavioral coping strategies. Overall, the data indicate that individual differences in coping are multiply determined.

167 • Effects of the Color Red on Reaction Time during an Emotional Stroop Task

Danielle Demarest, Megan Felton, Emily Doyle, and Stephanie Cristiano

Faculty Sponsor: Michael Lynch, Psychology

Previous research shows that the color red can cause either an approach or avoidance effect on individuals. The color red generally causes an avoidance response which, if red is present, can decrease performance on things such as test performance (Elliot et al., 2007). It has also been found that the color green has a positive effect on test performance (Elliot et al. 2007 & Ioan et al. 2007). It had also been shown that in certain situations the color red can have an approach response. This is especially likely to occur in males during competitive situations (Ioan et al., 2007). In the current study an emotional Stroop task was used in part of a broader study looking at the effects of coping and well-being on stress. The emotional Stroop task was comprised of different categories of words including positive, neutral, globally threatening, self-threatening, and interpersonally threatening. We hypothesize that reaction times will differ for red versus blue and green words across the different word categories. We also believe that gender will play a role on whether an approach or avoidance response occurs.

168 • Physiological Reactivity and Recovery in Response to a Cognitive Challenge

Honor Eaton, Rebecca Berger, Jennum O'Hara, and Liz Adolf

Faculty Sponsor: Michael Lynch, Psychology

The purpose of this pilot study was to examine changes in physiological response to a cognitive challenge. Twenty-six students participated in the study. Participants came to the lab where a trained research assistant hooked them up to an EKG device to measure their heart rate during baseline and challenge conditions. Physiological reactivity was measured as the change in heart rate regulation from the start of the baseline period to the end of the cognitive challenge. After completion of the cognitive challenge a second baseline was obtained in order to measure physiological recovery from challenge. The subject was then disconnected from the EKG device and asked to complete a questionnaire. We expected to observe individual differences in physiological reactivity and recovery. We anticipated three different patterns of physiological functioning. Some subjects may show a drop in physiological regulation in response to challenge, which returns to normal after the challenge has finished. Others may show an initial drop in regulation but a delay in physiological recovery. Finally, some subjects may show little change in heart rate regulation across conditions. We hypothesized that increased exposure to stressful life events and higher levels of anxiety would be associated with slower cardiovascular recovery.

169 • The Cost of Coping: Correlates of the Human Stress Response

Daniel Tylee, Alex Cortese, and Nicole Colwell

Faculty Sponsor: Michael Lynch, Psychology

The purpose of the present study was to examine physiological, cognitive and behavioral components of coping to determine how these factors relate to indicators of adaptation, like academic success, physical health, and emotional well-being. Heart rate data was recorded across standardized resting and challenge conditions in order to examine physiological reactivity and vagal tone (indicative of parasympathetic regulation of the heart.) During the challenge condition, participants completed a modified version of the Stroop Task, where they were asked to indicate the color of potentially threatening and non-threatening words appearing on a computer monitor. Comparison of response latencies allowed for examination of attention allocation to threat. After the task, participants were asked to recall the words, in order to assess memory biases for threat. Participants completed a packet of surveys containing a behavioral coping inventory and various measures of well-being. Analyses revealed two different patterns of physiological reactivity, which predicted health problems and school performance. Distinct patterns of cognitive processing predicted health problems, emotional distress and school performance. Behavioral coping strategies were found to predict physical symptoms, emotional distress, classroom engagement and drug problems. These findings indicate that individual differences in coping responses predict indicators of competence and personal well-being.

170 • Valence-Action Congruity Effects Influence the Speed of Emotion Identification

Jeffrey Thomson and Matthew See

Faculty Sponsor: Jeffrey Mounts, Psychology

An experiment examined affective stimulus-response congruity effects. Participants made speeded discriminations of the emotion (happy or angry) being expressed in photographs of faces by pressing one of two keys. Following each key press, the pictures transformed in size, giving the impression that the faces were either looming or receding in depth. The two directions of apparent motion were mapped consistently onto a given key for each participant. In one response-effect condition, key presses corresponding to a happy response caused the face to loom, while key presses corresponding to an angry response caused the face to recede. For the other response mapping condition, the effects of each response were reversed (angry responses caused the stimuli to loom, happy responses caused the stimuli to recede). Response times were significantly faster for the response-effect condition that led to the looming of happy faces and the receding of angry faces. These results suggest that affective stimuli activate action codes related to approach and withdrawal, and that performance in the task is most efficient when the activated action codes are congruent with the specific effect that is associated with a given response.

171 • Assessment of College Students' Physical Activity via Accelerometry

Noelle Jankowiak, Clare Campbell, and Andrew Tisser

Faculty Sponsor: Douglas Raynor, Psychology

The 2008 Physical Activity Guidelines for Americans recommend that adults should engage in a minimum of 150 minutes/week of moderate-intensity physical activity (PA), 75 minutes/week of vigorous-intensity PA, or an equivalent combination of moderate- and vigorous-intensity PA. Bouts of PA should last for at least 10 minutes. Self-report surveys suggest that only 50-60% of college students adhere to previous PA recommendations. Unfortunately, few studies have objectively measured PA among college students. In the current study, 168 undergraduates wore ActiGraph accelerometers for seven days. Results showed that 97% of the participants accumulated at least 150 minutes/week of moderate or vigorous PA. However, when participation was examined in bouts lasting at least 10 minutes, only 16.7% of the sample accumulated at least 150 minutes/week of moderate PA, 3.6% accumulated at least 75 minutes/week of vigorous PA, and 23.2% accumulated at least 150 minutes/week of combined moderate and vigorous PA. The lack of sustained PA is critical, as episodes of at least 10 minutes improve cardiovascular fitness and reduce risk for heart disease and Type 2 diabetes. Moreover, these results are in sharp contrast with findings from self-report studies. Future studies should objectively measure PA to determine whether college students are sufficiently active.

172 • Self-Esteem, Possible Selves and College Adjustment: The Mediating Role of Self-Efficacy, Affect, and Self-Regulatory Behaviors

Hideaki Imai, Lindsay Ciancetta, and Shannon Nagel

Faculty Sponsor: Monica Schneider, Psychology

Research investigating predictors of psychological well-being has emphasized the importance of the self-concept in coping and adjustment. Researchers who have examined the role of possible selves for students in an academic setting have found direct links between possible selves and students' psychological adjustment and academic performance. Similarly, self-efficacy has been linked to positive psychological and academic outcomes for students when linked to specific goals and strategies. The current study examines the role of various aspects of the self in students' college adjustment. Specifically, we assess the role of 1) global self-esteem, 2) academic and social possible selves, 3) academic and social self-efficacy, 4) positive and negative affect, and 5) self-regulatory academic and social behaviors in students' college adjustment. Four types of college adjustment are assessed: academic, social, emotional, and institutional attachment. Emphasis is placed on the mediating role of self-efficacy, affect, and self-regulatory behaviors in the relationship between self-esteem, possible selves and adjustment. In addition, we assess the extent to which there is a direct link between domain-specific possible selves and domain-specific adjustment. Moreover, we explore how different characteristics of possible selves (e.g., content, importance, salience, likelihood of achievement, number of self-regulatory behaviors) relate to other variables in the model.

173 • Smart But Lazy: Are Academic Self-Presentation Strategies the Secret to Adolescent Popularity?

Jonathon Noftsier, Caroline Harvey, Gabriel Berling, and Lindsay Norton

Faculty Sponsor: Joan Zook, Psychology

The purpose of this study was to investigate the relationship between adolescents' popularity and their use of an academic self-presentation strategy with peers that enhances their performance (i.e., grades) while downplaying their effort (i.e., studying). We used a retrospective technique, interviewing college students about (1) how much their peers valued academics in the 7th and 10th grades and (2) their use of strategies to influence their peers' perceptions of their grades and academic effort. We found that male participants who used enhancing performance / downplaying effort (EPDE) academic self-presentation strategies with their peers in the 7th grade were more likely to be popular in the 10th grade. Furthermore, boys who reported that both the popular crowd and their own crowd valued high grades and low effort (HGLE values) were more likely to use these strategies. Among girls, the use of EPDE strategies was linked to HGLE values in the popular crowd but not to HGLE values in their own crowd.

Teaching & Learning Center and Leadership Education Development & Training

174 • The Ghana Project

Jesse Parent, Rejoyce Owusu, Ben DeGeorge, Hannah Schmidt, and Clark Driscoll

Faculty Sponsors: David Parfitt, Teaching & Learning Center, and Tom Matthews, Leadership Education, Development & Training

The Ghana Project is a civic engagement and service learning project. This poster presentation will be about the happenings of the project, which is in its first year, starting last semester (it is to be a long term project). Born out of GOLD's civic engagement efforts, The Ghana Project was created with two main goals: the first being to share Ghanaian culture, help educate others on life in Ghana, and share experiences with another country; the second, long term goal, is to raise money to help build a school in Ghana. The first year of The Ghana Project has been one of getting people used to Ghana, introducing them to the blossoming African country. The poster will review the events of the Project – such as the educational model of last semester, and the cultural events & speakers of this year – as well as discuss the nature of the project itself. It will also talk about the fundraising efforts of the Project, and relate them to the goal of assisting development in Ghana by means of building a school. Finally, there will be mention of the future plans of the Project, continuing into next year. (See Dance Performance at 5:30pm.)

CONCURRENT PRESENTATIONS

SESSION 1 • 9:40-10:55

Session 1-A • Biomathematics

Newton 214

Modeling Biological Systems: Studies in Epidemiology

Session Chair and Faculty Sponsor: Gregg Hartvigsen, Biology

Faculty Sponsor: Chris Leary, Mathematics

Multi-Drug Resistant Tuberculosis in Ethiopia

Aline Heffernan, Jennifer Prizzi, and Kevin Tuttle

Multi-drug resistant tuberculosis (MDR-TB) is an emerging form of tuberculosis (TB). Multi-drug resistant tuberculosis is a bacterial infection that does not respond to the two front line drugs used to treat TB, isoniazid and rifampicin. Tuberculosis and MDR-TB are increasing in prevalence all over the world and are a growing problem in Ethiopia. The World Health Organization has a global goal of reducing the prevalence of TB and MDR-TB in half by the year 2015. Using a set of differential equations along with a compartment model we predict how prevalent MDR-TB will be in Ethiopia in the near future based on current trends. According to existing data, our model indicates that TB and MDR-TB in Ethiopia will continue to increase in prevalence. Although it is possible that the prevalence of the infection might be cut in half by 2015, it is unlikely unless treatment is improved.

The Transmission of Rabies in New York State Raccoon Populations

Chris Lonnen, Kevin Aagaard, D.J. Wayland, and David Peck

Epizootic transmission of rabies in raccoon host populations has shown to be a salient issue throughout New York State. Raccoon rabies was first detected in the state in the early 1990s during a northward moving wave of transmission from an outbreak in West Virginia in the 1970s. Raccoon rabies has since become periodically epizootic in New York State. We model the surges of raccoon rabies transmission, making use of a coupled-lattice SI (susceptible-infectious) model to simulate raccoon sub-population interactions. Results are consistent with the observed wave-like pattern of rabies spread in New York. Results also suggest that rabies transmission through the state may be most dependent upon the degree of spatial interactions (ρ) between counties. More knowledge of the transmission of rabies can lead to more efficient prevention strategies in the future.

Modeling HPV Vaccination Strategies in a College Population

Anna Plichta, Nicole Briglio, and Vincent Andolina

Human papillomavirus (HPV) is a sexually transmitted disease that infects approximately 80% of females by age 50. The prevalence of HPV is greatest among individuals between the ages of 20 and 24. High risk strains (16/18) are known to cause cervical cancer in women, and low risk strains (6/11) account for approximately 90% of genital warts in both males and females. The quadrivalent vaccine, Gardasil, protects against strains 6, 11, 16, and 18. An SIR model was developed to show the possible paths of infection and recovery from the high and low risk strains of HPV. The data from this model was used to investigate vaccine effectiveness in a constant college population comprised of individuals ages 18 to 24. Our model suggests that certain vaccination strategies could be used to decrease the prevalence of this infection. A strategy involving routine vaccination of students entering college significantly had a greater effect the incidence of HPV than the current protocol of random vaccination. In addition, it was more effective to vaccinate both females and males starting at age 18, rather than just vaccinating females.

Methicillin-Resistant Staphylococcus aureus Dynamics in Hospitals Sensitive to Patient Turnover Rates

Stephen Verdini, Sean Bardenett, Joseph Mort, Esther Yoon, and Sam Carnicelli

The Centers for Disease Control and Prevention reports Methicillin-resistant Staphylococcus aureus (MRSA) infections occur in 94,000 persons each year, along with 19,000 associated deaths; of these infections, 86% are hospital-associated. Using a model, which takes vulnerability and disease virulence into account by classifying the hospital population into those who are susceptible, infectious, carrier, or recovered, the spread of MRSA was simulated in hospitals with different turnover rates (μ), which is the rate at which patients are admitted and discharged daily. We find that hospitals with large turnover rates, corresponding to a higher μ value, are at a lower risk of MRSA prevalence than hospitals with lower turnover rates, resulting in a lower μ value. A lower μ value resulted in an increase in the basic reproductive ratio (R_0), or the number of secondary cases caused by a single infectious individual, causing the disease to become endemic after rapidly spreading through the hospital. Our model suggests that the turnover rate of a hospital can predict the patterns and infectivity of MRSA. This information on the risk of MRSA transmission can be very helpful towards reducing the risk of outbreaks.

Modeling morbillivirus in Mediterranean striped dolphins (Stenella coeruleoalba)

Joseph Kane, Ryan Cait, Vrooman Scott, and Dumas Adam

Dolphin morbillivirus (DMV) is highly virulent, resulting in many fatalities and mass strandings of many cetacean species. Since 1990 there have been three DMV epizootics in the Mediterranean striped dolphin (*Stenella coeruleoalba*) population. There

are six main subpopulations in the Mediterranean Sea; Spanish, Ligurian, Tuscan, Croatian, Puglian, and Greek. We created a model of the DMV and its spread among these subpopulations using a system of differential equations. Based on previous epizootic data we estimated transmission, birth, death and recovery rates and, using our model, tested which of these appears to be most important in determining the disease's dynamics. Current research already suggests that long-finned pilot whales are a reservoir of DMV, but our model suggests that it may also be enzootic in the Mediterranean striped dolphin population. Further, our model implies that the Greek and Tuscan dolphin subpopulations experience higher levels of DMV infection than the other subpopulations, and indicates that these two subpopulations are necessary for the spread of DMV from the western Mediterranean to the eastern Mediterranean. This model is an important tool for helping to understand the dynamics of future DMV epizootics.

Session 1-B • Communication

Welles 119

Exploring Facebook Communication

Session Chair and Faculty Sponsor: Meredith Harrigan, Communication

Facebook Turbulence: A Case Study on Preserving Privacy

Amanda Hagstrom

Since Facebook is at the center of a technological revolution in how people communicate, it is important to examine this social networking site from an interpersonal communication perspective. Using Sandra Petronio's theory of communication privacy management (CPM), I investigated interpersonal communication on Facebook, asking the following questions: How do Facebook users explicitly and implicitly manage boundary permeability (the ease or difficulty of access to another person's private information) and boundary coordination (negotiating the "rules" that come with knowledge of another person's private information)? What are the consequences of boundary turbulence (conflict over a privacy violation) on Facebook? Findings from my qualitative research highlight the importance of Facebook users avoiding the assumption that everyone has the same ideas about how to handle their private information. Because interaction through Facebook does not have a coherent, unambiguous set of social "rules" governing the sharing of private information, Facebook users should take explicit measures to prevent any unwanted knowledge of their private information.

“No, I’m Actually Dating Someone Else:” The Construction of Identity Based on Facebook Relationship Status

Maegen Williams

This study focuses on the internet phenomenon Facebook and how it affects its users, specifically the affects of the relationship status feature on the identities of users. Grounded in symbolic interaction theory, the researcher conducted interviews in order to find patterns among the use of the Facebook relationship status feature, especially how the relationship status tool constructed the identity of a user. The researcher found that the user's self-concept is deeply impacted by the relationship tool on Facebook, and a user's identity is constructed through the concern of what others who can view his or her profile will think of him or her dependent on that relationship status. Relationship status is a strong motivator for behavior and identity construction, and this study shows how much Facebook has infiltrated the lives of its users.

“No, I’m Actually Dating Someone Else:” The Construction of Identity Based on Facebook Relationship Status Part II

Jennifer Wrobel

Further insight is provided regarding a study that focused on the internet phenomenon Facebook and how it affects its users, specifically the affects of the relationship status feature on the identities of users. Grounded in symbolic interaction theory, the researcher conducted interviews in order to find patterns among the use of the Facebook relationship status feature, especially how the relationship status tool constructed the identity of a user. The researcher found that the user's self-concept is deeply impacted by the relationship tool on Facebook, and a user's identity is constructed through the concern of what others who can view his or her profile will think of him or her dependent on that relationship status. Relationship status is a strong motivator for behavior and identity construction, and this study shows how much Facebook has infiltrated the lives of its users.

Session 1-C • Communication

Welles 121

Session Chair and Faculty Sponsor: Atsushi Tajima, Communication

From Issues to Images: The Personification of Politics

Rachel Laber

The transforming role of the media in the political world causes politicians to be seen as celebrities, with the main focus not on issues, but on images. This shift has led politicians to take into account every action they execute in front of the scope of the camera lens. Politicians are now as branded as any other item produced and sold for retail purposes. Instead of being bought by consumers, the products of politicians' are that of votes, and politicians will take desperate measures to ensure they are portrayed by the media in a positive light. The relationship between politics and the press is dynamic and constantly evolving, however the current relationship between the two places much power in the hands of the media over politicians.

Stereotypes in Film

Jaemoon Shim

From recent studies we know that stereotypes in Hollywood films make a great contribution in creating prejudice. They promote a false image of people all around the world, such as, Middle Eastern people, African Americans, Indians, and Asians. Hollywood is our great national entertainer, the most influential teacher to our young and one of the leading sources of propaganda. Also, there have been huge materials that affect the mind of young children, especially in Disney films. A variety of films will be discussed to reveal how much films contribute to stereotypical ideas, perspectives, and preconceived notions.

Women - Causing Problems One Movie at a Time

Jennifer Wheaton

This research explores women's roles in film. The questions of what are these roles and if without women would the plot still exist will be examined. This research focuses on the roles of the victim, the hero, the independent woman and the dependent woman. One movie is discussed in depth, exploring the ways that the woman causes conflict within it. Possible modifications to the study are also presented.

Session 1-D • English

Welles 131

Ancient Ecstasy

Session Chair: Megan Talbot

Faculty Sponsor: Graham Drake, English

Breakfast of Champions: The History of the Word Waffle

Thomas Cardot

This paper was originally written for a course on the history of the English language and explores the history of the word waffle as it is used in Modern English. The word waffle has a diverse set of meanings and uses, each of which holds a distinct history and subsequent evolution. Using the Oxford English Dictionary, each of these meanings and their linguistic roots are briefly explored, beginning with its origins from the Old French *gaufre*.

Connecting the lesbian pulp fiction novel, "Journey to a Woman" to the informative book "Queer Theory"

Ashley Phillips

In the novel, *Journey to a Woman* by Ann Bannon, Beth, chooses to temporarily leave her family to seek out her former female lover, Laura. The issues raised in the story include sexual identity, homosexuality, the dynamics of a nuclear family, and Laura's relationship with her husband. These topics correlate with the homophile movement, gay liberation and sexual identity discussed in Annamarie Jagose's book, *"Queer Theory"*. It is found that Beth's character intersects with Jagose's explanation of how lesbian self-identification. Lesbians, Jagose states, identify themselves by gender and a shared feeling of male oppression; these are criterion that Beth fulfills. *Queer Theory* can also be used to explain Laura's relationship with her gay husband, with whom she has a daughter. By close examination, one can conclude that Laura can be classified as bisexual as defined by *Queer Theory*, but not by common classification. Lastly, Beth's views on homosexuality are akin to gay liberationists', while her husband's views echo the homophile movement; two events examined in *"Queer Theory"*. This essay connects a lesbian, pulp fiction novel with an informative study of gay and lesbian history, clarifying some of the more complex issues raised in *"Journey to a Woman."*

Euripides' BACCHAE: The Ghost of Empires Past

Matthew Dunham

Transitional time periods are often only recognized as such long after they occur, but within the intellectual and artistic elite of any culture, signs of the times inevitably appear. This is reasonable, of course, because artists reflect their culture and culture reflects its artists. One such transitional moment in the world's history is the end of the Greek Golden Age, at the close of the fifth-century BC. Forces were converging and working to undermine Athenian hegemony that had held for more than a century; these included cultural inroads from the East, Macedonian incursions from the North, and growing Roman power in the West. Within Greece herself, the Peloponnesian War had rent asunder many of the political and social harmonies that had held the numerous city-states together. Euripides, the famous Greek playwright, witnessed the final years of the Golden Age; his last play, *THE BACCHAE*, stands as one of the most traumatic, tragic, and bitter representations of Ancient Greek life; it is worthwhile to examine *The Bacchae* as a 'thinly masked' reflection of Athens' decline because of Euripides' long relationship with the city and her evils, as well as her triumphs.

