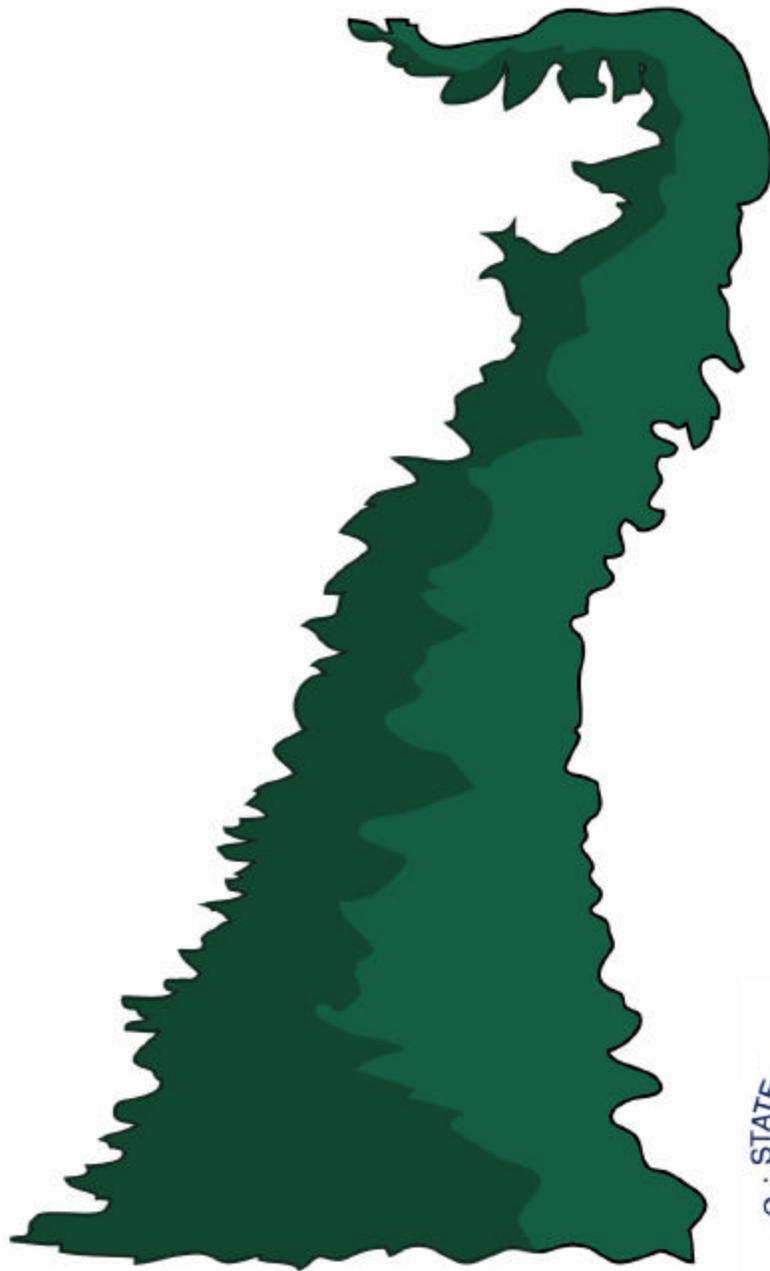


4th Annual

# GREAT Day

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

april 20, 2010



## **Welcome to SUNY Geneseo's Fourth 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.

### **The G.R.E.A.T. Day Planning Committee:**

Doug Anderson, School of the Arts  
Anne Baldwin, Sponsored Research  
Joan Ballard, Department of Psychology  
Graham Drake, Department of English  
Walter Freed, Department of English  
Michael Rozalski, School of Education  
Aaron Steinhauer, Department of Physics & Astronomy  
Andrea Klein, Scheduling and Special Events  
Stephen F. West, GREAT Day Coordinator

**The Planning Committee would like to thank:** Stacie Anekstein, Brian Bennett, Suzanne Boor, Sue Chichester, Betsy Colon, Laura Cook, Joe Dolce, Karie Frisiras, Kristen Fuest, Becky Glass, Tony Hoppa, Paul Jackson, Nancy Johncox, Enrico Johnson, Randy Kaplan, Jo Kirk, Sue Mallaber, Chip Matthews, Sean McGrath, Tracy Paradis, Jennifer Glieco, Ed Rivenburgh, Linda Shepard, Bonnie Swoger, Helen Thomas, Taryn Thompson, and the SATech Services.