Session 1-E • English **It's Not on Any Map; True Places Never Are**

Welles 132

Session Chair and Faculty Sponsor: Ken Cooper, English

Topiary: Friend or Faux Pas?"

Anna Mellace

Topiary is the art of clipping trees or shrubs into shapes. In my paper, I examine topiary's historical background, its place in the modern American landscape, and the use of topiary in SUNY Geneseo's landscaping in an effort to understand its impact on our collective attitude toward the natural world. My ultimate purpose is to determine the ethics of topiary: whether topiary encourages a cooperative relationship between humans and the earth, or whether it reflects negative, human-centered views of nature.

The Green Outlaw

Eric Metz

The bicycle looms as a malignant two-wheeled tumor in the migrational cortex of our cultural consciousness. The bicycle is a pervasive menace in America's pop mythology. But where Hunter S. Thompson and Kenneth Anger and Marlon Brando's outlaw biker straddled a chopped hog, contemporary green cyclists peddle Treks in skin-tight synthetics. The transition from studded black leather to breathable spandex is marked by a change in method. Critical Mass happenings exemplify the change. Contemporary Critical Mass rides are rhizomal in structure and psyche. Critical Mass is propelled by organic mechanical energy. The Critical Mass Method is a transnational anarchic phenomenon and realizes the leather bikers' dream of free movement. Critical Mass and Community Bike programs defy the individualistic logic of American capitalism. As a result of this conflict bikes have been fetishized and destroyed in effigy. The riders' collective consciousness and random non-linear movement generate a life force that erodes the patriarchal military industrial logic of America's paved topography. My Center Street Gravity studies, Albert Hoffman's LSD rides, and Frank Pip's human energy maps survey our nation in the bicycle dimension. A space accessible only through the mind of the American cyclist.

Livingston County Home and Farm

Keren Carmeli

In attempting to relate the idea of "Landscapes" to the immediate Geneseo environment, I explore the concept of landscapes of poverty in this paper out of the belief that all communities have created living, physical monuments for their social ills. I do so through a description of my encounter with Keith and Marilyn Hollis, the owners of the Oak Valley Inn on route 20A - a property that was once known as The Livingston County Almshouse. The shift in the function of this same property struck me as peculiar, and through an examination of old records obtained at the county's records office and my interview with the Hollis couple, I attempt to relate the feelings about poverty which deemed it necessary to create these Almshouses in 1824, to those prevalent today, especially in light of the current economic crisis. I also struggle with the sense of nostalgia that is felt for the days of self sufficient working communities despite the fact that in the case of the Almshouses these were mandated and often involved deplorable conditions for those who lived there.

Session 1-F • English **Reflections through African American Migration Narrative I**

Welles 133

Session Chair and Faculty Sponsor: Beth McCoy, English

White privilege: How open doors and never-denied expectations are devastating to self, family and society

Brian Hartle

I argue that certain doors are open for some while closed to others, a reality that is both historical and contemporary. New Deal liberals expanded the welfare state tremendously. The GI Bill played a significant part in increasing the pie for some but discriminated against others. Personal connections and financial resources afford some, like myself, the opportunity to improve their life prospects today and stem directly from earlier times, as Joel Kivel suggests, "when affirmative action was white." Persons of financial means strive for individual and familial happiness with material goods. These are temporary, fleeting comforts that erode our relationships with each other and "others." We forget that the sum of the parts equals the whole.

The Suburban Lawn and American Migrations

Ryan Quinn

The suburban lawn is a culturally significant use of space in America. Replicated millions of times on the American landscape, it is a testament to national attitudes, preferences, and history. The lawn is also a gauge of economic comfort and social membership, and it is my belief that it symbolizes migration, segregation, and insecurity. Furthermore, the suburban lawn can enhance and clarify the relationship between a family's history and the larger African American migration narrative. Using my personal experience with and limited research on the suburban lawn, I extract meaning from its physical form, the practices in maintaining it, and the populations associated with it. Synthesizing that with my personal family history (specifically the migrations of Irish and Italian ancestors to and from New York City), the migration of my parents, and my own prospective

migration, I construct a strong connection between my own family and African American migration narrative. In a nation where many believe they are detached from racial issues, the lawn can serve as a strong reminder of how we are all connected in the larger American narrative.

Migrational Cycle In and Out of the City

Cathy Bijur

In the near future, I desire to live in a city. Because of this desire, and because of my family's past living situation, I argue that my family's movement follows the dangerous cycle depicted in Tom Toles' cartoon, "The Plan." As we moved from what is known as a first-ring suburb to a second ring suburb, our movement is part of a larger nation-wide cycle. My family's ability and desire to move into different areas is a product of the privilege associated with our social and financial status. I have found largely through the testimony of my immediate family members that they are generally unaware of their participation in this cycle. Our own lack of awareness about our own participation in this cycle is indicative of a larger mood on a more widespread scale. Since this lack of awareness is so prevalent, the systematic social inequality, which largely amounts to racial inequality, becomes a difficult problem to acknowledge, but even more so to solve.

Session 1-G • History Civil Rights Movement Honors Theses

Welles 123

Session Chair: Alexis Everson

Faculty Sponsor: Emilye Crosby, History

Vanguard Organizations: The Cross-Atlantic Relationship and Ideological Connection of the Black Panther Party and People's Democracy

Daniel Gaffney

It is often the case that protest organizations gain strength in the alliances, both real and imagined, that they form. The Northern Ireland Civil Rights Movement took both ideological and tactical cues from various United States civil rights organizations. People's Democracy, a predominantly student led organization from Belfast, saw the example of the Black Panther Party as a source of inspiration and envisioned their own organization as an international counterpart to the group. They met with the group, kept abreast of its developments, and often consciously mimicked its rhetoric. This paper will examine the organizational dynamics of each group, the circumstances within which they arose, and the similarities which actually existed. Each arose from the context of the failures of other organizations and the stifling economic, political, and social structures of local communities. While this connection never materialized into any sort of traditional alliance, it speaks to the more universal nature of civil rights. While ultimately each organization is best understood in the local contexts from which they arose, examining those dimensions that each held in common strengthens the overall understanding of each individually.

The Strength of the Everyday Person: The Civil Rights Movement in Holmes County, Mississippi

Anna Delaney

During the Civil Rights Movement, Holmes County, Mississippi went through a transformation. Segregation was still intact, and discrimination was a way of life. While blacks held the majority in terms of numbers, whites held the power and in no way were ready to concede. For, African Americans in Holmes do not fit neatly into the typical history of a local movement in Mississippi. Various aspects separate it from what happened in other counties touched by the Civil Rights Movement, making it unique. It began with a sense of independence and determination which thus became contagious. With the help of SNCC, they were able to develop a grassroots movement in which local people took the reins. They established their own institutions from which they were able to organize and find a voice to fight on behalf of their race. However, from what I have come across, it has become clear that African Americans in Holmes gained a sense of confidence, and belief that they had the ability to break the caste-system they had been subjected to for centuries. My research will examine Holmes County from a bottom-up perspective, emphasizing the importance of the local people.

Major Segregationist Players and Their Impact on the Little Rock School Crisis

Mark Schuber

While many studying the Little Rock Crisis often look solely at the large white mobs outside Central High and the violence displayed throughout the school year, I would like to focus more on the background of the situation. I would like to look at why there was so much hostility toward integration in a relatively moderate southern town. There were three major segregationist players that heavily influenced public opinion during the Central High school crisis in 1957, and were likely the reason these mobs gathered in the first place. The Capital Citizen's Council (Little Rock branch of the Citizen's Council), the Central High Mothers League, and Governor Orval Faubus all did their part to polarize the community and make it impossible for integration to occur smoothly. In my GREAT day presentation, I would like to discuss these institutions and how they were essential in creating the atmosphere that developed in Little Rock. Through clever and often fabricated distribution of "evidence" against integration, as well as a surprisingly successful campaign to stifle pro-integration rhetoric in Little Rock, the three largest segregationist institutions were able to effectively create a large and powerful resistance to integration in what was once thought of as a moderate southern town.

Session 1-H • History

Welles 134

Session Chair: Joseph Cope, History

Assailing the Personal Rule: John Hampden and the Controversy Regarding Ship Money

Andrew Gustafson

Faculty Sponsor: Joseph Cope, History

In the 1630's, Charles I of England ruled without the advice of Parliament. During this "Personal Rule" of eleven years, Charles created new taxes based on old royal prerogatives, such as Ship Money. Ship Money was extremely controversial because, for the first time, the King attempted to directly tax the English people, which only Parliament could do. John Hampden, a minor noble, sued King Charles in court, which ended in a very close decision in favor of the king. This court case greatly reduced the yield of the Ship Money levy, however, and helped to prompt a change in constitutional thinking that would lead to the revolutions that placed Cromwell in power.

History of Taxation and How it Applies to our Current Tax Code

Rahul Singh

Faculty Sponsor: Richard Sattora, School of Business

The presentation will include a brief overview of different views of taxation from economists throughout history. Then there will be an overview of the current tax code. The presentation will then go into an analysis of which schools of thought apply to our tax code today.

Session 1-I • Honors

Newton 203

Honors Capstone I: From the East

Session Chair: Olympia Nicodmi

Faculty Mentor: Olympia Nicodemi, Mathematics

Zen Buddhism in America

Michael Langen

Faculty Mentor: Stacey Edgar, Philosophy

Just fifty years ago, most Americans had not heard of Zen Buddhism. Today, most have and a growing number practice it. My thesis explores how and why this ancient foreign religion has recently become widely known and practiced in the United States. I will discuss how Zen was brought to the United States, which aspects of Zen Americans relate to and are drawn to, and which Zen practices Americans have adapted in order to make the religion more accessible.

Three Modern Western Perspectives on Pain: Salinger, Lewis, and Camus

Sean Roche

Faculty Mentor: Carlo Filice, Philosophy

To quote REM, "everybody hurts sometimes." Pain is the common denominator in everyone's life, the one experience that we all share. But despite our intimate acquaintance with suffering, questions still remain. How do we deal with anguish, suffering and grief? How should we deal with it? Is pain inherently bad? What implications should we draw about the universe from the fact that pain is our almost constant companion? Albert Camus, J.D. Salinger and C.S. Lewis wrote some of the most prolific and accessible philosophical work of the 20th century. They also came to radically different conclusion about the nature and consequences of pain. Lewis finds solace in a supremely benevolent God and a personal relationship to Him, while Salinger's Glass Family short stories feature a mix of Buddhism and Hinduism that ultimately dismisses pain as illusory. Finally, Camus rejects essence before existence and maintains that all suffering must be understood interpersonally, with society as either an exacerbating or mitigating factor. This presentation is an exploration of these ideas, and how each of these great men sought to come to grips with a painful and confusing world.

J.D. Salinger and Eastern Philosophy

Anna Hope

Faculty Mentor: Carlo Filice, Philosophy

The presentation will discuss J.D. Salinger's interest in Eastern Philosophy, focusing mostly on major parts of Hindu philosophy that can be found in his work. The presentation will also touch on his interest in religious experience of all kinds and his earlier tendency to distance himself from the personal philosophy put forward in his literature.

Session 1-J • Honors Honors Capstone II: From Places Apart

Newton 204

Session Chair: Olympia Nicodemi

Faculty Sponsor: Olympia Nicodemi, Mathematics

Sir Thomas Roe at the Mughal Court: Seventeenth Century and English Cultural Assumptions

Katherine Schwartz

Faculty Mentor: Joseph Cope, History

This paper seeks to explore how, although in reality the inferior partner in trade, the English in India thought of themselves as superior. To do this, I will analyze the journal of Sir Thomas Roe, the first official English ambassador to the Mughal Court, in light of English and Mughal history, English cultural constructions, and the works of contemporaries such as Edward Terry and the Emperor Jahangir. This paper will show that Roe judges the people of the Mughal court by English cultural standards, and uses these assumptions to claim English superiority. Furthermore, the paper will show that, while not intentionally written with imperialist aims, Roe's journal does demonstrate that the basic attitudes of the later imperialist culture, or at least the pre-conditions for them, were already a part of English culture in the early seventeenth century.

Front and Center: As Anthropological Analysis of Drag Queens in American Culture

Seth Palmer

Faculty Mentor: Rose-Marie Chierici, Anthropology

Judith Butler's concept of gender performativity revolutionized the way that academics conceive of gender, and has subsequently become a critical perspective for feminist and queer analyses in a variety of disciplines. The new anthropology of genders and sexualities uses this theoretical framework and focuses specifically on "institutions of ambiguity" that challenge gender dichotomies across the globe. Such institutions highlight the importance of understanding gendered and sexualized categorizations as cultural constructions embedded in a specific historical, spatial and cultural context. Continuing in that tradition, this paper is an examination of drag queens in contemporary American culture, with a specific focus on the politics of drag performance. With historical roots that can be traced back to Shakespearean theater, the practice of drag performance in the United States has evolved over time, yet it continues to challenge traditional notions of masculinity and femininity in American culture. Data collected from literature, fieldwork experiences, interviews, film, and social networking and video sharing websites will be utilized to examine the meaning of drag and the lives of those who perform in it.

Existentialism in Arabic Literature: The Tradition of Religion Versus the Draw of Secularism

Meghan Barner

Faculty Mentor: William Gohlman, History

In recent years, Arabic literature has drawn great influence from European intellectual traditions, arguably most notably existentialism. By redefining European existentialism in an Arab light, Arab authors have been able to use existential themes to address pertinent issues in Arab society. One such prevalent issue is the struggle between religion and secularism in modern Arab society, which is a theme throughout the Nauguib Mahfouz's groundbreaking work, *Palace Walk*. This presentation seeks to explicate this issue and how it is presented in the novel, and finally apply the conclusions to the role of religion in today's Egypt.

Session 1-K • Mathematics

Newton 201

Math Miscellany I

Session Chair and Faculty Sponsor: Olympia Nicodemi, Mathematics

Cinderella's Dilemma: Fair Divison and the Envy-Free Allocation of Chores

Sarah Bancone and Molly Yehl

In our presentation, we will explore and discuss known algorithms for fair division and apply them to the envy-free allocation of subsets of chores. We will highlight the four person envy-free chore division introduced by Su and Peterson.

The "Perfect" Gemstone

Sonya Travers

Many people enjoy the look of a bright, colorful, sparkling gemstone on a ring or a necklace. It is much harder than one might think to cut a rock and make it into a beautiful jewel. Mathematics is a key to creating an attractive and eye catching gem. We will examine the various factors involved in making the "perfect" gemstone such as optimization, reflection and refraction, and the mechanics of subtracting material. How do you determine the best cut for a gemstone? Finally, we will see how artificial neural networks and help to determine the best cut design for any given gemstone.

The Sound of Mathematics

Courtney Jurczynski and Jennifer Wasicki

Through the exploration of tuning systems, such as the Pythagorean scale and the Equal-Temperament scale, we can compare sound frequencies. The frequencies are developed by using fractions, or ratios, and a system of measuring referred to as “cents.” We can compare how and why the two scales may differ or relate using these measurements. Based on the respective ratios from note intervals, specifically octaves and perfect fifths, the construction of a scale can be accomplished. Using the general rules of note relationships, we can obtain different keys, which is what we hear in modern western music.

Session 1-L • Mathematics

South Hall 338

Session Chair: Patrick Rault, Mathematics

Elliptic Curves: Characteristics and Applications

Mike Bennett

Faculty Sponsor: Patrick Rault, Mathematics

Elliptic curves are curves of the form $y^2 = x^3 + ax^2 + bx + c$ (where a , b , and c are real numbers) which have some very intriguing properties. We will begin by investigating the nice additive structure of the set of rational points on one of these curves. We will then look at ways to use one rational point on the curve to derive other rational points and answer the question “how many integer solutions are there on the curve?” Finally, we will explain some of the uses of elliptic curves, with a particular focus on cryptography.

Flatland and More

Bridgette Heap

Faculty Sponsor: Edward Wallace, Mathematics

We begin this presentation by taking a look at some concepts presented in the book Flatland, specifically what it is like to live on a plane, line, or point. Then we get to take a deeper look into several geometric shapes, such as a torus, Mobius strip, and self intersecting lines and planes, and what it is like to live on each of them. Finally, we will discover how mathematics can make life on a plane easier.

An Algebraic Definition of the Trigonometric Functions

Brendan Murphy

Faculty Sponsor: Patrick Rault, Mathematics

A group, roughly defined, is a set with one operation defined on it: multiplication or addition. We will give a purely algebraic definition of sine and cosine, and then derive their trigonometric identities using the properties of the special orthogonal group from linear algebra. Writing E for the (Euclidean) real plane, we will describe the (multiplicative) special orthogonal group $SO(E)$ and its properties. Using an isomorphism to the (additive) group of angles we can define π and right angles. As done in most Elementary Linear Algebra courses, we use the inner product on E to define the cosine of an angle. We use a generalized process to define the sine of an angle. Note that these are real-valued functions on the group of angles. Writing the matrix of a transformation of $SO(E)$ relative to an orthonormal basis yields the usual form for a rotation matrix, in terms of sine and cosine. We conclude by applying facts about homomorphisms and $SO(E)$ to derive trigonometric identities.

Session 1-M • Political Science & International Relations

Milne 105

International Security Policy in the 21st Century

Session Chair and Faculty Sponsor: Jeremy Grace, Political Science & International Relations

Hugo Chavez's Foreign Policy in Latin America

Lucy Coates

Strengthened by increased revenues from the oil boom of the 2000s, Venezuelan President Hugo Chávez has pursued a much more extensive foreign policy than his predecessors, cultivating relations with numerous countries throughout Latin America and the world. Analysis of Chávez’s Latin American foreign policy reveals that he, like the petro-state decision-makers before him, has used petrodollars to fund large, long-term projects and agreements intended to further his goals of promoting a leftist agenda, minimizing foreign dependence, and increasing Venezuelan influence in the region. However as the oil boom ends, Chávez is likely to fall into a petro-state trap by overextending Venezuela’s oil revenues, rendering him unable to sustain his capital-intensive projects. This paper will begin by analyzing Chávez’s regional foreign policy, its effectiveness in accomplishing his goals, and the implications that his policy has had throughout the region. In the context of the ending oil boom, this analysis can be used to predict the effects of the failure of Chávez’s foreign policy in Latin America. Analysis of Chávez’s foreign policy and his reaction to the decrease in the value of oil should serve as an example when analyzing the foreign policy decisions made by other petro-states.

Re-defining collective security: can NATO survive an ever-expanding mandate?

Dean McGee

On April 3rd, 2009, the most powerful military alliance in the history of the world will turn 60 years old. But as NATO plans its anniversary celebrations in Germany and France, soldiers of the alliance are bogged down in a hot war in Afghanistan. This state-building mission is the Alliance's first military endeavor outside of Europe and one that its member states are finding themselves increasingly uncomfortable with. The mission in Afghanistan is, however, a natural progression of NATO's transformation since the end of the Cold War. From Bosnia to Kosovo to Afghanistan the Alliance has found itself transitioning from the collective defense organization dedicated to European security to a collective security mechanism lacking a clear purpose. This paper will examine the history of collective security through the lens of the North Atlantic Treaty and asks whether the Alliance can survive an ever increasing mandate.

Small State Foreign Policy: Using Armenia to analyze the domestic and external sources of small states foreign policy behavior, and the implications for US foreign policymaking.

David Murphy

With the increase in the number of small and newly independent states in the international system, the United States must create a foreign policy that takes into account the domestic and external sources of a small state's foreign policy, while altering its own policies to better align US and small state interests. Using Armenia as a study, this paper focuses on current issues facing Armenia, which include a stall in democratic reforms, economic dependency, a large and influential neighbor, and regional security concerns, and how these contribute to its foreign policy decisions. The paper then analyzes the ineffectiveness of US actions towards Armenia thus far, primarily seen through the massive amounts of bilateral foreign aid given to Armenia with few, and even detrimental, results. Because of this, it is clear that United States policy must change to augment its influence. This analysis and its implications for United States foreign policy can thus be extended toward small states in general, since many issues facing Armenia today are common to small and newly independent states worldwide.

Oil, Diplomacy, and National Power

Chad Salitan

How effectively are states rich in oil and natural gas able to use these resources as a tool of foreign policy? This paper examines this question by looking at three case studies: Iran, Russia, and Venezuela in the context of their uses of the energy as a means of leverage, specifically in regard to threats of oil and gas embargoes. Beginning with a review of the 1973 oil embargo, the case studies will explore how this tactic has subsequently used and examine the international conditions that would facilitate or detract from the weapon's deployment. The paper will also explore questions of target state vulnerability, including policy recommendations that assuage susceptibility to the weapon.

Session 1-N • School of Business

South Hall 340

Making Connections Between Marketing Research Instruction and Real-World Research Needs

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

Livingston County Community Needs Assessment Study (LivCoCNA)

Jason Hoskins

What are the social needs of at-risk persons living in Livingston County? How effective are the more than a dozen social programs currently offered by local organizations funded by CSBG block grants from Washington and Albany? And what are the unmet needs of local residents not currently met by existing social programs? These were the objectives of this study, funded by a grant from Livingston County to our faculty advisors, Dr. Paul Scipione. The study was carried out during the Spring 2009 semester and will serve as an innovative prototype of similar studies for other NYS counties.

Identifying and Profiling Wealthy Zip Codes in New York State

Ana Powell and Katie Glenn

Six of Dr. Scipione's undergraduate students, supervised by Ms. Powell and Ms. Glenn, carried out this innovative study to identify and profile the wealthiest 600 zip code neighborhoods in New York State. Our client is Mr. Michael Catillaz, Vice President of Development of SUNY Geneseo. The objective is to identify SUNY Geneseo alumni who live in wealthy areas of NYS. These alumni will receive special attention from the Development and Alumni offices of SUNY Geneseo. After these zip codes were identified, the populations of these areas were profiled in detail, using the Community Tapestry consumer segmentation system from ESRI and the PersoniX segmentation model from Acxiom Corporation. This is the first known effort nationwide in college fund-raising, using these sophisticated marketing research models.

The Marketing of the book: Western New York Vital Signs

Michelle Valoris and Jason Hoskins

WNYVS, written by Paul Scipione, is a comprehensive statistical abstract of the residents, communities and companies in the 17 counties of Western New York -- more than 10,000 individual statistics. Dr. Scipione and his research assistants (including Jason Hoskins) developed the book during 2008-2009. It is currently being marketed via an innovative, inexpensive e-marketing campaign throughout New York State. WNYVS will be an important fund-raising tool for the School of Business at SUNY

Geneseo. Michelle Valoris, a student at Bowling Green State University in Ohio who was a summer intern in Communications at SUNY Geneseo in 2008, served as the Art Director for Dr. Scipione's forthcoming book.

Session 1-O • Sociology

Sociological Studies of Subjective Well Being

Milne 104

Session Chair: Steve Derne

Faculty Sponsor: Steve Derne, Sociology

Balance of Individual Striving and Group Support as a Source of Well Being

Sarah Olsson

While Gordon Mathews, the author of *What Makes Life Worth Living*, believes that a balance between individual striving and group support is difficult to achieve because of cultural emphasis on either self or community, it appears that this balance more commonly leads to a sense of well being. 38 interviews were analyzed in Sociology 376, a senior seminar class at SUNY Geneseo that focused on well being. In almost half of the interviews, subjects received well being from both individual achievements and group support; many receiving well being from completing some form of community service. By analyzing interviews, one can see that a balance between individual achievement and support by a group provides many people with a sense of well being, regardless of their cultural influence. By looking at this data, it is hard to agree with Gordon Mathew's argument, that balance between self and others is difficult to obtain in a society because of cultural emphasis on either the individual or society. The interviews depicted show that a balance is prevalent in a society, which would normally be described as individualistic. The transcripts demonstrate that perhaps the American society is not just individually oriented, but socially oriented as well.

Lack of Life Satisfaction

Darrin Barry

Adversity such as personal losses and the worries or hassles of life lead to a lack of well being. Worries can range from small things to large things. A personal loss refers to death of a loved one, friend, pet, etc. Throughout the semester my classmates and I analyzed monographs along with our own transcripts and found some very compelling data. Several people who identified the death of a family member as a source of lack of well being ranged in age from 18-85 male and female. That data is coming from the 38 interviews that we did as a class throughout the semester. Also, most of those people didn't initially identify family as a source of well being. Throughout the semester we looked at various transcripts from India, Japan and the U.S. and there were similarities in personal losses leading to a lack of well being.

Social Connections and Control: Implications for Well Being

Rachel Goodman

Well being is defined by sociologists as a sense of enduring life satisfaction. In examining the sources of this sense of life satisfaction, the literature suggests that social connections lead to well being. The literature also suggests that feeling like you are in control of your own destiny or life leads to feelings of well being. Students from a senior seminar class were interested to see if the suggestions from the literature would be replicated in interviews. A total of 38 interviews were conducted and analyzed by the students. The results indicated that losing romantic partners, family members, and friends, or the threat of losing them had a negative impact on the well being of the participants. However, what seemed to impact their well being even more was how helpless and out of control they felt over the loss or potential loss of social connections. Thus, the interview transcripts demonstrate how threats to social connections and feelings of lack of control can interact to diminish well being, which has not been examined in the literature.

Achievement in the Familial Sphere as a Source of Well Being

Amy Callahan

Much of the previous research in the sociology of well being has supported the contention that men and women gain well being from different sources. Researchers have argued that men are likely to gain well being primarily from individual achievements, whereas women are likely to gain well being from social relationships. Specifically, men receive well being from achieving in the workplace, whereas women receive well being from their close relationships with family members and friends. I analyzed in-depth interviews with six middle-aged women and one middle-aged man, all of whom have families with children. From their discussions of well being, I concluded that women, and possibly men, gain a sense of individual achievement in caring for their family members well and seeing them succeed, which in turn gives them well being. For women and men, the family is a source of well being as it provides an arena for individual achievement, in addition to close social relationships.

Religiosity's Implications for Purpose and Well Being

Alissa Herman

This paper examines the relationship between religiosity and well being. Religion has positive implications for well being because it provides believers with a sense of purpose in life. More specifically, intrinsic religiosity positively affects well being whereas extrinsic religiosity has a negative effect on well being. It appears that adversity fosters the development of intrinsic religiosity, and more research should be done to investigate this finding.

Session 1-P • School of Education

Welles 138

The Denial of Universal Human Rights: An Exploration of Examples and Justification

Session Chair: Lwam Tecleab

Faculty Sponsor: Jane Fowler-Morse, Ella Cline Shear School of Education

A Love-Hate Relationship: The Origins and Development of Feminism and its Modern Conflicts with Social Contract Theory

Ryan Levy

Student Commentator: Lwam Tecleab

This paper addresses a progression in human rights activism—particularly the rights of women. Galileo Galilei's ideas, focusing on the importance of empiricism and scientific reason, are first to be discussed. They provide the foundation for later theoretical-ideological expansion. Next, this paper investigates social contract theorist John Locke's advocacy for the supremacy of reason and the equality of man. After Locke, Enlightenment philosopher Mary Wollstonecraft uses Locke's rational vision to justify the extension of equality to the woman. Finally, the paper explores feminist theorist Carole Pateman's modern criticism of social contract theory, and her advocacy for the recognition of a more intimate sexual contract. The paper concludes by resolving that, while it is important for theorists to draw upon previous works, the philosopher must be cautious and critical. Conclusions argue for a balance between wholly embracing and fully rejecting one's history and its products.

Tomorrow Will Shine

Geoff Griffiths

Student Commentator: Lwam Tecleab,

Prophets are those people who speak up against injustice and call for social change. This paper examines the Prophets Hosea, Amos, and Jonah from the 8th Century BC and how they speak out against corruption in their time period. They argue for an end to misfortunes and injustices. It will also argue that Martin Luther King Jr. is a modern prophet. In his "Letter from Birmingham Jail," King calls for an end of the suppression of civil and natural rights. King asserts that, "Injustice anywhere is a threat to Justice Everywhere." This is the calling of prophets to speak up for those that may not be able to speak up for themselves. With their help, tomorrow holds a brighter future for everyone.

Selfishness and Human Nature: An Examination of What Is Important to Humans

Daniel Hart

Student Commentator: Lwam Tecleab

This paper is an examination of human rights, particularly those of life and education, through the lens of the Holocaust and the plight of public schools today. It will look at why some people ignore the value of the rights and lives of others and attempt to make distinctions between different expressions of selfishness. In order to examine the narrative of the Holocaust, the paper will take from Elie Wiesel's *Night* as well as documentary *Shoah*, a set of interviews compiled by Claude Lanzmann. Jonathan Kozol's book *Shame of the Nation* is used to draw meaning from the terrible conditions present in public schools nationwide today. There are differences between the selfishness like that expressed in the Holocaust that manifested from a need for self preservation and the selfishness that comes from being privileged and ignoring those who are not. The paper explores the subtopics of dehumanization, conformity, apathy, and consequences as they pertain to selfishness and denial of human rights.

Session 1-Q • School of the Arts

Welles 128

Social Issues and Influences in American Music

Session Chair and Faculty Sponsor: Jim Kimball, School of the Arts

Art, Politics, and Free Speech: The Silencing of America's Greats

Julie Nociolo

In the era of the Red Scare many Americans including politicians, baseball players, and entertainment figures were subpoenaed to the House Un-American Activities Committee about their participation in Communist activities. I focused my research on three musicians who were subpoenaed between 1947 and 1957: Pete Seeger, Paul Robeson, and Josh White. I ultimately ask what the role of art and politics is by posing several questions: can art and politics be mutually exclusive or are they inherently interconnected, how can art influence politics and how can politics influence art, and what is the role and responsibility of the artist in times of national crisis? I suggest that in a time of political dissent and controversy art cannot be separated from politics because reputations of talented people can be tarnished due to politics. I further argue that the role and responsibility of the artist in times of political struggle transfers to the public to ensure that such art is preserved and not merely smeared away by political controversy.

Sister Rosetta Tharpe: Up Above Her Head

Nick Ponterio

During World War II, Sister Rosetta Tharpe was one of two gospel artists to cut V-discs for soldiers overseas. Massively popular both state side and abroad, her electric style was matched by her eclectic mixture of multiple American music traditions, ranging from folk to gospel to rock. Her ability to play the guitar was matched only by her aptitude at expanding its possibilities in the early, pre-Rock n' Roll world of American popular music. Because of her unique and unorthodox approach, she was often castigated by the gospel audiences from whence she had rose to fame. My research deals primarily with the question of parameters of performance, specifically related to the socio-cultural context that gave Sister Rosetta Tharpe both great fame and great notoriety. I question the division of the sacred and secular in performance, especially as it pertains to Sister Rosetta Tharpe's unprecedented innovations.

Hip-Hop and Capoeira

Noah Dreiblatt

This study will examine the relationship between the Brazilian dance-fight-game known as capoeira, and the competitive, urban hip-hop dance known as breaking. It will cover the origins of both forms, and the commonalities that they share. The project will include interviews with capoeiristas, b-boys and academics, as well as recordings and videos of both styles of dance. It will also include a compilation and analysis of research that has already been done on both individual subjects in an attempt to find and examine the often-misunderstood-or-wholly-lost connection that they share in ways such as their common origins, their formation under related circumstances, their often-related attitudes, the social circumstances of their creators, and the more-limited linear progression from capoeira to breaking.

Session 1-R • School of the Arts Senior Projects in Playwriting

Sturges Auditorium

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

“The Original” A rhapsody on the sounds of protest

Daniel Carroll

Danny is completing a six credit honors project in theatre for which he has written two full-length and two one-act plays and is staging and filming them to create a portfolio. This is his final short play. The Original is composed of a series of scenes that can be continuously re-arranged, substituted, or removed. There will be “ending” scenes and there will be “starting scenes” but there will be a series of each that hold the same general themes, but establish different things. The plot is simple – a man has been hired by an agency to find, obtain and return “The Original”, but this process involves discovering what “The Original” is. Simultaneously, a group of people assembled through chance has been assigned the task (by an unnamed and untraceable source) to thwart the hired man in finding “The Original” themselves. All of the events that stem from this are set upon the backdrop of a nationwide protest that is in its first full week by the “start” of the show.

Cecity

James Merenda

Aspiring playwright and slam poet James Merenda presents his one-act play about two people who meet on the subway. This is a rewrite of a play written and performed first two years ago. The rewritten Cecity and an original full length play constitute Merenda's senior project in Theatre.

CONCURRENT PRESENTATIONS

SESSION 2 • 11:05 – 12:20

Session 2-A • Anthropology

Welles 119

Session Chair: Rose-Marie Chierici, Anthropology

Evaluation of the High Costs of Health Care for the Rural Poor and a Formal Analysis of Economic Strategies and Social Networks to Counter Family Health Catastrophes in Cobá, Q.R., Mexico

Carrie Bukowski

Faculty Sponsors: Ellen Kintz and Russell Judkins, Anthropology

In January 2009, fieldwork explored the cost of health care in the small rural village of Cobá, Q.R., Mexico. For indigenous Yucatec Maya, health care comes at an exorbitantly high price. Impoverished families can survive day-to-day on a tourism-based economy, but when medical calamities occur, families have to apply an array of strategies to pay for medical treatment. This research focuses on determining where community members receive health care and how families pay for this expense. The costs encompass more than funding medical procedures and medicines, including travel to city clinics and hospitals and sacrificing days of work for both the ill person and other members of the family. Families commonly solicit extended networks

of relatives and friends for needed resources to care for the sick. Obligations to repay substantial costs leave a lasting impact on individual families, creating crushing financial burdens. While the high cost of health care in the short-term impacts small nuclear or larger extended families, the financial burdens have long-term effects on the community level. This paper contributes to the ongoing academic debate focused on the critical issue of providing adequate health care in remote rural area and to peasant populations.

A Vision of Hope

Megan Lee and Nabil Vargha

Faculty Sponsor: Rose-Marie Chierici, Anthropology

"A Vision of Hope" illustrates the progress made in rural Borgne, Haiti as a result of a partnership between the non-governmental organization Haiti Outreach Pwoje Espwa of Rochester, and the community members of Borgne. Through photographs, this presentation shows the hard work of doctors and community health workers in the area's only hospital, the implementation of a mobile clinic to reach the most isolated rural populations, the building of sanitation facilities, solutions to local environmental problems, and educational programs. The pictures also capture Haiti's distinctive landscape and the condition of Borgne's infrastructure, both of which have shaped the development initiatives that have been successfully undertaken. In addition to providing a exclusive look at field work in an underserved part of the world, "A Vision of Hope" depicts the positive change enabled by Haiti Outreach Pwoje Espwa's reliance on the experience and expertise of the population the organization serves, providing a close look at partnership as an essential component of successful and sustainable grassroots development work.

The Developing World: The Impact of International Tourism on the Yucatec Maya, Cobá, Quintana Roo, Mexico

Ryan Levy

Faculty Sponsor: Ellen Kintz, Anthropology

This research paper summarizes the findings from fieldwork in Cobá, Quintana Roo, Mexico in January 2009. Fieldwork involved observation and interviews with local families and visiting tourists. The paper focuses on a discussion of the impact of tourism on natural resources and social organization in a small Yucatec Maya village. Comparisons between the family structure of tourists and local Maya, the economic differences between these two groups, and a comparison of their power and control over resources is the focus of this paper. In addition, distinct and diverse worldviews and beliefs of these two groups are also discussed. Conclusions are drawn on the impact of international tourism on a small Yucatec Maya village and suggestions are made on how to ameliorate these destructive impacts. This research contributes to an ongoing discussion and debate on tourism by anthropologists and other scholars.

The Question of Cultural and Linguistic Survival Among Rural Yucatec Maya: A Research Project and Fieldwork Experience in Southern Mexico

Bethan Maher

Faculty Sponsors: Ellen Kintz and Barbara Welker, Anthropology

Indigenous cultural and linguistic survival is a critical theoretical and research question among anthropologists world-wide. There is ongoing debate regarding the impact of the Western World and development on traditional cultures. The forces of colonization and globalization have stressed traditional cultures to a breaking point. Some anthropologists have argued that cultures are incredibly resilient. Data collected from two fieldwork experiences in southern Mexico focused on a small rural Yucatec Maya village suggest that there is a complex matrix pertaining to cultural and linguistic survival. Analysis of the fieldwork data documents this level of cultural complexity. Southern Mexico is profoundly impacted by the dramatic growth of tourism in the eastern corridor known as the Riviera Maya. Small villages are currently responding to this development. Interpretation of local adaptation to the influx of tourists includes an evaluation of the survival of tradition cultural practices and retention of the indigenous language. This research project parallels development in small villages elsewhere in the world.

Navegadoras: a case study in shifting structures, women's responses, and indigenous maternal health from Cobá, Mexico

Casey Rampe

Faculty Sponsor: Ellen Kintz, Anthropology

WHO/PAHO data suggests that maternal health among indigenous women in Latin America is in crisis: maternal and infant mortality rates are shockingly high, knowledge and utilization of family planning is low, and access to care is limited. Last summer I traveled to Cobá, a small indigenous village in Mexico, to research maternal health among the contemporary Maya. I investigated birth patterns, availability and utilization of health care services and contraception, barriers to health, women's strategies in navigating those barriers, and the relationship between traditional and biomedical care. Given my understanding of the region's health challenges, I expected to encounter a clash between traditional and biomedical care resulting in the needs of women not being met. Surprisingly, this was not the case: a host of unique social, political, economic, historical, and geographic factors intersect to set Cobá apart from most native villages. Perhaps the most interesting of these is the role of women as strategizers, actively navigating changing structures to ensure that their needs, and those of their families, are met. This presentation details my findings and uses contemporary anthropological theory as a point of departure for a broader discussion of health care systems and women's health.

Session 2-B • Communicative Disorders and Sciences and Psychology

Welles 121

Session Chair: Robert Owens, Communicative Disorders and Sciences

Language Sample Analysis

Katherine Allen, Lynda Feenaughty, Erin Filippini, Melissa Galvin, Marc Johnson, Andrew Kanuck, Jessica Kroecker, Stephanie Loccisano, Katherine Lyle, Jordan Nieto, Kathryn Wind, and Sara Young

Faculty Sponsor: Robert Owens, Communicative Disorders and Sciences

In our research, we analyzed approximately 180 language samples from children between the ages of 31 and 84 months. This analysis focused on development of the basic elements of standard speech, including morphemes, words, clauses, and sentences. Further analysis examined development of noun phrases and prepositions, as well as the individual components of noun phrases. We found that there was a positive correlation between age and the following elements of speech: MLU (mean length of utterance in morphemes), total number of words, clauses/sentence, words/sentence, words/clause, noun phrases/sentence, and noun phrase elements/noun phrase. The only exception to this trend was noun phrases/ clause which remained constant across all age groups. Using -1 standard deviation, we were further able to determine potential developmental "cut-off levels" which could be used in a diagnostic procedure to aid in the diagnosis of language delays.