Special thank you to Anne Baldwin, Andrea Klein, Doug Anderson, and Tammy Farrell.

Thank you to President Christopher Dahl and Provost Carol Long for their support of GREAT Day.

Thank you to Helen Epstein for delivering our keynote address.

**GREAT Day is funded by the Office of the Provost.**

***[http://www.geneseo.edu/great\\_day](http://www.geneseo.edu/great_day)***

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

<b>8:00 – 8:30 AM</b>	<b>Registration and Continental Breakfast</b>	MacVittie College Union Lobby
	<b>Poster Presentation Setup</b>	Milne Library First Floor Common Area and MacVittie College Union Ballroom
<b>8:30 – 9:30 AM</b>	<b>Welcoming Remarks by Carol Long, Provost</b>	Union Ballroom
	<b>Artwork Exhibits</b>	Kinetic Gallery, Union
	<b>Poster Presentations</b>	Milne Library and Union Ballroom
<b>9:40 – 10:55 AM</b>	<b>Concurrent Presentations • Session 1</b>	
	Session 1-A • Anthropology The Meanings of Things: Material Culture Studies Part 1	Welles 119
	Session 1-B • Anthropology Anatomy of a Disaster: Haiti Earthquake of January 12, 2010	Welles 128
	Session 1-C • Biomathematics	Newton 203
	Session 1-D • Chemistry Honors Chemistry Research - I	Newton 204
	Session 1-E • Communication	Milne 104
	Session 1-F • Computer Science	Newton 209
	Session 1-G • Edgar Fellows Capstone I	Welles 121
	Session 1-H • Edgar Fellows Capstone II	Welles 123
	Session 1-I • English Papa was a Rollin' Stone: Writing Our Fathers	Welles 131
	Session 1-J • English iThink, Therefore iAm: Descartes and Virtuality	Welles 132
	Session 1-K • English Picturing the Bible: How Many Marys???	Welles 133
	Session 1-L • Foreign Languages and Literatures	Welles 115
	Session 1-M • History Radicals, Redemption, and Revolution: History Honors Theses on Transformations in the Civil War Era	Welles 138
	Session 1-N • History Culture and Mass Media in Modern China	South Hall 340
	Session 1-O • Mathematics History of Mathematics I	Welles 140
	Session 1-P • Mathematics Dante in the Sphere of Mars	Newton 201
	Session 1-Q • Political Science and International Relations Contemporary Issues in American Politics	Welles 24
	Session 1-R • Psychology Research on Student Scheduling Preferences and Women's Intimate Partner Victimization	Welles 26
	Session 1-S • School of Business	South Hall 338
Session 1-T • School of Business - A Brief Look Into the Geneseo Student Managed Investment Fund	South Hall 340	

	Session 1-U • School of the Arts-Theater Neil Labute Plays in Production	Alice Austin Theatre
	Session 1-V • Sociology Historical Studies in the Sociology of Emotions	Milne 105
<b>10:00 – 12:15 PM</b>	<b>Chamber Music Festival Part 1</b>	The Grind Stage, Union
<b>11:05 – 12:20 PM</b>	<b>Concurrent Presentations • Session 2</b>	
	Session 2-A • Anthropology Life on the Bottoms: Student Research on Ohio Hopewell Archaeology	Welles 119
	Session 2-B • Anthropology	Welles 128
	Session 2-C • Biomathematics	Newton 203
	Session 2-D • Chemistry Honors Chemistry Research - II	Newton 204
	Session 2-E • Edgar Fellows Capstone III	Welles 121
	Session 2-F • Edgar Fellows Capstone III	Welles 123
	Session 2-G • English Funked Up Families: A Prose Reading	Welles 131
	Session 2-H • English How the Dead Live in Medieval British Literature	Welles 132
	Session 2-I • English Sleepless in HUM I: We Need a Little (Epic) Romance	Welles 133
	Session 2-J • Foreign Languages and Literatures Early Romance Literature	Welles 115
	Session 2-K • Geography	Welles 24
	Session 2-L • History History Honors on Black Freedom Struggle	Welles 138
	Session 2-M • History Baron Shibusawa's visit to Rochester: An Examination of the Japanese Commercial Expedition's Visit to Rochester in 1909	Welles 140
	Session 2-N • History	Welles 26
	Session 2-O • Mathematics History of Mathematics II	Newton 201
	Session 2-P • Mathematics	Newton 214
	Session 2-Q • Political Science and International Relations Participation, Protests and Democratic Practices	Welles 134
	Session 2-R • Psychology Sleep, Anxiety, and Coping with Stress: Determinants and Outcomes Among College Students	Milne 104
	Session 2-S • School of Business Making A Connection Between Business Classes and the Real-World of Market Research: Year Two	South Hall 338
	Session 2-T • School of Business	South Hall 340
	Session 2-U • Sociology Sociological Studies of Well Being	Milne 105
	Session 2-V • School of the Arts/Theater Scenes from Shakespeare and Beckett	Alice Austin Theatre
	Session 2-W • Women's Studies Women's Studies Senior Project Presentations (Part 1 of 2)	Welles 117
<b>12:30 – 1:30 PM</b>	<b>Artwork Exhibits</b>	Kinetic Gallery, Union