Resiliency and Intervention for Children

Alice Brunet

Faculty Sponsor: Ganie DeHart, Psychology

The presentation will be a general summary of an independent psychological review on resiliency and intervention. The primary basis of the literature review will be developing programs that promote resilient skills in children. The beginning of the presentation will be an overview of the extensive literature on resilient children and the skills they acquire during difficult times. Then, the most common skills that resilient children use will be the basis of looking at different intervention programs that are specifically designed for children. At the end of the presentation, an analysis of each intervention program will be made and future intervention programs that promote resiliency will be suggested.

Session 2-C • Communication

South Hall 340

Lambda Pi Eta Scholarship

Session Chair and Faculty Sponsor: Meredith Harrigan, Communication

An Analysis of College-aged Women's Personal Relations

Amanda Hamilton

Current communication literature regarding personal relations is limited by its focus on romantic, friendship, and friends with benefits relations. To better understand the types of relations college-aged women practice, this study sought to explore (a) the types of cross-sex relations college-aged women practice (b) the reasons they give for practicing the relations and (c) the identities they construct by practicing the relations. Results indicated a myriad of relational types. Types were categorized under three supra-categories and were explored in terms of their description, initiation, maintenance and communication rules, as well as their benefits and drawbacks. Identities associated with the relations were also examined, along with relational fluidity, commitment and intimacy.

The Values of Translational Research

Maegen Williams

This project highlights the values of translational research, focusing on a 2004 article entitled: "Is There Something I Should Know?": Topic Avoidant Responses in Parent-Adolescent Communication by Michelle Mazur and Amy S. Ebesu Hubbard." Translational research enables the lay population to benefit from scholarly studies, and this particular article was translated into a medium that could be understood by the lay population. A brochure was created based on Mazur and Hubbard's research entitled "Communicate With Your Kids: A Guide to Talking With Your Young Adult." The creators of the brochure translated, for parents, why teens were likely to avoid certain topics, typical responses from a teen when certain topics were broached, an understanding of why teens react in these ways, and how to foster better communication between parents and teens.

The Values of Translational Research

Jennifer Wrobel

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An Analysis of College-aged Women's Values as Examined through Relational Engagement

Amanda Hamilton

Although a great deal of communication research has explored romantic relations and the personal and relational values associated with such relations, little research has focused on non-romantic relations; specifically, the developing trend of college-aged non-romantic relations (e.g., friends with benefits and hookups). Consequently, almost no research has explored the values that are communicatively and relationally expressed through engagement in non-romantic relations. And no research, to my knowledge, has explored the values articulated through non-romantic relational engagement using college-aged women as a lens. This study sought to understand how women communicatively and relationally express their values by engaging in various types of cross-sex relations; specifically, non-romantic cross-sex relations. Results indicated two types of non-romantic personal relations (friends with benefits and hookups) and a myriad of values. Values were expressed communicatively through the people women choose to converse with about their relations and the conversations they conduct with these people. Values were also expressed relationally through the reasons college-aged women gave for engaging, and the identities they attempt to construct by engaging in the two relational types. Values expressed included, but were not limited to: personal freedom, sexual autonomy, sexual gratification, convenience, excitement and positive self-image.

Session 2-D • Communication

South Hall 338

Session Chair and Faculty Sponsor: Atsushi Tajima, Communication

Global Interactions Influence on the Modern Mediascape

Victoria Druckman

The purpose of this paper is to evaluate the role of the flow of global interactions with regard to their impact on the mediascape. In order to understand the influence of the different factors that alter the mediascape of a culture several specific case studies were reviewed. Each of the cases brought a unique perspective to understanding how a mediascape is altered and illustrated the interrelationship among all of Appadurai's scapes. The presentation will introduce the concept of Appadurai's scapes and explain the application of the various case studies in the understanding of the interrelationship among the five components.

Global Communication and the Spread of Orientalism and Demonization across Cultures and Genders

Christina Gephardt

Orientalism and demonization across cultures and genders have rapidly spread worldwide and consequently shaped the ideals and beliefs of many cultures and societies. Through theories such as agenda-setting and the dependency theory, Orientalism has had the ability to affect many culture's ideals and traditions. Orientalism and demonization have been seen as two main sources of the division between cultures and nations and can sometimes even result in violent conflict towards others. The flow of information from the West to the East through news, entertainment, and other media has intensified the issue over time. Due to advanced technology and the modernization of the media, the spread of ideals is inevitable.

Perceptions on Global Events Gained through War Photography

Caitlin Morrison

War photography is almost as old as photography itself. Over almost two centuries, war photographers have captured images of death and destruction and in the process, stir up antiwar feelings from people at home. These photos from abroad also give people some insight into different culture and lifestyles. They also some time require that governments take action or pull back in war time efforts. Explored in this paper are the different effects of war photography as well as why it is so important and necessary. Insight into the evolution of the profession is also touched on.

A Study on the Higher Education System: The Lack of Diversity and Why it Should be Addressed

Kendall Shultes

This research proposal aims to study the higher education system and the diversity within the institutions. With the examination of the cultural phenomenon that is the higher education system, breaking down the benefits of education, the spending of the higher education system and the demographics of attendants was done in attempt to explain why a lack of diversity exists. With the conductance of a first trial of a pilot study, five different institutions' websites were examined to look at the representation of the student body in comparison to the actual demographics of the institution with added emphasis on SUNY Geneseo. In conclusion, this paper recognizes the media's influence in attempting to present a skewed representation of the institution's student body.

Session 2-E • English

MiNTERactions: Explorations of Published Pieces

Welles 131

Session Chair: Deborah Bertlesman

Faculty Sponsor: Robert Doggett, English

Geologic Article

Patrick Morgan

A reading and discussion about an article that I wrote while on doing geological research in New Zealand.

Slam Poetry

Deborah Bertlesman

A reading and discussion about performance poetry and how it does or does not work in publication.

Cultural Articles

Eleanor Bryan

A presentation on various light hearted cultural articles that have been published in the MiNT.

Session 2-F • English

Welles 132

Reflections through African American Migration Narrative II

Session Chair and Faculty Sponsor: Beth McCoy, English

Guyanese Proverb: If yuh eye nuh see, yuh mouth nah must talk. (You must see for yourself before you talk.)

Lauren Fox

"Guyanese Proverb" is about my parents' emigration to the USA from Guyana, South America, and my own migration within the U.S. The proverb reflects how I choose to identify myself through culture, heritage and tradition. If you cannot see who you are, how will you feel who you are or even claim to be? How can you articulate to another the person you have accepted yourself to be? Can you speak about yourself without understanding your identity? I will answer these questions through spoken word, photography, and music because identity is so much more than what many human beings perceive it to be.

From Jewish to White: A Migration in Identities

Molly Kerker

As a social construction, "whiteness" is a fluid, and sometimes arbitrary, category. All the same, acceptance into (and denial from) white culture has real consequences. Looking three generations back in my own family, I recognize how active self-identification with whiteness (and active denial of Jewishness) facilitated greater economic and social opportunity. At the same time, I recognize the losses that came with such gains - alienation from family, rejection from certain geographic spaces, and a loss of both spiritual and cultural connection. My family's story serves both as an example of the complexities of self-identification, and a reminder that every family has been mapped by race.

The Chicken Bone Express

Gregory Sorin

African American migrations throughout history were marked by changes in identity. After moving to an entirely new region, the way a person lives can become altered. In examining my family's migratory branches, I gathered this information to show how my African American grandparents left their North Carolina homes of few opportunities to reach New Jersey and reestablish themselves. By moving north, they hoped to find jobs and a nice area to start a family of their own. It was only through the love and finances of her family that my grandmother gained an education and access to the escape she wanted. My grandfather used military training (ironically, an at-the-time segregated institution) to free himself from the limited African American opportunities of the time. Their transition from North Carolina to New Jersey tells a story of hope for the future, financial improvement, and independent living that deeply associated with movements such as the Great Migration.

Session 2-G • English Shakespeare

Welles 133

Session Chair: Daniel Carroll

Faculty Sponsor: Eugene Stelzig, English

Looks Can Be Deceiving: Angelo's Intentions in MEASURE FOR MEASURE

Michael Langen

Looks Can Be Deceiving: Angelo's Intentions in Measure for Measure Reputations are important, especially for those in positions of power. In Shakespeare's Measure for Measure, some readers see Angelo as deserving the reputation of a moral man who is earnestly trying to clean up Vienna, but happens to take things too far in his strict treatment of Claudio's case. They believe that, by the play's end, Angelo truly repents for succumbing to the temptation of Isabella. Other readers, however, see Angelo as a power-hungry tyrant who is hypocritical in his preaching of strict morality, and view him as being ill-intentioned all along, pursuing his selfish agenda at the expense of Isabella and others. I will argue that while Angelo tries to dupe others into seeing him as a well-intentioned, just, and pious leader, the truth is that he is ill-intentioned, selfish, and unjust.

"The Rest is Silence": HAMLET and the Frailty of the Senses

Sean Lachut

"The Rest is Silence": Hamlet and the Frailty of the Senses in Hamlet, Shakespeare makes numerous references to body parts and their relation to sense experience. Along with this, a major theme in the play is the fallibility of the physical body, and by extension the senses. In this essay I link this frailty of the senses to several instances of deception and misunderstanding in the play, in an attempt to show that Hamlet's delay stems from his mistrust of the senses. In terms of the sense experience, I focus primarily on seeing and hearing. The specific instances of deception and misunderstanding I discuss are Polonius' murder, Hamlet's first encounter with his father's ghost, Hamlet's second encounter with ghost, the dumb-show preceding the Mousetrap play scene, and the Mousetrap play-within-a play scene. These are all scenes in which someone is deceived or misunderstood, and the interplay between the weakness of sight and hearing is integral to the success of the scenes. Ultimately, Hamlet needs to look beyond sense experience to validate the murder of Claudius and avenge his father.

"Horrible Imaginings": The Reality of Duncan's Murder in the Mind's Eye

Meghan Pipe

"Horrible Imaginings": The Reality of Duncan's Murder in the Mind's Eye. This paper examines the "unstaging" of King Duncan's murder in Macbeth. While historical considerations and the technical demands of the theater may certainly have played a part in Shakespeare's decision not to show the murder, the intense dramatic effect of omitting it from the stage is undeniable. In Macbeth and in Hamlet, offstage murder serves as the tragic hero's visible breaking point, as all actions that follow for each character lack a complete grasp of reality on his part. In choosing not to stage the murder, Shakespeare also defers the reality of the deed from the stage to the characters'—and the audience's—imaginings. All are forced to imagine the bloody deed for themselves, and in this way all are complicit in the Scottish play's "murder most horrible."

The Thematic Convergence of Author Integration, Theatricality, and Valediction in THE TEMPEST

Daniel Carroll

The Thematic Convergence of Author Integration, Theatricality, and Valediction in Shakespeare's The Tempest. This paper examines the likelihood that The Tempest was a valedictory "sign-off" for Shakespeare and that its general motifs were explicitly geared toward this idea. Cited as the last play that Shakespeare authored alone, it has disrupted the concept of genre by being debatably unlike any other play in the canon, and presents itself as thematically unique within the scope of the Bard's work. The Tempest contains numerous references to theater, and while many of Shakespeare's plays make mention of the dramatic arts and their analogy to real life ("all the world's a stage"), it is in this, his last play, that the Bard most explicitly acknowledges that the audience is viewing a show. Moreover, Prospero has been said to represent Shakespeare himself by way of "author integration." The theatricality of the play reinforces Shakespeare's omnipresence in it.

Session 2-H • English Criticism Without Borders

Welles 134

Session Chair and Faculty Sponsor: Paul Schacht, English

Image and Text

Danielle Sauers

Juxtaposing original and found images with bits of text, this slide show of photo-montages serves as an unconventional and provocative means of illuminating literary concepts, such as metonymy, and literary works ranging from Lewis Carroll's *Alice in Wonderland* to Michael Cunningham's *The Hours*.

My Last Duchess

Amanda Kurtis

Robert Browning published “My Last Duchess,” a dramatic monologue, in 1842. This graphic mini-novel translates Browning’s poem to a 21st –century medium in a way that captures the poem’s mood and offers a perspective on the motivations and morality of its characters.

The Water Problem Connection

Max Wheeler

This acrylic-on-canvas painting connects the characters and images that unite three texts by three different authors, simultaneously connecting the life of one author with her own text and one of the texts with both the life and text of one of the other authors. The authors are Lewis Carroll, Virginia Woolf, and Michael Cunningham. The texts are the *Alice* books, *Mrs. Dalloway*, and *The Hours*. Water is an important symbol in all three. *The Hours* contains a character who is reading *Mrs. Dalloway*, a character nicknamed Mrs. Dalloway, and a character who is writing *Mrs. Dalloway* (named, and based on, Virginia Woolf).

It’s Too Late

Shannan Milligan and Michele Guido

Near the end of Thomas Hardy’s 1891 novel *Tess of the d’Urbervilles*, Angel Clare returns from South America to seek forgiveness from the wife he selfishly abandoned shortly after marriage. But he is too late. This music video rewrites Angel’s final meeting with Tess in a way that highlights differences between the characters’ cultural moment and our own.

Session 2-I • History

Milne 104

Civil Rights Movement in Textbooks and History

Session Chair: Brian Hartle

Faculty Sponsor: Emilye Crosby, History

Unsung Hero: Ella Baker and Civil Rights Historiography

Adele Costa

The assignment had 3 parts; we had to examine a relevant event/subject of the Civil Rights Movement in a number of middle school to college survey texts, link this writing to more expansive professional Movement Scholarship, and then examine how our subject was treated in the normative, top-down textbooks and scholarship as opposed to how it was treated in the non-normative, bottom-up scholarship. I chose Ella Baker, and found that in the textbooks/normative narrative, she is barely mentioned, or, if she is mentioned, it is in a derogatory or superficial way. The bottom-up accounts, however, laud her as an extremely efficient and hard-working activist, mentor, and friend, and give considerably more insight into her personal and political life. My thesis asserts that Ella Baker’s misrepresentation/non representation in the normative narrative can be attributed to the normative’s attention to only a few aspects of movement work (autocratic leadership, the federal government, and integration) that characterizes the “Mobilizing Tradition.” Ella Baker was involved much more with the “Organizing Tradition,” and thought groups dedicated to social change were best run under radical democratic principles, and thus, she is obscured by proxy.

“Top-Down versus Bottom-Up Histories of Fannie Lou Hamer”

Sara Morningstar

Most Americans know only the top-down perspective of history that is presented to them in textbooks, which means they are missing out on many important people and events. With a bottom-up approach to history, students can see how big movements affected people at the local level, giving history a more personal touch. Fannie Lou Hamer is an uneducated sharecropper from Mississippi who is a prime example of what bottom-up history can teach us. Her efforts focused on improving people’s lives through local programs and organizing, but she is largely ignored in historical surveys of the Civil Rights Movement. Come hear about her remarkable achievements and discover a bottom-up historical perspective.

Textbooks and the Normative Perspective of the Civil Rights Movement

Shanna Reulbach

The paper compares the way textbooks and historians portray the Civil Rights Movement. By taking a top-down approach to the Movement, textbooks obscure the achievements of local organizers and their sustained efforts on the front lines, which makes the federal government and its leaders look like heroes. On the other hand, a bottom-up approach that focuses on the organizing tradition highlights the achievements of activists in the face of a government that was actually rather uncooperative. By stopping their accounts of the Movement in 1965, textbooks also make it seem as if all of the problems were solved with the Voting Rights Act; however, historians who use this bottom-up approach report that there was activism long after 1965, as racism still existed. Furthermore, a focus on indigenous organizing reveals the common origins of the Civil Rights and Black Power Movements. The paper examines a variety of articles and books written by historians, as well as several high school and college-level textbooks, to reach this conclusion.

Voter registration in Mississippi

Sean Karst

Charles Payne depicts normative history as, “premised on the assumption that national institutions work more or less as advertised, that shared values are the key to understanding change.” A normative interpretation of the civil rights movement traces the successes and achievements of the movement through an analysis of the existing government’s response to societal ills of racism and segregation. This interpretation dominates popular movement history and completely excludes an analysis of the transformative social movement at the ground level, one characterized by the commitment of local black people to the struggle for civil rights. A normative approach to the movement, reflected in high school and college textbooks, completely ignores the significance of local people learning to stand up and fight their own battles. A study of voter registration efforts in Mississippi undoubtedly reveals the limitations of normative history, as this essential strategy of the movement is often absent or otherwise obscured. Registration efforts ultimately contributed to internal developments of community empowerment and an external manifestation of politically active black citizens.

Session 2-J • Honors

Newton 203

Honors Capstone III: In Society

Session Chair: Olympia Nicodemi, Mathematics

The Role of Ethnic-related Variables, Perceived Discrimination, and Perceived Support in College Students’ Adjustment and Future Expectations.

Monica Fuller

Faculty Mentor: Monica Schneider, Psychology

Research on perceived discrimination has revealed important links between perceived discrimination and negative affect, especially depression and self-esteem (e.g. Prelow, Danoff-berg, Swenson, & Pulgiano, 2004; Major, O’Brien, Kaiser, & McCoy, 2007; Twenge & Crocker, 2002). Although these studies have examined the importance of perceived discrimination and how it relates to self-esteem, depression, and academics, little research has been done on the role that perceived discrimination plays in college adjustment. Additionally, there is almost no research that explores how perceived discrimination and college adjustment is related to an individual’s future expectations. The current study is designed to address these limitations by examining the predictors and outcomes associated with perceived discrimination and college adjustment for ethnic minority and ethnic majority students. Specifically, we will assess the role of 1) demographic variables, 2) acculturation, 3) ethnic identification, 4) perceptions of the institution (perceptions of diversity, perceived discrimination, perceived support) 5) college adjustment, 6) academic identification, 7) anger, depression, hostility, and resentment, 8) future expectations (i.e. hopelessness and possible selves). Emphasis will be placed on how perceived discrimination from different domains predicts college adjustment and future expectations while focusing on mediating variables such as ethnic identification, social support, and perceptions of diversity.

Prisoner Custody, Bush, and Legality

Andrew Petracca

Faculty Mentor: Rebecca Root, Political Science and International Relations

The mistreatment of prisoners in U.S. custody between September 11, 2001, and January 2009, including indefinite detentions, unfair trials, the use of interrogation techniques amounting to torture, and the deportation of prisoners to other countries for the purpose of torture, constitute violations of international law. Contrary to what the Bush administration and its supporters have argued, these policies are illegal and have not been more effective at protecting the United States than legal methods. In fact, by reducing the moral standing of the country and alienating individuals throughout the world, especially Muslims, they have strengthened anti-American extremism and increased the danger of terrorist attacks against the United States.

Relationships and the Mentally Ill

Julie Nociolo

Faculty Mentors: Rob Doggett and Kristen Gentry, English

Severe mental illness is a stigmatized disease that most Americans know about from television, movies, and extreme cases reported by mass media. I argue that these sources inaccurately portray the majority of persons with severe mental illnesses including bipolar disorder and schizophrenia. I suggest that impact of false information has great consequences for how those with such illnesses form and maintain personal relationships with family, friends, and significant others. My research explores this impact by raising questions about care and familial obligation, ultimately asking what we owe one another. I comprehensively look into the relationships of the mentally ill by drawing from personal interviews, individual narratives, and scholarly articles. By combining creative writing pieces with analysis, I use my personal narrative as a catalyst to investigate the deep-seeded issues of relationships and the mentally ill.

Honors Capstone IV: Biology*Session Chair: Olympia Nicodemi, Mathematics***The Expression Patterns of Eight Genes of Potential Importance for Red Blood Cell Differentiation**

Laura Iafrati

Faculty Mentor: Robert O'Donnell, Biology

Red blood cell (erythroid) development in mouse embryos begins in the yolk sac 7.5 days after conception (E7.5). These erythroid precursors differentiate (develop) in the blood stream as a synchronous cohort over the next 8 days. They transition through five stages: proerythroblast (E9.5), basophilic erythroblast (E10.5), polychromatic erythroblast, orthochromatic erythroblast (E12.5), and finally the reticulocyte (E15.5) stage. Changes in gene expression coordinate this differentiation process which is characterized by a decreasing cell size, nuclear condensation, hemoglobin accumulation, and enucleation (ejection of the nucleus). To further investigate erythroid differentiation, we compared qPCR and *in situ* hybridization data to DNA microarray (Affymetrix) expression patterns of eight genes during erythroid maturation. In general, the qPCR data validated the corresponding microarray data even though the two data sets were normalized in different ways. Due to methodological differences, the qualitative *in situ* hybridization analyses of mouse embryos were less supportive of the gene expression patterns. The hybridization results did, however, support the findings that all eight genes are expressed during erythroid differentiation at detectable levels. Further research is needed to extend these studies to other erythroid lineages and to concretely describe the expression patterns of those genes important for human erythroid development.