	<b>Dance Performance: Geneseo Bhangra</b>	Union Ballroom
	<b>Poster Presentations</b>	Milne Library and Union Ballroom
	<b>Buffet Luncheon</b>	Union Ballroom
<b>1:45 – 2:45 PM</b>	<b>Keynote Address Helen Epstein <i>From Dream to Reality: The Journey of One Voice</i> Introductions by Christopher Dahl, President and Jack and Carol Kramer</b>	Wadsworth Auditorium
<b>2:55 – 4:10 PM</b>	<b>Concurrent Presentations • Session 3</b>	
	Session 3-A • Anthropology The Meanings of Things: Material Culture Studies Part 2	Welles 119
	Session 3-B • Anthropology Anatomy of a Disaster: Haiti Earthquake of January 12, 2010	Welles 128
	Session 3-C • Biology	Newton 203
	Session 3-D • Communication	Milne 105
	Session 3-E • Communicative Disorders and Sciences Research in Communicative Disorders	Welles 123
	Session 3-F • English Around the World in 80 Pages: Travel Writing	Welles 131
	Session 3-G • English Advice from Ancient Sources: Thucydides, Plato, and Boethius	Welles 132
	Session 3-H • English Perspectives in Modern American Drama	Welles 26
	Session 3-I • Foreign Languages and Literatures Grad Bag: Miscellaneous, Trend-setting Research Conducted by Graduate Students in the Department of Foreign Languages and Literatures	Welles 115
	Session 3-J • History Civil Rights and Slavery	Welles 138
	Session 3-K • History History Honors and Senior Thesis Students 2010	Welles 24
	Session 3-L • History	Welles 134
	Session 3-M • Mathematics Math Miscellany I	Newton 204
	Session 3-N • Mathematics History of Mathematics III	Newton 201
	Session 3-O • Mathematics Number Theory	Newton 214
	Session 3-P • Music, Physics, and ASC Sign Language	Newton 209
	Session 3-Q • Philosophy Kant on Religion	Welles 140
	Session 3-R • Political Science and International Relations - Honors Theses in International Relations	Welles 121
	Session 3-S • Psychology Admissions Criteria and Students' Graduation Rates at SUNY Geneseo	Milne 104
	Session 3-T • School of Business The US Economy: A Year of Recovery	South Hall 340
	Session 3-V • School of the Arts-Theater	Alice Austin Theatre

	Directing Musicals and Plays	
	Session 3-U • School of Business	Welles 133
	Session 3-W • Women's Studies Women's Studies Senior Project Presentations (Part 2 of 2)	Welles 117
<b>2:55 – 5:35 PM</b>	<b>Extended Session • School of Business</b> Klainer Center Business Plan Competition: Final Presentations	South Hall 338
<b>3:00 – 5:15 PM</b>	<b>Chamber Music Festival Part 2</b>	The Grind Stage, Union
<b>4:20 – 5:30 PM</b>	<b>Concurrent Presentations • Session 4</b>	
	Session 4-A • Anthropology Anthropology and Modern Issues	Welles 119
	Session 4-B • Anthropology Anthropology in Action	Welles 121
	Session 4-C • Biology and Chemistry	Newton 214
	Session 4-D • English The Poetry of Loss and Desire	Welles 131
	Session 4-E • English Cultural Connections in Some British Novels of the 1940s	Welles 132
	Session 4-F • English	Welles 133
	Session 4-G • History Women and Social Movements	Welles 24
	Session 4-H • History Issues in Agriculture & the Environment in the Twentieth-Century U.S.	Welles 26
	Session 4-I • Mathematics Math Miscellany II	Newton 204
	Session 4-J • Mathematics	Newton 201
	Session 4-K • Physics and Astronomy	Newton 203
	Session 4-L • Political Science and International Relations - Apathy to Activism: Invisible Children and the Youth Movement	Welles 138
	Session 4-M • School of Education	Welles 140
	Session 4-N • Communicative Disorders and Sciences	Welles 134
	Session 4-O • School of the Arts-Theater Student Work in Film	Welles 117
	Session 4-P • School of the Arts-Studio Art Podcast Presentations on Notable Photographers and Computer Artists	Welles 123
	Session 4-Q • Women's Studies Intimacy Narratives of Heterosexual Experience	Welles 128
	<b>New</b> Session 4-R • Economics The Great Depression: Causes, Severity, Length and Lessons	Welles 115
<b>5:30 – 6:30 PM</b>	<b>Reception</b> <b>Remarks by Christopher Dahl, President</b>	Union Ballroom
	<b>Artwork Exhibits</b>	Kinetic Gallery, Union
	<b>Dance Performance: The Japanese Culture Club</b> The Japanese Culture Club Presents Soran Bushi	Union Ballroom Stage
	<b>Poster Presentations</b>	Milne Library and Union Ballroom

## **ARTWORK EXHIBITS**

### **MacVittie College Union, Kinetic Gallery**

**Megan Cortese**

*Faculty Sponsor: Patrice Case, School of the Arts*

#### **Make your own Picnic**

A still life of my idea of a picnic. Apples, bread, and a flower on a plaid cloth.

**Jennifer Tayne**

*Faculty Sponsor: Patrice Case, School of the Arts*

#### **Heaven: Flyaway**

The piece Heaven: Flyaway convey's my viewpoint of what heaven will look like for my recently deceased horse Sey Vanessa. This piece will be apart of my Senior Show in April, Spring 2010 and it will be among 9 pieces representing my view points of Heaven, Hell and Purgatory. The horses seen in all of my works usually symbolize my love for her and my grief for her passing. Drawing these 9 pieces has been a coping mechanism to come to peace with her passing. She was a beautiful positive influence on my life which inspires the bright brilliant colors used in the drawing, giving it a breathy lively feeling when viewing the portrait. Art has been such a strong influence on my life helping me cope through tough situations and I believe it is a great way of self expression and reflection for all students.

#### **Stellaluna**

This piece represents how my horse and I are entwined at the hip. Her memory will be with me always, but her sprit rests among the night stars. In the drawing we complete each other's structure as she supports my head resting on her back. The bright colors placed deliberately on our bodies have multiple meanings of God's loving touch on our hearts and our vibrant personalities which complimented each other so well.

#### **Untitled**

This piece is untitled. It is a portrait of my close friend Alexandra Gable. The piece describes her bubbly personality in every way! The edgy colors and the pen lines hint at pop art influences and it compliments my unique drawing style and use of color. Not only does this piece represent a portrait of my friend, but of my own personality. I have hidden organic symbolism throughout the piece which indicates various tensions of stress and tranquility which are present in both of our identities.

**Paige Dorsey**

*Faculty Sponsor: Patrice Case, School of the Arts*

#### **Sunset**

**Stephen Vollo**

*Faculty Sponsor: Patrice Case, School of the Arts*

#### **Fabric Study**

A study of fabric drawn from life. Pencils on newsprint.

**Heather Kingsley**

*Faculty Sponsor: patrice case, School of the Arts*

#### **Always Your Jester**

Sometimes the funniest people, are the darkest on the inside.

**Katrina Fierle**

*Faculty Sponsor: Patrice Case, School of the Arts*

#### **Living Water**

Oil paint on canvas. Subject: Blue figure holding glowing water.

**Laure Recny**

*Faculty Sponsor: Patrice Case, School of the Arts*

#### **Organic Nature Chalice**

Copper and brass, done with hammering and raising, finished with sulfur patina, paint, and colored pencil.