Rheotaxis of *Bulinus truncatus*, intermediate host of *Schistosoma haematobium*, and its relationship to methods of snail control

Anst-Bidry Gelin

Faculty Mentor: Susan Bandoni-Muench, Biology

Snails in the genera *Biomphalaria* and *Bulinus* serve as intermediate hosts for human parasitic blood flukes or schistosomes. Previous studies of *Biomphalaria glabrata*, a species of snail found in Latin America, indicate that snails of this species will turn and face into a current, a phenomenon known as rheotaxis. Rheotaxis in *Biomphalaria glabrata* is poorly understood, and nothing is known about rheotaxis in the African snail, *Bulinus truncatus*. I investigated the behavioral patterns of this species using a stir plate, a magnetic stir bar, and a dish to generate water currents. The *Bulinus* snails move toward the side of the dish along its radii and continue to move in circular paths along the circumference while going against the circular current that is generated. I am now documenting variations in the response and exploring other factors that may influence such behaviors. Among those factors are: the speed of the current, the stress level and the density of the snails. Understanding rheotaxis in these snails may have implications for understanding their dispersal and responses to molluscicides.

The Effects of Artemisinin on Oral Squamous Cell Carcinoma

Tim Calnon

Faculty Mentor: Robert O'Donnell, Biology

Artemisinin is a drug that has been extensively researched for the treatment of malaria and is well tolerated by patients. Recently, studies have demonstrated that the drug has anti-cancer properties in a variety of epithelial tumors. In order to extend these studies to a different tumor type, we tested the effects of the drug on a cell line derived from a squamous cell cancer of the tongue, a difficult to treat cancer in patients. Preliminary tests showed that the drug has limited cytotoxicity at doses in the range of 500 to 60 μmol and that holo-transferrin, when tested alone, enhanced cell growth. However, because holo-transferrin has been shown to increase artemisinin uptake in treating malaria and in cancer cell lines, we have recently begun to test the combination of the two drugs for cytotoxicity and to optimize the doses used. In addition, studies are underway to also test artemisinin and holo-transferrin on normal embryo fibroblasts to determine if tumor cells are more sensitive to the drug's toxicity. Ideally, finding optimal doses and a drug combination that are more cytotoxic to tumor cells than normal cells would have important clinical relevance.

Math Miscellany II*Session Chair: Olympia Nicodemi**Faculty Sponsor: Olympia Nicodemi, Mathematics***Fair Voting Models for Three or More Candidates**

Jessica Springett and Rebecca Stern

In this country, we use a plurality voting method, which many people may view as unfair. This method is only one of many different voting techniques used for three or more candidates. We will explore these other systems. We will test them out on the controversial 2000 Presidential Election candidates to determine whether or not they work, and to decide which is the fairest. Some methods we will investigate include Condorcet's method, Approval Voting, Plurality Voting, Sequential Pairwise

Voting, and the Hare System. Voter's choice and the ways manipulation can affect the voting process will also be discussed briefly in the presentation.

Map Coloring and the Five-Color Theorem

Hannah Prescott-Eberle and Lauren Akins

The process of map coloring seeks to assign a color to each country on the map with no two bordering countries being of the same color. What is the fewest number of colors needed to do this? The answer is 4, but the proof of the Four-Color Theorem has only been successfully worked out by computers, because of the proof's complexity. In our presentation, we will focus on the proof of the Five-Color Theorem, which tells us that any map on a sphere can be colored with five or fewer colors.

The Monty Hall Problem

Eric Ziegler and William Dean

We will analyze the classic Monty Hall game show problem in which a contestant attempts to find a grand prize hidden behind a finite number of doors. Typically the contestant picks a door; the host then opens one or more of the doors and offers the option of changing your original choice to a new door. Using the basics of probability theory we analyze how the probability of finding the grand prize changes depending on what choices the host gives the contestant. We determine ways to maximize your chances of finding the grand prize. We will then apply our findings to various other probability based game shows, and attempt to find ways to maximize the contestant's winnings.

Approaching Higher Dimensions

Andrew Cunningham

This presentation will introduce the concept of higher dimensions along with their mathematical applications. In order to do this, we will be introduce to the idea of the first, second, and third dimension through simple visuals and examples, illustrating their existing relationships. From there, connections between the third and fourth dimension will be demonstrated through clear visuals and concise theoretical explanations. Information on perspective and animation in higher dimensions will also be included; time permitting, a brief introduction to the fifth and higher dimensions will be incorporated using a short video.

Session 2-M • Political Science & International Relations Politics and Policy in American Government

Milne 105

Session Chair: Marilyn Klotz, Political Science & International Relations

The Policymaking Process of Medicare Advantage and Private-Fee-For-Service

Michael Bagel

Faculty Sponsor: Marilyn Klotz, Political Science & International Relations

The Medicare Prescription Drug and Modernization Act expanded private health plans and created private-fee-for-service plans within the Medicare Advantage program. Because private plans decide where they will do business, companies may offer Medicare private-fee-for-service in some parts of the country and not others. Private plans can decide that a plan will be available to everyone with Medicare in a state, or be available only in certain counties within a state. Private plans may also offer more than one plan in an area, with different benefits and costs associated with each. Each year, private plans offering Medicare private-fee-for-service can decide whether to offer such a plan in a given area and can adjust the specific benefits and costs of the plan. Medicare private-fee-for-service must cover all medically necessary services covered by Medicare Part A and Part B as outlined by the Centers for Medicare and Medicaid Services (CMS). Medicare private-fee-for-service, however, may also offer extra benefits that traditional fee-for-service Medicare does not cover, such as some vision, dental, and/or prescription drug coverage. These additional benefits, however, come with an additional premium to the beneficiary and cost to the federal government who must pay administrative fees to the private providers. Medicare private-fee-for-service plans must use Medicare's coverage rules to decide what services are medically necessary. Any service that is medically necessary under traditional fee-for-service Medicare must also be covered under private-fee-for-service. This presentation will discuss the creation and expansion of the Medicare Advantage and private-fee-for-service plans in Medicare.

Political Process as Envisioned by the West Wing

David Lombardo

Faculty Sponsor: Marilyn Klotz, Political Science & International Relations

The challenge of illuminating people about the political process, how we elect our leaders and how they govern, is tackled by The West Wing. During its tenure it educated people bored with C-Span, unable to appreciate George Will, and possessing a fetish for snappy dialogue. The main critique of the show was that it presented an idealistic version of a world that is generally grimmer and less eventful. Regardless, the show used story lines straight from real life and even foretold events that later occurred. The show dealt with issues in a manner unfamiliar to a casual political observer, pulling aside a curtain that hindered full comprehension of events, and therefore provided an accurate picture of how politics is played. For my presentation I will address certain issues dealt with on The West Wing, which have traditionally been out of reach to the public, and assess how accurately the show portrays the developments compared to their unfolding in reality. Specifically, I will touch on the Presidential election process, which becomes the major focus of the last two seasons, the art of crafting a public message, and a general look at the legislative process, with a focus on political gamesmanship.

Inter arma enim silent leges: The Guantanamo Bay Detainee Situation

James McNamara

Kenneth Deutsch, Political Science & International Relations

I plan to present on the conflict between political necessity/executive prerogative and the rule of law as it applies to the unlimited detention and denial of due process rights of enemy combatants held in the Guantanamo Bay detention facility. I will explore Locke's conception of executive prerogative to establish the philosophical root of the practice of many American presidents to ignore or defy the Constitution in order to quell a real (or perceived crisis). I will also examine Machiavelli's doctrine of Necessitas for the purpose of discerning the realist school of thought inherently entwined with the exercise of executive prerogative. I will analyze Lincoln's justifiable decision to suspend civil liberties during the civil war. The other historical example I will draw from is the Ex Parte Quirin Nazi saboteur case. As these two cases are undoubtedly the sources of the precedent the Bush Administration used to deny important civil liberties such as the writ of habeas corpus, they need to be analyzed in detail. I will discuss the circumstances surrounding President Bush's decision to declare these detainees enemy combatants instead of prisoners of war. Finally, I will review the recent opinions of the Supreme Court concerning the detainee cases.

Session 2-N • Physics & Astronomy

Newton 214

Session Chair:

Faculty Sponsor: James McLean, Physics & Astronomy

Optimization of Ceramic Armor Under Ballistic Impact Using Smooth Particle Hydrodynamics

Robert Dabek

Faculty Sponsor: James McLean, Physics & Astronomy

The armor recently developed by Armor Dynamics, designed to protect against armor-piercing projectiles, is undergoing testing and optimization. Simulations are being run at SUNY Geneseo's Distributed Systems Laboratory, using a finite element analysis program known as LS-DYNA. Geometric parameters of the bullet pieces and the armor were incorporated to create a meshed model for the impacts. The armor consists of small ceramic cylinders arranged into a grid, as well as a polymer filling that holds the cylinders in place. Due to the elastic nature of the polymer filling, large deformations in the material are expected under high velocity impacts. Since the classical Lagrange approach is unsuitable for large deformations, the polymer is modeled using a Smooth Particle Hydrodynamics formulation (SPH). The SPH solver deals with a collection of particles within a volume as opposed to the solid grid elements used by the Lagrange formulation. The presence of a grid-free SPH formulation relieves the limitations of mesh tangling encountered in extreme deformation problems. The SPH solver has been coupled with the Lagrange method to create a more accurate simulation of these ballistic impacts.

Mode Matching to an Optical Cavity

John Lewis

Faculty Sponsor: George Marcus, Physics & Astronomy

Optical cavities are used to stretch a laser beam path to lengths far greater than the size of a small lab. I will discuss techniques I used to analyze a diode laser beam, and the methods of reshaping the beam I implemented to match the beam to the cavity.

Minimization of Nonphysical Erosion in Impact Simulations

Jeremy Reeves

Faculty Sponsor: James McLean, Physics & Astronomy

High energy ballistic impacts are subject to high strain rates and large deformations. For an impact simulation to be a successful simulation, it is important that processes that do not occur in the real world are avoided. These simulations are computationally expensive and can take over twenty four hours to complete. One method used to cope with these deformations and computational costs is to introduce artificial erosion which removes elements of the simulation that have become too deformed. This erosion, however, is a non-physical process that degrades the reliability and quality of the data that can be garnered from the simulation. In order to obtain data regarding measurements, such as exit velocity; a simulation must behave very nearly identically to its real world analogue. My work has focused on reducing the nonphysical processes in impact simulations that we have currently completed. These adjustments will be made in order to develop a sense of how the geometry of the target armor affects the exit velocity of the bullet. Currently the velocities we have measured are unexpectedly high; with the improvement of our simulations we expect to bring these into agreement with velocities observed in a real lab.

Determining the Stability of the Orion Trapezium Cluster

Garrett Jones

Faculty Sponsors: Aaron Steinhauer, and David Meisel, Physics and Astronomy

The global stability of the 4 massive star systems in the Orion Nebula (the trapezium) is studied numerically via the Lyapunov coefficient and other methods. Such a system of four gravitationally interacting bodies is typically considered quasi-stable, in the sense that given enough time one or more bodies will eventually be ejected from the system (evaporation). The sophisticated numerical integration methods available in Mathematica 7.0 are tested for accuracy and then employed to estimate the initial conditions of the Trapezium cluster formation and to predict the limit at which the system becomes unstable. Final results will be presented as a 3D animation.

Session 2-O • Sociology

Welles 140

Sociology Student Research Project Panel

Session Chair: James Bearden

Faculty Sponsor: Bearden James, Sociology

Family Structure and Student Values

Raymond Fedora

Are family structure and family relations related to student values? The sociological literature suggests that there is a relationship. Data from a survey of 541 students in the 7th through 12th grades in Wyoming County schools will be used to address this question.

After School Activities and Student Values

Haisu Qu

Do after school activities (sports, clubs, work, etc.) have an effect on student values? Previous work suggests that extracurricular activity has a number of positive effects on students. Data from a survey of 541 students in the 7th through 12th grades in Wyoming County schools will be used to address this question.

Recycling Beliefs and Behavior of Geneseo Students

Mike Fowler, Christopher Hinton, Sarah Kaszubski, and Kyle Wegman

Attitude is a weak and fluctuating predictor of recycling behavior. The skewed nature of environmental concern clearly indicates a difference between behavior and action, but a significant correlation between the two is apparent only in high effort recycling programs. It is much more likely that access to recycling programs that are free of barriers, the perceived access to these programs, and monetary incentives awarded in recycling programs have a greater impact on a person's decision to recycle than attitude. Data from a survey of Geneseo students will be used to address this hypothesis.

Session 2-P • School of the Arts

Welles 123

Podcast Presentations on Notable Photographers and Computer Artists

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

The Computer Artist Sam Brown

Joseph Martin

A podcast will be presented that highlights the work of artist Sam Brown. Brown runs the website "Exploding Dog," where he uses user-submitted suggestions of titles to decide what work he will complete next using computer art programs. Additionally, Brown presents his own conceptual ideas in various shows. The presentation will focus on both sides of the artist.

Lewis Hine, Reformer and Photographer

Abby Mayer

A podcast will be presented that highlights both the work of photographer Lewis Hine and demonstrates his place in photographic history, especially with his role as a reformer against child labor. Additionally, Abby will analyze some pieces of Hine's work from the perspective of a fellow photographer.

Computer Artist Andrew Jones

James Hearne

A podcast will be presented that highlights the work of artist Andrew Jones and demonstrates his place in computer art history, especially as a concept artist. Additionally, Jim will analyze some pieces of Jones' work from the perspective of a fellow artist.

Artist Osvaldo Gonzalez

Marissa Herman

A podcast will be presented that highlights the work of artist Osvaldo Gonzalez and demonstrates his place in computer art history with his surrealist works. Additionally, Marissa will analyze some pieces of Gonzalez's work from the perspective of a fellow artist.

Session 2-Q • School of the Arts Opera Scenes Workshop - Operas of Mozart

Sturges Auditorium

Session Chair and Faculty Sponsor: Gerard Floriano, School of the Arts

The Magic Flute - Three Ladies Trio

Leora Bernstein

Three Ladies trio from "Cosi fan tutte". Featuring Norma Butikofer, Leora Bernstein, Sophia Lind, Forrest Smith, and Christopher Blasting, piano. Directed by Amanda Cotrupi.

The Magic Flute - Papageno/Papagena Duet

Aaron Netsky

Featuring Sophia Lind, Aaron Netsky, Christopher Blasting, piano. Directed by Melanie Blood

Cosi fan Tutte - Soave Trio

Michael Radi

From Act I of Cosi fan tutte - featuring Daneille Relyea, Sophia Lind, Michael Radi, Leora Bernstein, piano. Directed by Sarah Rychlik.

Two Scenes from The Marriage of Figaro

Sarah Rychlik

The famous Act II duet and Sextet of Recognition from the Marriage of Figaro featuring Sarah Rychlik, Danielle Relyea, Norma Butikofer, Michael Radi, Gerard Floriano, Michelle Geisler, Aaron Netsky, Christopher Blasting and Katherine Schwartz, piano. Dire

Session 2-R • Women's Studies

Welles 128

Women's Studies Senior Project Presentations

Session Chair: Melanie Blood

Faculty Sponsor: Melanie Blood, Women's Studies

A Lesson in Healthy Living for Girl Scouts

Jessica Belknap

After working with a local girl scout troop all year, Jessica has researched and designed a program on healthy living, including addressing eating disorders that is age appropriate for young girls and involves local experts.

Disability Activism Fighting for Civil Rights, Independence, and Community-Based Services

Juliana White

Juliana's senior project involves both research and first hand experience, including a trip to Washington DC. She will present both research and strategies for activism.

Advocating for the Needs of People with HIV/AIDS

Gabriella Cascone

The social experience of stigma and HIV/AIDS". This paper explores specific stigmas associated with HIV/AIDS, specifically looking at the disclosure process to friends, family, and co-workers/employers. The background for the paper is based on both theory and previously conducted studies. The research is conducted through qualitative analysis of interviews with clients from AIDS Rochester and builds upon research previously conducted in the Spring of 2008. The paper explores stigma as it is associated with gender, race, and sexuality. The co-morbid experience of various psychological disorders with HIV/AIDS is also discussed.

Religious Orientation and Life Satisfaction Among College Students with Diverse Sexual Identities

Jill Rabinowitz

Religious orientation refers to an integrated set of attitudes and beliefs that are reflected in one's behaviors and practices. Two different religious orientations have been identified. An intrinsic religious orientation (IRO) is religious involvement motivated by an internal sense of connection to some higher power. In contrast, an extrinsic religious orientation (ERO) is religious engagement motivated by external reinforcement. Much research has shown that for heterosexuals, life-satisfaction is positively related to IRO, and negatively related to ERO (Dezutter et al., 2005). However, few studies have examined the religious orientation on the life-satisfaction of sexual minorities. The purpose of this study was to explore religion as a potential factor that buffers against negative environmental stimuli for sexual minorities. Undergraduates (N=1827) completed an online survey that assessed various demographic variables including sexual identity, religious orientation (Gorsuch & McPherson, 1989), and life satisfaction. Results indicated that for sexual minorities, life satisfaction was unrelated to both IRO and ERO. Future research is needed that focuses on other factors and mechanisms that promote psychological well-being within sexual minority groups.

Chamber Music Festival The Grind

MacVittie College Union, Ballroom

Chamber music is a form of classical music, written for a small group of instruments that traditionally could be accommodated in a palace chamber. Most broadly, it includes any "art music" that is performed by a small number of performers with one performer to a part. The word "chamber" signifies that the music can be performed in a small room, often in a private salon with an intimate atmosphere. The art-form originally gained fashion as an intimate activity among friends and today it has been elevated to the more formal concert hall.

The 2009 SUNY Geneseo Chamber Music Festival seeks to re-create the original intimate atmosphere of early chamber performances. Happening all day in the **College Union at the stage in the Grind** the Festival hopes to provide a welcoming atmosphere for those who are going to and from poster presentations.

Each group represents student performers from the School of the Arts who will display a wide array of different musical styles. This year's event will include **string quartets, a flute choir, a wind ensemble, brass quintet, jazz combo, and a few a cappella groups**. Music selections will be from all music periods spanning from traditional classical string quartets to arrangements of today's popular tunes.

Please see the *insert* to this year's GREAT Day program for a complete listing of the groups, the pieces being performed and the times of the performances. Feel free to stop by for a whole performance or only for a few numbers, we just ask that you be respectful to the performers and those listening by conducting your conversations quietly. Thank you and enjoy!

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

Lane Nishikawa

From Dream to Reality: The Journey of One Voice

Lane Nishikawa is a Sansei (third generation) Japanese American producer, poet, actor, playwright, and director whose trilogy of critically acclaimed one-man shows, *Mifune And Me*, *I'm On A Mission From Buddha*, and *Life In The Fast Lane* has toured universities and cultural centers for close to two decades -- including SUNY-Geneseo where Nishikawa performed *I'm on a Mission From Buddha* in 1991 to a packed College Union Ballroom of over eight hundred. His works boldly focus on race, ethnicity, and art in ways that are often irreverent but always enlightening.