#### **A Commemoration of Childhood**

Copper, created by dyforming and simple construction, finished with a sulfur patina and vibro engraving.

**Nick Johns**

*Faculty Sponsor: Patrice Case, School of the Arts*

**Untitled (Dream)**

This drawing is based on dream that I had. It was interesting, neither pleasant nor unpleasant, and when I had awoken I thought it fitting to convey my experience graphically.

**Sid Grabosky**

*Faculty Sponsor: Thomas MacPherson, School of the Arts*

**Jellyfish Collision**

Black-and-white photograph of three jellyfish caught in mid-collision

**Macabre Butterfly**

Black and white photograph of a butterfly feeding from a flower. Natural peaceful beauty contrasts with the frayed, tattered wings of the butterfly and the high contrast, giving the image a disconcerting atmosphere

**Imprisoned**

Black and white photograph of a sad looking monkey in a zoo, gazing mournfully into the camera.

**Yuki Kawae**

*Faculty Sponsor: Rose-marie Chierici, Anthropology*

**Kokoro**

The artwork I am currently working on encompasses my life. I am interested in the combination of organic materials and the geometric or human capability of creation which can be found in Japanese art and design. My goal is to make my artwork symbolize the balance between the organic and geometric, and the approach that traditional Japanese took toward their philosophy and design. I believe that there are three layers to art. 1. The Process 2. The Form 3. The Concept Every brush stroke and every value (form) may not seem like it has meaning by itself because of minimalistic value but what is most important is this process of creating art through experimenting. Becoming one with the painting and knowing the material is the most important value. Although each movement and decision might not seem like it has a purpose, as a whole the finished art work conveys the concept of the artist's self and experience. In my case, through a directed study in anthropology, I was able to re-connect with my ethnicity and the ethos of Japan which inform every movement in my artwork.

**Marissa Herman**

*Faculty Sponsor: Patrice Case, School of the Arts*

**Left Behind**

Screen Print on Inkjet Photograph

**Raymond Ferreira**

*Faculty Sponsor: Crystal Ferrel, School of the Arts*

**Sketches for the Joan of Arc Collection**

These sketches are simply that: sketches that represent strong, liberated women. Like Joan of Arc, who this collection was inspired by, women must fight against the patriarchal society that we live in. The various "armors" that these women don are tools for protection against the pressures exerted onto them by machismo and antifeminist ideas. These "Joans" are the true embodiment of what it means to be strong, powerful, and intelligent women in society.

**Joan I**

The Joan is ready to lead the charge into battle against the evils of patriarchy.

**Joan's Armaments**

These weapons are the only objects that a Joan carries into battle. They are weapons created by those who run the system, but possessed by those who will reform it.

**Alyssa D'Anna**

*Faculty Sponsor: Patrice Case, School of the Arts*

**Untitled**

2010, Mixed Media

**Megan Cortese**

*Faculty Sponsor: Patrice Case, School of the Arts*

**Beneath the Green Sheet**

My focus in art is to explore human relationships in particularly my own. I work with the idea of self-expression and self-reflection. To me, my artwork is therapy. I work in watercolors because I like the similarities between them and relationships. With watercolor, once you add something to the paper, it is most likely permanent, unable to be removed, only fixed by

progressing. As with relationships, every mark you make is permanent, the only thing you can do is work with it and move forward with the lessons learned. I chose to work with flat tones in my pieces because I enjoy the contrast between the organic human form and the mechanical shapes made within the figure. My goal with my work is to make the viewer think of their own relationships and reflect on them as I have reflected on mine.

**Nicholas Pesce**

*Faculty Sponsor: Chip Matthews, College Union*

**Geneseo Mural**

I am going to be actively painting the mural that is still a work in progress on the wall between the bookstore and the ballroom. I have been working on it since the beginning of the year and hope to finish it by the end of the year.

**Jim Hearne**

*Faculty Sponsor: Patrice Case, School of the Arts*

**Senior Show Exhibit - Digital Art Study**

An experimental study of the up and coming medium of Digital Art and its effectiveness in the world of Concept Art. The theme of the show will be the Classical Elements (Fire, Earth, Water, Air).

**Abby Mayer**

*Faculty Sponsor: Patrice Case, School of the Arts*

**Cosimo on His Steed**

My piece is a charcoal rendering of the statue of Cosimo featured in the Piazza della Signoria located in Florence, Italy.

## **DANCE PERFORMANCES**

### **12:30 pm Union Ballroom Stage**

#### **Special Session • Geneseo Bhangra**

*Faculty Sponsor: Randy Kaplan*

**Performers: 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 and Derek Weng**

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

### **5:45 pm Union Ballroom Stage**

#### **Japanese Culture Club**

#### **Japanese Culture Club Fusion Dance**

*Faculty Sponsor: Kazushige Yokoyama, zSpecial: Japanese Culture Club*

#### **Japanese Culture Club Fusion Dance**

**Performers: Giang Nguyen, Satoko Hirano, Mai Otsuka, Kye Shibata, Sara DiTursi, Charlotte Hern, Taketo Igarashi, Mayuko Kubo, Abigail Marion, Zoufishan Medhi, Evan Palmer, Hiroto Tanaka, Hatsumi Yoshida, Aishah Zainol, Jin Zheng, and Ming Shan Zhu**

Japanese Culture Club is proud to show our creative dance piece to the Geneseo community. It is a fusion of Yosakoi, a folk dance from the Kochi prefecture of southern Japan, Soran-bushi, a fishermen dance from Hokkaido of northern Japan, and modern dance choreography. Danced to a contemporary shamisen (a traditional, three-string plucked instrument) beat and accompanied by naruko (a type of wooden rattle) sounds, our dance piece exhibits energy and spirit that remains alive in Japanese culture and communities. The costumes, happi coats, are still seen in Japanese festival scenes and it stimulates a celebratory atmosphere.

# **CHAMBER MUSIC FESTIVAL**

## **Grind Stage, MacVittie College Union**

### **10:30-11:00am Saxophone Quartet**

*Musicians:* Stephen Roff - Soprano Saxophone, Mike Perrone – Alto Saxophone, Pete Ignacio – Tenor Saxophone, and John Magee – Baritone Saxophone  
*Performing:* Classipro by GSQ

### **11:00-11:45am Geneseo Flute Choir**

*Musicians:* Abby Besch, Alessandra Keller, Alicia Jeffers, Angie Klinczar, Brandy Amorosi, Elizabeth Hoffman, Gretchen Freudenheim, Janine Hardenburg (Conductor), Jessica Shatzel, Kaitlyn Curtis, Kelly Brunscheen, Kim Sturman, Liane Colangelo, Liz Thorp, Marie Montondo, Martina Kunar, Sandy Bender, and Sheri Levine

*Performing:* Scarborough Fair by Amy Rice-Young  
Hansel und Gretel by Engelbert Humperdinck  
Magic and Mystery by Amy Rice-Young  
Four Japanese Folk Songs by Robert L. Cathey  
Flower Duet from Lakmé by Léo Delibes Ed. (ed. Caplan-Stonefield)  
Flute Garden by Ricky Lombardo

### **11:45-12:00pm Wind Quintet**

*Musicians:* Kaitlyn Curtis – flute, Maria Beltrani – clarinet, Julia Addeo – oboe, Elizabeth Barber – French horn, and Eric Watson – bassoon.

*Performing:* Op. 56 Nr. 1 Piece: Quintett B ~ Dur für Flöte, Oboe, Klarinette, Horn in F und Fagott Movements: I. Allegretto, and II. Andante con moto by Franz Danzi

### **12:00-12:15pm String Duet**

*Musicians:* Anna Mellace, and Sara Wigderson

*Performing:* Duo for Violin and Cello, Mvt. 1 “Hungarian Rondo” by Kodaly

### **12:15-1:15pm Mozart Octets**

*Conductors:* Chris Blasting, Nate Gworek, Janine Hardenburg, Jesse Kinne, Louis Lohraseb and Michael Radi

*Musicians:*

Oboe: Jillian McPherson, Sara Morningstar

Clarinet: Danielle David, Jeff Geisendorfer

French horn: Shanna Reulbach, Peter Thompson

Bassoon: Zoe Kaier-Green, Eric Watson

*Performing:* Serenade in c minor by Mozart  
Serenade in Eb major by Mozart

## **1:45-2:45 – KEYNOTE ADDRESS • Wadsworth Auditorium**

### **1:15-1:45pm Hips and Harmony**

*Performers:* Claire Britt, Emily Cirincione, Skylar Jameson, Annie Gruenwald, Shannon Harwood, Katelyn Hearfield, Kerry Heffernan, Sarah Kerper, Minji Lee, Carly Martiniano, Julia Masotti, Brooke Meckler, Shannon McDermott, and Elizabeth Ryan