Nishikawa's work is driven by his commitment to "filling in the blanks" of American history -- making audiences aware of Asian American experiences too often overlooked and unaddressed. *The Gate Of Heaven* portrays the half-century long relationship between a Japanese American soldier and the Jewish prisoner he rescues from Dachau. *Gila River* follows a Nisei (second generation) baseball star from the internment camps to the Pacific theatre of war, where he chooses to fight for the very country that spurned his people. Nishikawa's *Only The Brave* is a full-length feature film which tells the true story of the all-Nisei (second generation Japanese American) 100th Battalion, 442nd Infantry Combat Unit that rescued the Texan "Lost Battalion" in one of WWII's bloodiest battles. *Only The Brave* has traveled to eighteen film festivals across North America and Europe; it received the Audience Award for Best Feature Film at the Starz Denver International Film Festival. Nishikawa has served as Artistic Director of San Francisco's prestigious Asian American Theater Company and worked at regional theatre companies all over the United States in addition to acting in films. Among his many honors, Nishikawa has received the National Japanese American Citizens League's Ruby Yoshino Schaar Playwright Award and the George Nakashima Peace Award. He has been published in *Time To Greez: Incantations From The Third World* and *Ayumi: The Japanese American Anthology*, and taught at Stanford University, San Francisco State University, California State University-Monterey Bay and Maui Community College. Nishikawa's most recently created *Na Leo I Ka Pu'uwai* and *The Queen's Story*, two plays drawn from the voices of inmates at the Maui County Correctional Center.

Abstract of Keynote Address:

Sansei actor, director, producer, poet, and author Lane Nishikawa will share observations on his lifelong career in theater and film, focusing on why the creation of original work is crucial to the continued health of the arts; the twenty-five year journey that culminated in the achievement of his dream, the completion of *ONLY THE BRAVE*, his feature length film that honors the memory of those Japanese Americans who gave their lives fighting for their country during World War II; and the realization that even one lone voice can effectively bring about change in the course of history, social dynamics, and cultural awareness.

CONCURRENT PRESENTATIONS

SESSION 3 • 2:55 - 4:10

Session 3-A • Anthropology, Geography and History

Welles 119

Session Chairs: Paul Pacheco, Anthropology and Tze-ki Hon, History

Archaeology in Education

Rachel Coleman-Gridley and Ruta Aiono

Faculty Sponsor: Kristi Krumrine, Anthropology

This presentation will explore the methods, benefits, and possible consequences of integrating archaeology into the K-12 curriculum. The presentation will include information based on primary research gathered through interviews and surveys with educators and students involved in archaeology education as well as secondary information gathered from articles written on teaching methods in archaeology.

Secondary Refuse Deposits and the Case for Ohio Hopewell Sedentary Lifestyles

Laura D'Amico

Faculty Sponsor: Paul Pacheco, Anthropology

Cross-culturally, sedentary populations are known to maintain their living space through the creation of secondary refuse deposits. To date, only one such deposit, discovered at the McGraw site in Ross County, Ohio, has been documented and published from an Ohio Hopewell domestic context. This paper documents and compares a recently discovered secondary refuse deposit at the Lady's Run site (33Ro1105), located 8 km south of McGraw, to the published information from McGraw. Numerous lines of evidence including radiocarbon dating suggest that Lady's Run is also an Ohio Hopewell domestic settlement. While there appears to be a high degree of similarity in artifact density and artifact types in these two deposits, the preservation and depositional context appear to be dissimilar. Yet, taken together these two deposits provide strong evidence to support the interpretation that Ohio Hopewell populations had sedentary lifestyles.

Defining the Blue Line: Regional Identity and Sense of Place in New York's Adirondack Park

Dan Barbato

Faculty Sponsor: Ren Vasiliev, Geography

New York State's immense six-million-acre Adirondack Park, whose border is often referred to as the "Blue Line", is a unique mixture of public forest, historical preserve, and private land. These regional circumstances, along with the competition between the interests of conservation, history, tourism, development, and landowner rights, create distinctive physical and cultural environments for the year-round and seasonal populations of the park. This study investigates whether or not there is a regional identity that permeates throughout these populations that are influenced by the region's remarkable traits, making the Blue Line not only a political boundary, but also the boundary of an Adirondack cultural region. In addition, I hypothesize that there are sub-blue-line regions within the park that have fostered their own cultural identities. The study seeks to identify and describe any such regions encountered, and to define their unique cultural implications on year-round populations living in the subregions. Two methods will be utilized in this investigation. First, an extensive review of literature from and about the Adirondacks will be conducted to gain contextual and historical awareness, and provide a working definition for any unique regional identities encountered. Second, on-site qualitative analysis within the Adirondack Park, using interviews and informal surveys of the population, to determine what the blue line represents to them culturally. The end result is expected to describe the elements of the Adirondack regional identity (or identities) and sense of place that have taken root within themselves and/or their communities.

Foot Binding to Soccer Greatness: The Story of the Changing Roles of Chinese Woman

William Beuler and Erin Marks

Faculty Sponsor: Tze-ki Hon, History

A presentation about the changing role of women in China. Come and see how Chinese women broke away from the domestic sphere of patriarchy to star in the public sphere while representing all of China. This is the story of the progression of Chinese women, from the practice of foot binding to the practice that landed them on the world's stage for soccer.

Treatment of A431 cells with Tacrolimus does not promote loss of E-cadherin expression**Ashley Buffomante***Faculty Sponsor: Jani Lewis, Biology*

Two commonly used drugs in the treatment of vulvar rashes are dexamethasone (dex) and tacrolimus (tacro). Previous work in our lab has indicated that dex treatment of the vulvar squamous epithelial carcinoma cell line, A431, resulted in the loss of E-cadherin expression. In addition, continued dex treatment resulted in the expression of vimentin, a protein normally expressed in mesenchymal cells but not in epithelial cells. These results are consistent with an epithelial to mesenchymal transition (EMT) which is characteristic of cancer progression and metastasis. The purpose of this study was to determine if tacro causes similar changes of protein expression in the A431 cells. The A431 cells were treated for several weeks with tacro and the expression of E-cadherin and vimentin were monitored using immunofluorescence microscopy. Our results indicated that treatment with tacro does not result in the loss of expression of E-cadherin in A431 cells nor did we see the gain of vimentin expression. This suggests that tacro may be a safer option in the treatment of vulvar rashes where there is concern about cancer development.

Identifying the Role of Stat 5a & 5b in the Downregulation of E-cadherin in Dexamethasone Treated A431 Vulvar Carcinoma Cells**Ryan Busha***Faculty Sponsor: Jani Lewis, Biology*

The loss of E-cadherin expression has been correlated with the development of several types of squamous epithelial cancers. The vulvar carcinoma cell line A431, has been shown to lose expression of E-cadherin when treated with the synthetic glucocorticoid, dexamethasone. This loss of E-cadherin leads to the initiation of epithelial to mesenchymal transition, paralleling changes often seen in carcinomas that lead to metastasis. The action of several transcription factors, such as STAT 5a and 5b have been found to result in the loss of E-cadherin in different carcinomas. Our data suggests that these transcription factors are also found in our dex-treated and untreated A431 cells. It is important to note that STAT proteins are only active as transcription factors when in the phosphorylated state. It was therefore important to investigate the phosphorylation states of STAT 5a and 5b among dex-treated and untreated A431 cells. It is possible that these proteins are present but not active in the untreated A431 cells, becoming active upon the introduction of dexamethasone. Our preliminary data however, suggests that STAT 5a is phosphorylated in both cell lines.

A Genetic Complementation Assay to Determine the Function of the Trypanosoma brucei TbDMT Gene in Escherichia coli**Anthony King***Faculty Sponsor: Kevin Militello, Biology*

Trypanosoma brucei, the causative agent of African sleeping sickness, has the ability to switch its variable surface glycoproteins in order to evade the immune system. Our laboratory set out to determine the mechanism of gene regulation responsible for this phenomenon and has analyzed the *T. brucei* genomic DNA for the presence of 5-methylcytosine (5mC). Methylation of DNA is a prominent method of gene regulation catalyzed by a family of enzymes known as DNA methyltransferases. The Militello laboratory found 5mC in the *T. brucei* genome, along with a single DNA methyltransferase homolog (TbDMT gene). A genetic complementation assay was designed to determine whether the TbDMT gene is a bona fide DNA methyltransferase. The TbDMT gene was expressed in a non-methylating strain of *E. coli* and the level of 5mC in the genomic DNA analyzed by southern blot using an antibody specific for 5mC and HPLC MS/MS analysis. Both methods have demonstrated no definitive evidence for DNA methyltransferase activity. It is unknown whether this is due to the true nature of TbDMT gene or a technical issue. Further work is being done to perform a genetic complementation into *Saccharomyces cerevisiae*.

Fluorescence of Transition Metal-Salicylaldehyde Complexes**James Bates***Faculty Sponsor: James McGarrah, Chemistry*

It has been found that substituted salicylaldehydes can form a complex with first row transition metals to create a fluorescent compound. This is surprising as typically, much larger molecules are associated with fluorescence. This was first established with a zinc core bound to two deprotonated 3,5-dichlorosalicylaldehyde molecules in an octahedral geometry which has been structurally characterized. Each different transition metal that is used produces a different color of fluorescence. From this, one could imagine this technology being used to create organic light emitting diodes (OLEDs). OLEDs do not require a backlight, and thus use significantly less energy than the more prevalent liquid crystalline display. They are also significantly thinner. All the materials used in these syntheses are relatively inexpensive to produce, and the array of colors produced makes this a viable technique for future OLED production.

Session 3-C • Communication

Welles 138

Session Chair: Jon Hillery

Faculty Sponsor: Atsushi Tajima, Communication

Christian Mass Media: From Gutenberg to GodTube

Dan Becker

This paper analyzes the relationship between mass media and religion, specifically Christianity. Since the invention of the printing press in the fifteenth century, mass media and the Christian worldview have enjoyed a mutually beneficial relationship. Although modern society often prefers to keep religion at arm's length, Christian voices have made themselves heard via print, radio, television, sound recording, film, and the Internet. Not only are they being heard, they are being respected from both public and scholarly perspectives. Since the Christian ideology is founded upon Biblical principles that have endured throughout the millennia, this is no wonder.

The Portrayal of Arabs in American Media

Tim Brewer

This paper studies on the influences and effects of the way in which American media has stereotyped Arabs. Arabs consists of a large minority group in the United States, but the American media have portrayed them negatively for decades. Whether it is in television, movies, or newspapers, Arabs are almost always portrayed in a negative light. American views toward the Palestinian-Israeli conflict, as well as Arabs in general, can be explained by this problem. This paper brings light to the ways in which Arabs have been negatively portrayed by the media, and the motivation behind this problem.

Western Media Influence on Islamic Nations

Jon Hillery

As American interests spread to a wider variety of nations around the globe it is becoming increasingly necessary to ensure a positive image of the United States in the minds of the local population. There are various motivations for establishing a peaceful acceptance of Western values; economic, ideological, and cultural. These reasons encourage different parties with vested interests in potentially hostile localities to find ways to change the local culture to better identify with the goals of the Western powers. While there are different theories for how to most effectively accomplish the winning of "hearts and minds" of a domestic populace, evidence has shown the power of media influencing sociological norms can have a more beneficial impact than militarily or economically focused behavior.

Gender Inequality: Women in Third-World Countries

Bridget Riley

This presentation critically examines the roles of women throughout Third-World countries and how they have come to internalize their social roles. Most Third-World women are still limited in their social rights today. While many of these limitations can be associated with religious views, there are laws to blame as well. Women of Developing Nations continue to make remarkable strides in the social and political system, but there are still a number of problems that these women face, whether they are through politics, religion, or cultural norms. The theme of this presentation is to bring awareness to the issue of the suppression of women in Third-World countries and call attention to the main concerns at hand. With the focus on how Third-World women differ from the women of First-World countries, this presentation examines the past history of Developing Nations, common practices among cultures and how women view themselves within society.

Session 3-D • Communication

Welles 140

Session Chair and Faculty Sponsor: Atsushi Tajima, Communication

Sorority Membership and Body Image Dissatisfaction

Megan English

In today's society it is astonishing to see the number of young women with body image dissatisfaction. Because all-female groups, such as sororities, have such a high concentration of these women, it is compelling to find out that women in these all-female groups actually have higher body image dissatisfaction than women not in these groups. In this study I intend to determine the relationship between body image dissatisfaction and sorority membership. Which comes first? Are women with higher body image dissatisfaction more likely to join a sorority or does sorority membership cause higher body image dissatisfaction?

What is Beauty? The Media's Effect on Minority Women Across the World

Dana Holden

The media know that selling a certain image sells, and selling the image of beauty and perfection is one that has always brought in high dollar signs. Cultural imperialism can be defined as "the practice of promoting, distinguishing, separating, or artificially injecting the culture or language of one nation into another. It is usually the case that the former is a large, economically or militarily powerful nation and the latter is a smaller, less important one". Of course, cultural imperialism plays

a huge role in every facet of life, whether it be at the given country deemed "superior", or in another part of the world being impacted. Especially for minorities and women, cultural imperialism has enormous effects.

Thin

Elizabeth Lanni

This paper examines how media plays a crucial role in the construction of reality among adolescent girls. About one-third of media advertisements focus on body image to sell a product. As a result of increased computer technology, models in advertisements appear even taller, thinner, and more beautiful than they actually are. Young, impressionable girls interpret these digitally enhanced models as representations of reality: they are what every true, desirable woman should be. After repeated exposure of advertisements, girls are driven to achieve perfection, and impose dangerous weight-loss methods on their bodies. This is anorexia.

Magazines' Power: Models Representation and Ideals of Attractiveness

Tsz Man Wong

1. Examine the cultural hybridity in Japanese media representations, focusing on magazines. The questions are designed to understand the effects of Japanese magazines' use of white models and Japanese/Asian models on young female readers, and readers' preferences for their representations. 2. Explore the conceptions/ideals of Asian beauty from both East Asian female and male perspectives. My informants' opinion on what constitute Asian beauty can be linked to the first question/hypothesis to see whether their conceptions of beauty are consistent with those standards promoted by the media they are exposed to. End with trying to understand how many my informants rate the importance of physical attractiveness. Other than physical attractiveness, this project may also explore what constitute inner-heart attractiveness and the most desired "lifelong beauty" for women.

Session 3-E • English Sexualities and the Prison-House of Gender

Welles 131

Session Chair: Emily Plessas

Faculty Sponsor: Maria Helena Lima, English

"The Politics of Homophobia"

Isobel Connors

Homophobic stereotypes and their meanings continually shift with respect to the changing social climate. This paper explores three such climates which had a significant impact on stereotypes of homosexual men: early sexuality and Church Doctrine in the mid to late 1800s, the AIDS epidemic starting in the 1980s, and current clergy sex scandals.

"Queering Black Masculinity"

Diana Zuniga

With the passing of Proposition 8 in California, much blame was placed on the African American community, sparking the perception that blacks are inherently more homophobic than whites. The essay explores the roots of homophobia within the black community in an effort to understand how a history of sexual exploitation has created the phenomenon of hypermasculinity among black men and, more specifically, how the black church perpetuates hypermasculinity and its effects on the black community.

"Creating Womanhood"

Chelsea Rives

A close reading of Jennifer Finney Boylan's *She's Not There*, a transition from male to female memoir, makes the author question every perception of gender differences held until that moment: Why are some people born into the "wrong" body? What causes gender "dysphoria" [for lack of a better name]? Can we recreate ourselves? What exactly happens during a sex change procedure? What does it mean to BE a woman?

"Sexualizing Black Women in America"

Lindsey Wiltse

In current media depictions of African-American women, including rap music, they are most likely described as overly sexual, flaunting shapely bodies to men who are willing to be pleased by women who have no other function than pleasing them. Since the Biblical creation story, in the official reading, Eve sets a precedent for all women to be sexual temptresses, regardless of race or class. When and why have black women alone begun to bear the brunt of a hyper sexualized culture on their bodies?

Session 3-F • English

Welles 132

Reflections through African American Migration Narrative III

Session Chair and Faculty Sponsor: Beth McCoy, English

“Identity” and “Web”

Jesse Goldberg

The two texts that I will be presenting have at their heart a tension between the individual and the collective. The first grapples with the duality of identity and the second with the simultaneous interconnectedness and individualistic nature of human existence. In “Identity” I trace my ethnic backgrounds and explore my own identity as defined by both myself and by others. Ultimately I will argue that identity is dependent on language, and is therefore not only a product of an individual, but a property determined by intrinsic and extrinsic forces. “Web” represents the most important conclusion that I drew from English 237 last semester: human beings are individual and unique, but not separate. Instead, we are all like specific points on a spider web, in some way directly or indirectly connected with every other point on the web. This reality, along with the dual nature of identity, necessitates a certain consciousness of one’s effects on others, as well as the effects of others on one’s self. Thus, in essence, my presentation is about awareness, if nothing else.

Turtle Museum

Nicholas Allen Becht

When we define ourselves or allow others to define us --even when we refuse to be defined-- we are operating within the constraints of dangerous and restrictive binaries. We limit and ultimately fail to understand ourselves as well as each other with the compassion and responsibility required to be citizens of the world. This presentation explores the concept of nicknames in Toni Morrison’s *Song of Solomon* and draws inspiration from David Pilgrim’s *Jim Crow Museum*.

Behind the Mountains

PharaSouffrant

“Milkman smiled and let his shoulders slump a little. It was a good feeling to come into a strange town and find a stranger who knew your people. All his life he’d heard the tremor in the word: “I live here, but my people . . .” or: “She acts like she ain’t got no people,” or: “Do any of your people like there?” But he hadn’t known what it meant: links. He remembered Freddie sitting in Sonny’s Shop just before Christmas, saying, “None of my people would take me in.” Often, when one sets off in quest, it is to find gold or other treasure. However, as I learned, one can find something else far more valuable: one’s self. When I started this project, I wanted to research my mother’s migration from Jacmel, Haiti, to Brooklyn, New York. However, I found that delving into the past can have adverse effects on the seeker. Through rumination, collaboration, and a talk with a wise old woman, I realized that becoming a woman is a migration of body and mind. To express that migration, I will display a fabric collage depicting the many scenes of her migration to the United States.

Session 3-G • English

Welles 134

Sex, Power, and Many Many Wigs: Queen Elizabeth the First @ the Movies

Session Chair: Laura Vallone

Faculty Sponsor: Julia Walker, English

Elizabeth in the Early Days of Hollywood

Paige Ellis

While 1939 is considered today to be the Golden Age of Hollywood, the glamor and wealth were portrayed brilliantly on screen in contrast to the backdrop of the end of the Great Depression and the looming threat of World War II. During this year, the movie *The Private Lives of Elizabeth and Essex* was released, starring Bette Davis as Elizabeth and Errol Flynn as the Earl of Essex. We will be comparing this movie to its historical inspiration and background, as well as pointing out key factors of how American filmmakers used Elizabeth’s image to portray their own agendas.

England Portrays Her Own History: Elizabeth and the BBC

Katherine Spina

We will be contrasting the two massive BBC productions on Queen Elizabeth -- *Elizabeth R* with Glenda Jackson (1971) and *The Virgin Queen* with Anne-Marie Duff (2005) -- and discussing how their differences speak about the changing times and public perceptions of the monarchy.

Light vs. Dark: Elizabeth: The Golden Age

Hillary Gardiner

Although the 2007 movie *Elizabeth: The Golden Age* is even less concerned with historical accuracy than its 1998 predecessor, *Elizabeth*, it does convey a certain artistry through the use of dualities. Everything in the movie from costumes to characters has a foil -- sometimes a dangerously false dichotomy. We found it interesting that every pair of contrasting elements can all be tied into one general idea - the battle bet

Session 3-H • Foreign Languages & Literatures

Welles 123

Buen amor / loco amor: Love in Medieval and Early Modern Spain

Session Chair and Faculty Sponsor: Lori Bernard, Foreign Languages & Literatures

Historical and Literary Traditions of the Libro de buen amor

Kristine Bonilla

The idea of buen amor and loco amor was a common theme in medieval Spanish literature. Because the Catholic Church had a lot of power and influence at the time, the Bible and its teachings are closely tied with the concepts of buen amor and loco amor. In the Gospel, loco amor would be considered the way of the Gentiles, while buen amor would be the way of servitude and love that Jesus taught. When Jewish teachers gave examples using gentile law it was usually to explain to them what not to do. The 14th century work, "El Libro de Buen Amor," written by author Juan Ruiz, gives countless examples of both buen and loco amor through its autobiographical feel of the life of Arcipreste de Hita. This kind of writing and examples are found all throughout the Libro de Buen Amor. There is also a common sequence of cyclical events that included sinning, punishment, repentance and sin again as a result of the difficulty in committing to buen amor. Using both books I would like to explain what the concepts of buen amor and loco amor were to Juan Ruiz and the medieval church.