*Performing:* In My Life, Oh Darlin', Dreams, Like a Prayer, and Lady Gaga Medley

### **3:00-3:30pm Between the Lines, A Cappella**

*Musicians:* Josh Carney, Tony Ferro, Dan Gole, Alicia Hardenburg, Matt Hayes, Vanessa Kahen, Peter Kent-Stoll, Dan Lapidus, Becky Meissner, Tyler Ocon, Meghan Prue, Audrey Schiffhauer, Jake Seifert, Alanna Smith, Theresa Waz, and Alyssa Wurzburg.

# POSTER PRESENTATIONS

## Milne Library, First Floor Common Area

### Physics and Astronomy

#### 1 • Thin Polymer Film Fabrication Studies

Keegan Kelly and Daniel Pollock

*Faculty Sponsor: Kurtis Fletcher, Physics and Astronomy*

Thin polymer films are used as targets for neutron energy spectrum measurements using the magnetic recoil spectrometers at the Laboratory for Laser Energetics and the National Ignition Facility. These films are produced by placing a measured amount of Hydrogenated Polyethylene (HPE) powder on Kapton substrates which are sandwiched inside a mold for the desired thickness. The mold is then placed for a designated amount of time in between platens heated to a desired temperature and pressed with 6 tons by an International Crystal Laboratory Heated Press. This combination of heat and pressure transforms the HPE powder into a circular film. To determine optimal conditions for film making we have conducted a series of experiments, varying temperature applied to the heated platens from 100oC to 150oC in 5oC increments while implementing times of 5, 10, 15 and 20 minutes in the press at each temperature. All other parameters were kept constant. Films were then analyzed in three ways. First, each film was inspected visually and any visual non-uniformity was recorded. Secondly, the thickness was measured at 63 points on the films, as designated by a hexagonal template spanning the entire film area. The average thickness and percent thickness variation were then calculated. Finally, the transparency of each film was determined by measuring the amount of laser light incident on the film that is transmitted through to a photodiode on the opposite side. Ultimately the results for HPE films will guide our efforts to produce Deuterated Polyethylene (DPE) films for neutron energy measurements.

#### 2 • An MCP -Based Time of Flight Method for Measuring Charged Particle Energies

Jeffrey Leathersich and Rory Lenahan

*Faculty Sponsor: Kurtis Fletcher, Physics and Astronomy*

A time-of-flight experiment was set up to calibrate a system using Micro-channel plate detectors. Alpha particles emitted from decay of  $^{226}\text{Ra}$  pass through a polymer film with negligible energy loss and strike a surface barrier detector (SBD) a distance 1.15m away. Electrons knocked off of the polymer film are detected by the MCP detector. This signal is then delayed relative to the signal from the SBD, and the difference in time is compared using a time-to-amplitude converter. Using these data, a time-of-flight spectrum can be produced for the alpha particles. Because the energies of the alpha particles emitted from the  $^{226}\text{Ra}$  are already known, we can compare them to the results from this spectrum to confirm that the timing circuit works as expected.

#### 3 • Light's Bending Angle in the Equatorial Plane of a Kerr Black Hole

Edward Hansen

*Faculty Sponsor: Savi Iyer, Physics and Astronomy*

We present here a derivation of an expression for the bending angle of light in the equatorial plane of a spinning black hole, also known as a Kerr black hole. We show that the deflection depends on whether the motion of the light ray is in the direction of, or opposite to the spin. Compared to the zero-spin Schwarzschild case, the bending angle is greater when light travels in the direction of the spin (direct orbits), and smaller when opposite to the spin (retrograde orbits). In addition, we show that for higher spins, the effect is more pronounced resulting in tighter winding of direct orbits, and a higher degree of unwinding of retrograde orbits. A direct consequence of this effect is a shift in the image position of a star caused by the strong gravitational field of a Kerr black hole.