The Religious Ideals of Juan Ruiz

Shannon Foley

Two of the greatest works of Spanish literature are El Libro de Buen Amor, written by Juan Ruiz the Archpriest of Hita, and La Celestina, written by Fernando de Rojas. Both come from the Middle Ages when the presence of the church was very strong and influential in the lives of the authors and that is demonstrated within their works. One of the larger themes within the works is that of Marianism, which is the praising and of the Virgin. Another concept in the works is using fables to teach lessons or to distract the readers from the sacrilegious parts. The author incorporates these themes in allegories, songs and allusions. This paper explores the use of religious ideals and themes incorporated into the work.

The duality of religion and eroticism in the poetry of San Juan de la Cruz

Morgan Whitt

This paper places the poetry of San Juan de la Cruz into the social, political, and religious context of 16th century Spain. It examines the stylistic design elements used by San Juan in his lira, "Noche oscura" as well as the duality of meaning in the words. Was San Juan a mystic; writing of the ecstasy of union with God? Or was "Noche oscura" the story of courtly love? To answer these questions, the paper will first look to the life of San Juan and the general themes exhibited in his work. San Juan lived a life of quiet yet extreme religious devotion and was associated with the Carmelite Order of Santa Teresa. By examining the symbolism of 'La noche' in his work as a representation of both physical and spiritual separation from God, we see that San Juan was not simply writing of the rendezvous of two lovers, meeting in the night. Instead, the story of the lovers is an extended metaphor for the mystic ecstasy of the union of a human soul with God.

The Role of Women in Medieval Spain

Patricia Mrozek

In the novel Libro de Buen Amor, a compilation of works by Juan Ruiz, there is much discussion about the role of women during the mid 14th century. The protagonist of the stories is constantly in contact with many types of women. For example, there were four basic paths that a woman could follow as a member of the Spanish society in the Middle Ages. Generally speaking, she could be involved in some kind of business, which was rare, and usually included working with some kind of medicine; get married; join a convent, or go to school. Schooling was also extremely rare, and inferior to the schooling men received. For GREAT Day I would like to compare the roles of the women from Libro de Buen Amor, to the role of women shown by the novel La Celestina. La Celestina is also a work from the late Middle Ages to the Early Modern period that includes many female characters. My thesis aims to show that different time periods and their change in ideals and norms with regard to the female characters.

Session 3-I • History

Milne 104

Changing Society in Early America

Session Chair and Faculty Sponsor: Catherine Adams, History

The Influence of Social Class and Character on the Continental Army During the American Revolution

Melissa Sheinman

The rigid social standards and divides that permeated civilian life in the late 18th century greatly affected the Continental Army by seeping into the military's hierarchy and hindering its ability to function. Officers came from a social class which prided itself on excellence and refined manners, and therefore expected to be commanding men who were upstanding, patriotic, and obedient, like themselves. Instead, they were confronted with men who were uncouth, headstrong, and insubordinate. Despite

their differences, the gentlemen officers and wayward soldiers found ways to use the very nature that at times drove them apart, to defeat the British.

The Half-Way Covenant: Maintaining Puritan Relevance

Amy Breimaier

Late 17th century Puritan New England was not facing declension, but a societal evolution that required energetic responses from the Church, clergy, and laity. The putting forward of the Half-Way Covenant represented the Churches attempt to deal with these socio-economic changes. By becoming more inclusive, the Church would extend its influence and control over society. By becoming more inclusive, the church could extend its influence and control over society, which was a concern for both supporters and opponents. The fact that the Half-Way Covenant was so controversial also indicates that people were still interested and committed to their faith. Although Puritanism eventually faded in New England, it was still very much relevant and alive in the 1660's and 1670's.

Session 3-J • Honors

Newton 203

Honors Capstone V: From Those Who Compute

Session Chair: Olympia Nicodemi, Mathematics

The Individual Alternative Minimum Tax: History and Reform

Debra De Amicis

Faculty Mentor: Sharon Bossung, School of Business

I will be discussing the individual Alternative Minimum Tax (AMT) and how it relates to the American Taxpayer. The first version of the Alternative Minimum Tax was enacted by congress in 1969 as a response to public outrage of 155 taxpayers with a gross income over \$200,000 had \$0 in tax liability. This minimum tax ensured that all taxpayers, even ones who were aware of loopholes, had to pay some form of minimum tax to the government. Since 1969, however, the AMT has become a very complex piece of legislation. The key problems surrounding the Alternative Minimum Tax today deal with complexity, predictability, fairness, and awareness. The Accounting profession is itself divided on how to view the AMT today. Some see it as compliment to the normal tax code, acting as a catch all for the government to attain money that rightfully belongs to it. Others view the AMT as a separate, parallel tax system that has greatly strayed from its original intentions. I will discuss how the AMT came to be what it is today and analyze opinions about its reform.

Exploring The Jones Polynomial

Nick Devin

Faculty Mentors: Jeff Johannes and Aaron Heap, Mathematics

The talk will introduce some basic concepts of knot theory and ways of representing mathematical knots, and will then refine its focus toward a specific knot invariant: the Jones polynomial. We will look at how it is derived, some of its properties, and how it works in other mathematical contexts, especially abstract algebra.

Exploring the World of Wavelets

Arunima Ray

Faculty Mentor: Olympia Nicodemi, Mathematics

Wavelets are functions localized in both space and frequency. Similar to Fourier analysis where functions are represented as sums of sines and cosines, square-integrable functions can be represented as a sum of wavelets. More formally, these wavelets constitute an orthonormal basis, with the unique property of capturing the characteristics of a function on different scales. I will talk about some of the theory behind wavelets, how to construct your very own wavelet basis, and how wavelets are applied in the real world.

Session 3-K • Honors

Newton 204

Honors Capstone Session VI: From the Humanities

Session Chair: Olympia Nicodemi, Mathematics

Aesthetics, Geology, and Gender: Henry David Thoreau's Appropriation of the Hogarthian Line of Beauty

Patrick Morgan

Faculty Mentor: Kenneth Cooper, English

According to the Thoreau scholar, Lawrence Buell, Thoreau was "obsessed with how land is seen aesthetically: as landscape, as scenery." In other words, Thoreau actively grappled with what it means to render the landscape into words. Although Thoreau scholars have described how 18th and 19th century landscape artists, such as William Gilpin, directly influenced Thoreau, they have not adequately analyzed the more indirect influences on Thoreau. More specifically, little has been said about Thoreau's appropriation of William Hogarth's concept of the line of beauty. The line of beauty, according to Hogarth, is a serpentine, S-shaped line. I argue that the foundation of Thoreau's morality and aesthetics partly derives from Hogarth's concept of the line of beauty. More specifically, I argue that Thoreau's conception of the line of beauty changes in the early

1840s, and that this change can be seen in the journal entries and various drafts that would later become Thoreau's first published work, *On the Concord and Merrimack Rivers*. This argument has significant implications that reveal that, when gender theory is informed by the knowledge of river geomorphology, Thoreau's framing of rivers in terms of the line of beauty modifies previous feminist interpretations of Thoreau's works.

Western Humanities at Geneseo

Laura Smykla

Faculty Mentor: Joseph Cope, History

I am looking at the changing curriculum of the class and the current debate about how and if the class should change to include a focus on non-Western sources. My research has included the college archives and interviews with professors. My research will also place the Humanities program at Geneseo in context with the wider debate regarding the Great Books curriculum and Western Civilization course in higher education in the United States.

Ascent to God

Emily Upham

Faculty Mentors: Stacey Edgar, Philosophy and Ronald Herzman, English

I will explore the ways in which the 12th century contemplative mystic Bernard of Clairvaux explicates the ascent to and reunion with the Primal Love, God. The focus is on the Christian conception of grace and the role human experience plays in discovering God's love for humanity.

Session 3-L • Mathematics

Newton 201

Math Miscellany III

Session Chair and Faculty Sponsor: Olympia Nicodemi, Mathematics

Prisoner's Dilemma and Professional Sports Drafts

Mike Byrne and Derek Jedamski

Did you ever think that purposely making an irrational decision could actually benefit you? In the hypothetical Prisoners' Dilemma, irrational decision making actually results in the optimum outcome for both parties. When examining decision making in professional sports drafts, we use four main assumptions to guide the decision process. By applying these assumptions and the Prisoners' Dilemma to the selection process in professional sports drafts, we can attempt to create a model that will yield the optimum choices for all teams involved.

Sabermetrics: Improving the Numbers in the Game of Numbers

Ray Garzia and Karen Saulter

Statistics have always been a very important tool in the game of baseball. In 1977, Bill James published his first book entitled *The Bill James Baseball Abstract*. This became an annual publication. James developed his own set of statistics to predict how well players should perform in the upcoming seasons. He has been very successful; he is thought to be a large factor in helping the Boston Red Sox in their recent World Series victories. In this presentation we will show the mathematical formulas that James uses, and how they are incorporated into his baseball analysis.

The Math behind Driver's Licenses and UPC Codes

Brendan Stilwell and Sean McGrain

Numeric values assigned to drivers' licenses and UPC codes are created using modular arithmetic. UPC codes use modular arithmetic to generate a "check digit" that checks to see if an item is scanned correctly. We'll see how this is done and how well errors are detected. Modular arithmetic is used to create a license number that is unique to the person. No two drivers' license numbers are the same, but they are not randomly assigned. We will analyze the numerical systems of UPC and license numbers in our talk.

Session 3-M • Computer Science and Mathematics

South Hall 338

Session Chair: Andrzej Kedzierawski, Mathematics

Weaknesses in the WEP protocol

Owen Hahn

Faculty Sponsor: Scott Russell, Computer Science

The use of wireless has become an everyday occurrence to most people especially students. Although it is much more convenient it is much easier those we may not want to read and follow our Internet activities to do exactly that. To allow for secure wireless usage the Wired Equivalent Privacy (WEP) was developed. Now wireless should work just as well as wired communication, but unfortunately that did not turn out to be the case. A number of faults were found in WEP and in 2001 the protocol was broken completely by Fluhrer, Mantin and Shamir. Despite that fact and that most wireless devices also support

Wi-Fi Protected Access (which has no major known flaws) WEP remains the default choice in wireless security. We will demonstrate a few of the attacks that are possible because of WEP and why it should no longer be used.

Stationary Two-Dimensional Flow of Incompressible Fluid

Robert Henchen

Faculty Sponsor: Andrzej Kedzierawski, Mathematics

In absence of singularities and in case the velocity field is a simply connected domain, two-dimensional flow of incompressible fluid could be expressed as an analytic function which is called complex potential of flow. We present theoretical and numerical computations of stationary two-dimensional flow of incompressible fluid in different domains. We will visualize our results using Matlab and Maple programs.

Calculations of Airflows around Airplane Wings

William Juda

Faculty Sponsor: Andrzej Kedzierawski, Mathematics

By using Complex Analysis methods, we calculate several conformal mappings of the Joukowski Airfoils onto the exterior of linear segment. Knowledge of these mappings allows us to calculate and visualize the airflows around airplane wings. We illustrate our solutions by several Maple and Matlab programs.

Session 3-N • Philosophy

Welles 133

Thoughts about Gandhi and Taoism

Session Chair: Anna Mellace

Faculty Sponsor: Carlo Filice, Philosophy

Human-Animal Connections: Perspectives on Animal Rights in Eastern Philosophy

Anna Mellace

Many great philosophers ignore our relationship with non-humans, choosing instead to focus their attention on human relationships exclusively. In my paper, I describe various perspectives on Animal Rights from such philosophers as Buddha, Gandhi, Lao Tzu, and Chuang Tzu. These thinkers teach that we ought to extend kindness and respect to non-human life forms. I will attempt to prove that for these philosophers, treating animals with dignity goes hand in hand with achieving peace and equality for humans.

Encounter: Discussions on Action and Non-Action

Justin Christy

In this essay, I offer a comparison of various doctrines of Gandhi and Lao Tzu. In each case, I attempt either to synthesize their respective views, showing how they mutually support one another, or, if they are divergent, to express my opinion as to which view is more sound. Ultimately, I think that Gandhi and Lao Tzu present broadly similar, complementary teachings concerning human interactions. This includes economic interactions, an area over which the teachings of the two are often held to differ.

Encounter: Discussions on Action and Non-Action

Rachel Svenson

Taoist philosopher Lao Tzu and Indian activist Mohandas Gandhi lived many miles and thousands of years apart, but their philosophies and ideals are still spoken today from modern perspectives, especially in the emphasis of peace and compassion. Their teachings remain strikingly relevant to contemporary lifestyles and global relationships. It is the conflict of action versus non-action, however, that most distinctly divides the two worldviews. In this paper, a Taoist and a Gandhi follower encounter this disconnect and are compelled to both defend and examine their unique belief systems in terms of personal value, productivity and morality in a modern context. Their conversation takes them to the roots of ancient philosophy and explores the true meaning of decency and compassion in a conflict-ridden world.

Session 3-O • School of Business

South Hall 340

The Federal Challenge Team

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

The U.S. Economy: Where Are We Going?

Christina Alcus, Rufus Burgess, Alyssa Colosi, Kevin Contino, Sean Curley, Zubair Dawood, Justin Erenstein, Jake Hurley, Vu Anh Le, Sam Loeb, Kyle Menz, Matthew Motyka, T.J. Newell, Timothy O'Connell, Matthew Podsiadly, Nick Taverna, Matthew Winters, and Michael Yang

Members of the Federal Challenge Team will present their analysis of current macroeconomic issues and projections for where the economy is heading and why.

Session 3-P • Sociology Power and Politics

Welles 128

Session Chair and Faculty Sponsor: Denise Scott, Sociology

“Yes We Can and Yes They Did: The Youth Vote in 2008”

Kathryn Maitoza

The research question posed is can the youth voter's preferences and previous general patterns of voting be analyzed in order to predict and better understand the tremendous support and voter turnout for Democratic candidate Barack Obama in the 2008 U.S. presidential election. The cohort of the youth voter is defined as being between the ages of 18 and 29. Young voters made up 18% of the total electoral vote in this election, with 66% voting for the Democratic ticket of Presidential candidate Barack Obama and his running mate Vice President-elect Joe Biden. Data collected supports that while some previously established voting trends were followed, specifically to those of race, other trends such as youth indifference and disillusionment were overcome. Newly discovered trends are also discussed, such as the general power shift that is occurring from Republican party support to the Democratic party, as well as the rising role that technology plays in political campaigning through the use of social networking devices like Facebook, MySpace, and internet blogging, mobilizing a cohort that was previously largely unexplored by major political campaigners. Also, the researcher argues that the success of Obama was largely due to the extreme public disappointment felt by many young voters as a result of the previous George W. Bush administration's unpopular policies, as the most significant issues in this election were the struggling U.S. and subsequently world economy, the war in Iraq and issues dealing with the energy crisis.

Power and Hegemony in the United States: A Radical Perspective

Michael Feldman

Drawing on Steven Lukes' "Power: A Radical View" (2nd ed.) this presentation seeks to survey and clarify theoretical understandings of the concepts power and hegemony. Largely, this presentation will focus on Lukes' radical "three-Dimensional" interpretation of power/hegemony. To illustrate Luke's theoretical standpoint, participants will be asked to examine the major events dealing with the 2008 presidential election. What does it mean to be powerful? From what is power derived, and by what means are dominate-subordinate relationships maintained? Who in particular, and which groups or organizations are powerful in the United States? While these questions will be explored, the goal of this presentation is not so much to find answers as it is to raise interest and expand understanding of issues such as choice, freedom and inequality in society.

Legitimacy in the 2008 Presidential Campaign

Toshio Murakami

My paper topic is about the importance of legitimacy during a presidential campaign. Legitimacy is people's agreements which give authority to a candidate to have legitimate power. In order to maximize legitimacy from people, the media plays an important role in a presidential campaign. The function of the media is to provide credibility for candidates and earn legitimacy from the public. In the 2008 presidential election, both Senator Barack Obama and Senator John McCain employed the media to advertise themselves. Also, information industries employed news media to support their favorite candidates. Two types of media have different goals that advertisement reflecting interests of candidates and news reflecting interests of business groups. The goal of advertisement is to support candidates to maximize their votes. On the other hand, the goal of news is to protect information industries' profits and prestige. Barack Obama employed the media more than John McCain to approach people. Thus, Barack Obama's advertisements might have influence over many people's votes. Legitimacy is a connection between candidates and the public because candidates need legitimacy from people in order to be a new President.

Session 3-Q • School of the Arts Who's Afraid of Virginia Woolf?

Sturges Auditorium

Session Chair: David Munnell

Faculty Sponsor: Melanie Blood, School of the Arts

Two students and two faculty present a unique acting collaboration among students and faculty: an extended scene from Act 2 from Edward Albee's 1960 classic dark comedy *Who's Afraid of Virginia Woolf*. Nick is a young, ambitious Biology professor newly arrived in the town of New Carthage with his wife, Honey. George is an Associate Professor of History and is married to Martha, the daughter of the college president. In this scene from Act 2, Nick and Honey become pawns in a dangerous set of games that George and Martha play to savage each other and their life together

Setting:

George and Martha's living room, in New Carthage, a small college town in New England during the Fall 1960, about 2 am, after a faculty party.

The Players:

Nick

Jake Roa

Jake is a sophomore Theatre major.

Honey

Brittany Faulkner

Brittany is a sophomore Psychology and Theatre major.

George

David Munnell, School of the Arts

Martha

Melanie Blood, School of the Arts.

John Gasper, Directing Consultant/Stage Manager

John is a junior Theatre/English major.

CONCURRENT PRESENTATIONS

SESSION 4 • 4:20 - 5:35

Session 4-A • Center for Community

Welles 121

Service Learning: 2009 Civic Engagement Projects

Session Chair and Faculty Sponsor: Thomas Matthews, Center for Community

Pen Pal Exchange between Geneseo and Nicaragua

Chad Salitan, Andrew Demosthenous, Robert Taylor, Ben DeGeorge, Jesse Parent, and Rejoyce Owusu

This project entailed creating a pen pal exchange between El Sauce, Nicaragua and two SUNY Geneseo Spanish classes. It is currently and successfully functioning in the Spring 2009 semester.

Geneseo Alumni Armed Forces Memorial

Bridget Denicola

This project entailed creating a memorial for those who have served in the armed forces who have graced the halls of Geneseo. This will be done through both a physical form (memorial) and an honor donating funds for future progress of Geneseo in honor of those who have served.

Children's Book Donation Drive

Rebecca Coons and Sara Laudico

This project entailed working alongside two student organizations here at Geneseo in conjunction with our regional affiliated schools to collect books for children and teens that do not have much in the way of possessions. My involvement in the project dealt with local libraries and used bookstores, both here in Geneseo and back home near Albany.

Session 4-B • Communication

Welles 138

Session Chair and Faculty Sponsor: Atsushi Tajima, Communication

Transnational Television: Transcending Boundaries but Not Minds

Tiffany Chiang

This study examines the potential and problems of transnational television networks and programs to creating a globalized society. Television has been the largest medium in terms of global circulation. As previous research has argued, transnational television may transcend physical and geographic boundaries to create global connectivity, but fails to transcend mass audiences' view of a globalized world. Through the very nature of transnational television, the process of creating global unity is unachievable. The study employs theoretical frameworks of globalization, cultural imperialism, structural imperialism, homogenization, localization, and hegemony.

The Social Dynamics of Online Gaming

Nicholas Haanschoten

This presentation explores the relatively unknown aspects of social communication as it pertains to the genre of video game Massively Multiplayer Online Role-Playing Game (MMORPG). The MMORPG that is focused on is "World of Warcraft". A large emphasis is placed on communication between genders, as well as motivations for people to play MMORPGs. A pilot study was also conducted for this paper that asked respondents about playing "World of Warcraft" with people they know in real life, and if carrying that relationship into an MMORPG was damaging.

Video Gaming and Addiction

Richard Marinucci

Video gaming has become an ever growing medium and interest in contemporary culture. As the industry of gaming has grown, so has the notion of the various ills associated to gaming, one of which is the idea of an addiction to playing a video game. The focus of this research paper was to study the idea of a video game addiction and demonstrate its existence through scholarly research and my personal experience in dealing with an addiction to gaming.

Session 4-C • English

Welles 131

The Hebrew Scriptures as Literature

Session Chair: Caitlin Klein

Faculty Sponsor: Graham Drake, English

Pharaoh vs. King David on Leadership

Patrick Tulley

This paper analyzes and contrasts the characters of Pharaoh in Exodus and David in 1 and 2 Samuel. The analysis shows the character flaws of Pharaoh as a leader contrasted with David's relative success, even though David himself is not a perfect figure.

They Couldn't Do It Without Her: Indispensable Female Characters in the Torah

Kelsey Milner

In this paper, examples such as the shrewd Tamar who tricks Judah into giving her justice show that the fulfillment of the covenant relies crucially on women characters who go beyond the bounds of their expected roles. Without these women, the development of Israel as a nation might have been stalled or abandoned.

Session 4-D • English

Welles 132

College Town: Stories From and About College

Session Chair and Faculty Sponsor: Rachel Hall, English

"Brother-Keeping"

Eleanor Bryan

This short story explores the dynamics of "home" for those who might be somewhat removed from it. It explores the relationships between siblings, between parents, and explores the ways in which families struggle to make themselves work. It takes into consideration the amount of responsibility that people in families have towards each other's happiness. More specifically, "Brother-Keeping" deals with a college student who is unhappy with the way the rest of her family has made a villain of her spirited younger brother. She usually manages to distance herself from the unpleasantness of the situation through the physical distance of college, but during the Thanksgiving holidays, her family is very much present in her life. Throughout the piece, she struggles with her own issues regarding her family, and in the end takes a stand against what she has come to find unfair treatment.

"Don't Eat Your Feelings"

Steven Shon

College. The first time you've been away from home and had to make a home for yourself. How does one do that? Is home where the heart is? Where you hang your hat? Our narrator may not know, but in the meantime, he's baking compulsively--brownies, cookies, muffins. Maybe through his baking, he can find an answer--or the next best thing.

"Pocketing"

Meghan Pipe

In this short story, the writer explores forgotten things--memories or objects--and the ways in which we deal with the stories we hide. In her fiction, Meghan likes to place characters in unfamiliar places because she believes there's a lot to be learned about people based on the way they adapt or struggle in a new environment.

Session 4-E • Foreign Languages & Literatures

Welles 119

Session Chair: Emily Borghard

The Provinces of Central France: A Study in Geography, History, Industry, and Culture

Erinn Kehoe

Faculty Sponsor: E.R. VanVliet, Foreign Languages & Literatures

This paper examines the distinctive quality and characteristics of the central provinces of France. This area is unique in its diversity: a mix of scenic mountains and fertile valleys, agriculture and industry, contemporary life and ancient customs, rural countryside and modern cities. Although the population density of this region is lower than in other parts of France, the culture and industry of these provinces have a strong impact on the rest of the country. This area also holds an important place in the history of France, beginning with the influence of the Romans and continuing through the modern day. An examination of the diverse geography, industry, and culture of the central provinces presents a view of life in France as a whole.

Un Voyage en France

Amy Lafleur

Faculty Sponsor: E.R. VanVliet, Foreign Languages & Literatures

This presentation (in French) will describe cultural and historical facts about France, in the form of a tour. The tour is the second half of a hypothetical voyage to France. It leaves from Montpellier and explores Provence and the French Riviera. It then continues north through Burgundy and Alsace-Lorraine, then progresses west to Normandy, while stopping in many notable sites on the way.

The Arhuacos: The Struggle

Alice Brunet

Faculty Sponsor: Cristina Rowley, Foreign Languages & Literatures

The Arhuaco people are descendants of the Tairona, who like the Inca and the Aztec, had a highly developed civilization. Some aspects of Tairona civilization included development of advanced irrigation systems, impressive architectural knowledge, and commerce with other native peoples over great distances. Their culture also had a strong connection to the earth and nature which was an integral component of their beliefs, customs and traditions. The Tairona inhabited what is today northern Colombia well before the arrival of the Spanish conquistadors. They resisted and fought against the Spanish conquest, but in the end the few remaining survivors had to retreat to the mountains, where they lived in isolation and developed what is known today as the Arhuaco culture. Ever since then, the Arhuaco have continued to resist an outside world that demands they integrate themselves into modern Colombian society at the cost of their own culture and beliefs. This presentation will describe the culture, beliefs, and traditions that the Arhuaco people are fighting to preserve. It will also detail their struggle to protect and foment their culture among their youth, who are more susceptible to the influence of the outside world.

Relief du Sol et Climat

Stephanie Murdock

Faculty Sponsor: Richard VanVliet, Foreign Languages & Literatures

A 15 minute presentation, in French, on the climate and geography of continental France.

Session 4-F • History

Welles 133

Freedom, Challenges, and Changes: Stories from the Emancipation Era

Session Chair and Faculty Sponsor: Justin Behrend, History

Former Slaves and "The Chinese Question": Racial Identity During Reconstruction

Shane Hunt

In this paper, I examine Reconstruction-era perceptions of the relationship between the black and Chinese communities. I argue that as racial hierarchies were established, challenged and renegotiated in late nineteenth-century America, commentators came to see the respective struggles of Chinese immigrants and emancipated black slaves as parallel national events. In support of this thesis I examine the tendency among white, Reconstruction-era writers to attempt to evaluate the moral worth of their subjects by comparing African Americans with Chinese immigrants and vice versa. I also look at the ways in which the debate over Chinese exclusion led to a conflation of the black and Chinese struggles. Finally, I describe this conflation as being further developed during the Ku Klux Klan Hearings by commentators seeking to draw parallels between Reconstruction violence and anti-Chinese riots.

"In Slavery and Freedom Til Death Do Us Part": The Changes in Black Martial Roles After Emancipation

Deanna Confredo

Emancipation after the Civil War brought new freedoms to ex-slaves including the freedom to choose a mate, a place to live, a means of income, a means of child care and the possibility of re-marriage. These new freedoms gave husbands and wives the

opportunity to expand their scope of duties and responsibilities and the chance to play a more active role in determining the future of their families. Husbands, who were solely unpaid laborers in slavery, took on the roles of bread winner, decision maker and companion after emancipation. In slavery, wives either worked on the field or as a domestic servant; with their emancipation came the roles of care giver for her household and children, companion for her husband and sometimes a secondary bread winner. This research adds an answer to the questions: what is freedom? What did freedom mean to emancipated men and women? And how could they use these new freedoms to have a happy life for themselves?

Secret Societies and Clandestine Violence in the South: The Union League Movement and the Ku Klux Klan

Nick Lombardo

Much has been written about the interactions between members of the Union League of America and the Ku Klux Klan during the era of emancipation in the South. Often one or the other is depicted as the aggressor while the opposing organization is stylized as an avenger. Although the “good guy, bad guy” interpretation of this relationship may be an appealing way of understanding the advent of violent antagonism between the two secret societies, this paper expands on an alternative interpretation, initially spearheaded by Michael Fitzgerald’s *The Union League Movement in the Deep South*, that suggests the dynamic between the two groups was much more complex. It will be argued that both the Union League of America and the Ku Klux Klan contributed to the violent milieu in which the two organizations interacted by the end of the 1860s.

Redemption Through Inaction: An Analysis of President Grant’s Successful Destruction of the Ku Klux Klan and Subsequent Failure to Counter the White Leagues

John Maass

In the early 1870s, the federal government indicted thousands of Ku Klux Klan members and effectively demolished the Klan organizations. A few years later, a new terrorist group, known as the White Leagues, waged a campaign of violence against Republicans and freedmen in order to “redeem” the southern state governments in favor of the white supremacist Democratic Party. But instead of countering the White Leagues, as he had done with the Klan, President Grant chose inaction. This paper attempts to explain the federal government’s failure to suppress a terrorist organization and protect citizen’s suffrage, speech, and assembly rights. I argue that the Panic of 1873, charges of corruption and incompetence against Republicans, a longing for national reconciliation after the Civil War, and the operations of the White Leagues as the militant wing of the Democratic Party contributed to Grant’s and congressional Republicans’ efforts to end the political violence. Through their inaction, the “redemption” of the South was soon completed and blacks were effectively disenfranchised in the South for decades to come.

Session 4-G • History

Welles 140

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

Big Brother

Kathryn Bennett and Michelle Grasso

In China today, mainstream American films and television shows have found a new audience. Although the government censors prevent such shows from being aired on broadcast television, an underground network of piracy provides the Chinese people with access to these popular forms of American entertainment. This presentation will discuss the types of American shows and films seen by the Chinese people, as well as delve into the common themes between them. Also, this presentation will explore how the Chinese people view various aspects of American culture based on their exposure to the American television and film industry. Finally, this presentation will reflect upon what this exposure might suggest about Chinese-U.S. relations, both currently and in the future.

Deng Pufang and the China Disabled Persons' Federation

Lindsey Snyder, Dan Koch, Laura Jakubowski, and Raimi Kikuchi

We will be giving a half-hour Power-Point presentation of Deng Pufang and his establishment of the China Disabled Persons' Federation (CDPF). The details of his work on behalf of [Chinese] people with disabilities are extremely important in the context of the Cultural Revolution, as well as Chinese society today. Deng was left paralyzed in 1968 after political persecution by “leftist” radicals during the Chinese Cultural Revolution, 1966- 1976. Following this life changing incident, Deng has spent many years of tireless effort promoting the human rights of the disabled in China through legislation, programs and activities. An example of his work is his leadership of the China Disabled Peoples' Performing Arts Troupe and keeping close and frequent contact with the international disability community.

Court in the People’s Republic: Prospects for a More Democratic Future

Yong Yang

“To keep pace with the booming economy and maintain order, China has put in place a whole new legal system. In the past quarter century, China has created nearly four hundred law schools, and trained hundreds of thousands of judges and lawyers. Few nations have ever attempted to produce a body of law so quickly.” Taken from the transcript of PBS Wideangle’s documentary, “The People’s Court.” As evinced by the preceding quote, the Chinese Communist Party (CCP) has created a burgeoning judicial system because consistent rule of law is vital to growing business relations. The CCP believes that citizens, by settling their disputes in court, will maintain a peaceful, harmonized society, and present no political unrest. My research

essay will examine how the elite-driven initiative for a sophisticated court system may present hope for a more democratic future in China. An improving judicial system may compel the CCP to relent some of its control over Chinese society, establish a deeper respect for rule of law, and instill social expectations that may move China towards democratization. My essay will seek to present a fair view of the court system's effects, highlighting its flaws, benefits, and realistic prospects for the future.

Session 4-H • Mathematics and Biomathematics

South Hall 338

Session Chair: Caroline Haddad, Mathematics

Generating and Breaking Simple CAPTCHAs Using MATLAB

Nicole Kingsley

Faculty Sponsor: Caroline Haddad, Mathematics

Have you ever visited a website where you were prompted with an image, most likely including a block of letters or a sequence of words, from which you were asked to decipher the text and enter it back in order to proceed? Most likely, you have. These images are called CAPTCHAs, or Completely Automated Public Turing tests to tell Computers and Humans Apart, and are common attempts at preventing computerized hacking and spam attacks on popular websites. We will generate some simple CAPTCHAs using MATLAB, and focus on an algorithm that has proven successful in decoding these basic CAPTCHAs.

Break it Down: Using Wavelets to Analyze Handwritten Letters

Katy Nowak

Faculty Sponsor: Caroline Haddad, Mathematics and Dante DeBlasie, Texas A&M University

212 billion pieces of mail are processed by our postal system annually. The post office uses machines to decrease the time and man power required to sort the mail. I explored the techniques used by these machines to recognize the addresses. The goal of my project was to construct an algorithm using wavelets to distinguish different handwriting samples.

Modeling Celiac Disease using Differential Equations

Michael Hausberger and Hannah Miller

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

Celiac Disease, an auto-immune disease of the small intestine, is widely under-diagnosed and occurs in approximately 1% of the US population. Individuals with the disease have an auto-immune response to gluten, a component of wheat. This auto-immune response occurs in the small intestine where the gluten is destroyed by the immune system. Consequently, this action also destroys the small intestine's villi, which are responsible for nutrient absorption. The destruction of villi results in malnutrition, which leads to a plethora of problems and eventually death. Differential equations, which are mathematical equations that track rates of change, are ideal for modeling this disease, because the disease progresses as various rates of change. We present a differential equation model of the disease to explore the effects of the disease on various individuals. First, we examine our conceptual model, which links six key factors of the disease. Then, we write six equations; one for each disease factor. Finally, we show that eliminating gluten from the diet halts the progress of the disease, leads to villi recovery, and returns nutrient absorption to normal levels.

Session 4-I • Political Science & International Relations

Welles 134

State Responses to Terrorism

Session Chair and Faculty Sponsor: Victoria Farmer, Political Science & International Relations

POWs in the War on Terror

Andrew Petracca

The mistreatment of prisoners in U.S. custody between September 11, 2001, and January 2009, including indefinite detentions, unfair trials, the use of interrogation techniques amounting to torture, and the deportation of prisoners to other countries for the purpose of torture, constitute violations of international law. Contrary to what the Bush administration and its supporters have argued, these policies are illegal and have not been more effective at protecting the United States than legal methods. In fact, by reducing the moral standing of the country and alienating individuals throughout the world, especially Muslims, they have strengthened anti-American extremism and increased the danger of terrorist attacks against the United States.

Imposing Democracy: State Building and the War on Terror

James Maxwell Duhe

The terrorist attacks of September 11, 2001 fundamentally reprioritized US foreign policy. In this environment, the Bush administration crafted what came to be known as the "Bush Doctrine." Though a precise definition of the Bush Doctrine remains contested, definitions typically include the idea that the US may preemptively attack countries harboring terrorists and that the US should support the spread of democracy. But, after eight years, the United States is still not safe. This paper analyzes democratization as an element of the Bush Doctrine through case studies of Iraq and Afghanistan. US attempts to democratize these countries have angered local inhabitants, locked the United States into situations where withdrawal is difficult, and damaged relations between the United States and other countries. Overall, the Bush administration's efforts to impose democracy in these countries have been ineffectual and counterproductive at combating terrorism. I conclude with policy

prescriptions for the Obama Administration; namely, America must remove itself from the political processes of Iraq and Afghanistan, rebuild ties with the international community, and develop a strategy for complete US withdrawal from these areas.

State Capacity, Social Mobility, and Terrorist Groups in Thailand and the Philippines

Sarah McDonald

Thailand and the Philippines face similar security issues; including separatist violence in their Southern provinces. However, the developmental paths of the two countries and the governments' reactions to the minority ethno-religious separatist movements, the Malay in Thailand and the Moro in the Philippines, have varied greatly. In Thailand, the government's desire to create a singular national identity from mixed ethnic and religious backgrounds has created periods of forced assimilation tempered by attempts at conciliation. Conversely, the Philippines continued colonial policies of economic and political oppression of the Moro but created the institutions necessary for social pluralism. The differing policies of the Thai and Filipino governments have shaped the orientation of the separatist movements within the countries. Currently, the size and power of MILF in the Philippines has forced the government to attempt peace talks with the group. However, in Thailand the reclusive nature of the BRN C remains hinders communications with the Thai government. This paper demonstrates that the actions taken by the governments of Thailand and the Philippines have fostered current separatist and terrorist movements. Addressing these problems will require state policies that reflect pluralism and institutions that support social aspirations.

Session 4-J • School of Business

South Hall 340

Session Chair: Farooq Sheikh, School of Business

Optimal order quantity and discount policy in a dual channel monopoly

Denis Desjardins

Faculty Sponsor: Farooq Sheikh, School of Business

The research will consist of a study of inventory policy and price discount policy of a company selling a homogeneous product through two different channels. The two channels studied will be a brick and mortar store and an internet store. The goal of the study will be to find the optimal policies using simulation technique.

The Organic Design of Wegmans Corporation

Yufan Lu, Shawn Mascia, Caitlin McWilliams, Renata Pecko, Jillian Schabloski, and Rebecca Schwartz

Faculty Sponsor: Avan Jassawalla, School of Business

This presentation will look at the Organizational Design of Wegmans Corporation. This study aims to explain organizational design and its effectiveness based on environment, size, strategy, and change in technology. Through interviews, observational logs, organizational charts, and surveys, the study yielded findings that are used to develop three recommendations. The first and second include improving the level of employee accountability and increasing the quality of employee feedback. The third requires an increase in cross-functional training, which would allow employees to work successfully in multiple departments. This presentation will discuss how to assess if an organization has an organic or mechanistic design and then how to make beneficial recommendations to the organization after finding so.

Session 4-K • Sociology

Welles 128

Identity Politics: A Study of media coverage of the 2008 U.S. Presidential Election

Session Chair and Faculty Sponsor: Elaine Cleeton, Sociology

Nabila Aikawa, Terrence Bellamy, Katelyn Conway, Caryn Doyle, Emily Koehler, Patricia Lord,

Jessica McKenna, Okechukwu Ogbuter, and Laura Smykla

The 2008 U.S. presidential election expanded the playing field for prospective candidates by race and gender identities. Throughout the campaign, journalists, pundits, and talk show hosts raised the question of whether the American voting populace was ready for either an African American or woman as leader. This study examines video footage of political events in which voters discuss their views of identity as a qualifier for leadership.

Session 4-L • School of Education

Welles 123

Session Chair: Elizabeth Hall, School of Education

Visibility of disability in education

Kaleb King, Hannah Brown, Katie Schoenfelder, Justine DeLuca, and Tom Ruf

Faculty Sponsor: Elizabeth Hall, School of Education

The basis of the presentation is to demonstrate that all people regardless of ability levels are capable of learning and that higher education should be available to everyone at all ability levels.

The DAYDREAM Project: An Exploration and Assessment of Pure Student Creativity

Branden Kirchmeyer, Michele Guido, Heather Hoestermann, Alex Bab, and Mike Millilo

Faculty Sponsor: Kelly Keegan, School of Education

Are you an education major who struggles when it comes to finding creative alternative assessments for your future or current students? Do you find the traditional means of tests and written responses to be lackluster in their abilities to assess student creativity and knowledge? Do you wonder where your students' minds travel to when they drift off in the midst of your lesson? If so, then this is the G.R.E.A.T.est presentation you'll ever see. Well, maybe not, but it will certainly provide some insight into the ever-elusive world of alternative assessment AND allow you to access that creative part of your students' minds (the part the wanders). This sample project, entitled the DAYDREAM project, actually requires students to daydream and record their travels. With this raw creativity, they are then asked to "make something of it," whether it constitutes a written story, a visual image, or, as you'll see during the presentation, an entirely unique and captivating piece of multimedia. With this project you can break away from the standard and oftentimes ineffective lecturing and drilling, and instead focus on educational constructivism in its purest form.

Session 4-M • School of the Arts

Sturges Auditorium

The Japanese Culture Club Presents Soran Bushi

Session Chair and Faculty Sponsor: Kazushige Yokoyama, Chemistry

Natalie Chan, Sara DiTursi, Abby Erker, Brendan Hayes, Satoko Hirano, Takafumi Kanatani, Yosuke Kusada, Abbi Marion, Zoufishan Mehdi, Giang Nguyen, Mark Nielsen, Kye Shibata, Emily Slack, Hiroto Tanaka, Joanne Yen, and Aishah Zainol

The Soran Bushi is a traditional Japanese dance that has its origins in Hokkaido. The choreography and lyrics tell the story of a fisherman's daily life catching herring at sea. It is rumored to have been sung, improvised, by fishermen to raise morale. Soran's fame has exploded in recent years and it is currently one of the most widely performed dances of Japan.

DANCE PERFORMANCE

5:30 pm Union Ballroom Stage

The Ghana Project

Faculty Sponsors: David Parfitt, Teaching & Learning Center, and Tom Matthews, Leadership Education, Development & Training

Our dance will be a three and half minute long dance - a combination of African hip hop music. The lyrics of the song are African-French, and the moves will be exciting and energetic. It will be a celebration of African culture. We will be wearing traditional Ghanaian clothing. *(Also see Poster 174- The Ghana Project)*

The members of the team include:

Abigail Boateng, Dalia Calix, Deon Edwards, Heather Ford, Kerisha Hawthorne, Theona Hudson Rejoyce Owusu, Jesse Parent, and Angela Snook

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