#### 4 • Broad-Band, Incoherent, Cavity-Enhanced Absorption Spectroscopy of Carbon Aerosols

Derek Wood

*Faculty Sponsor: George Marcus, Physics and Astronomy*

A powerful, multi-watt LED is directed into an optical cavity, which serves to enhance its signal and trap the light it produces in a workable environment. Carbon particles suspended in water are aerosolized with an atomizer, and then used to fill the cavity. Light entering the cavity interacts with these particles until exiting the cavity, whereupon it is measured via spectroscopy. This data can be used to calculate scattering and absorption losses of the LED light due to the presence of these aerosols. Furthermore, the humidity inside the cavity can be controlled through the introduction of water aerosols in conjunction with the carbon aerosols. This allows the air inside the cavity to act as an analogue to the air in the earth's upper atmosphere, where losses due to the carbon aerosols model the absorptive powers of pollutants.

#### 5 • Plasma Sputter Chamber

Jarrold LaFountain and Jack Silano

*Faculty Sponsor: James McLean, Physics and Astronomy*

Through our research we assembled a plasma chamber designed for demonstrations and sputter deposition. The apparatus consists of a glass bell jar set on an aluminum stand, attached to a rotary vein vacuum pump and high voltage source. To generate plasma, a low pressure vacuum is created in the bell jar with the vacuum pump. A voltage of around 400 volts is passed across two metal plates inside the vacuum, creating a potential which strips gas molecules of their electrons. The mix of energized ions and electrons is plasma. For sputter deposition, the high energy ions in the plasma can be used to knock atoms free from a desired coating metal on the negatively charged plate. The freed atoms are then deposited in a thin film on a target, coating it.

## **6 • Scanning Probe Microscopes of SUNY Geneseo**

**Mark Teets**

*Faculty Sponsor: James McLean, Physics and Astronomy*

My poster will describe the physics supporting the newly acquired SPM microscopes found in the basement of the ISC. Through the use of an atomic sized tip, these microscopes can probe a surface to provide information about topography and other qualities of a material at that scale. I will present the basis of how each type of microscope operates: Scanning Tunneling Microscope, Contact and Non-Contact Atomic Force Microscopes, and Near-Field Scanning Optical Microscope. Images taken at Geneseo may include the surface of gold at the nanoscale, the atomic structure of graphite, and possibly plasmid DNA. My intention is to raise awareness of the great resources we have at Geneseo, as well as the physics behind them.

## **7 • High-Speed RaPToRS**

**Robert Hennen and Kye Shibata**

*Faculty Sponsor: Edward Pogozelski, Physics and 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. Varying masses have been placed in the carrier to determine effects on the carrier's speed and the strength of the end gate in order to simulate HS-RaPToRS' use at NRL.

## **8 • WIYN Open Cluster Study: UBVR Photometry of the Open Cluster NGC 559**

**Michelle Gregor**

*Faculty Sponsor: Aaron Steinhauer, Physics and Astronomy*

UBVR CCD photometry is presented of the open cluster NGC 559. Data were taken with the WIYN 0.9m telescope at Kitt Peak National Observatory on a single photometric night. PSF photometry was used to determine cluster parameters such as distance, age, metallicity, and reddening.

## **9 • A Search For Super Li-Rich Stars in Open Cluster NGC 6633**

**Alex James**

*Faculty Sponsor: Aaron Steinhauer, Physics and Astronomy*

Presented here are spectroscopic data of the open cluster NGC 6633 and the results of a thorough search for stars exhibiting very high lithium abundance. An anomalous star has been found in this cluster to have a lithium abundance that is a factor of 10 greater than that found in other stars in the cluster. The data used was taken in February 2007 at the 3.5 meter WIYN telescope at Kitt Peak National Observatory. It was processed, the spectra extracted, and lithium abundances measured. The reasons for this anomaly are currently unknown, but it has been speculated that the higher lithium abundance could be the result of a planet having fallen into the star. Another possible reason for this unusual behavior is the diffusion of lithium into the surface convection zone.

## **10 • Characterization of Geneseo's New Astronomical CCD's**

**Evan Losh, Lauren Bomeisl, Kevin McCabe, Alex James and Ryan Rickert**

*Faculty Sponsor: Aaron Steinhauer, Physics and Astronomy*

We present an analysis of two Santa Barbara Instrument Group (SBIG) Charge-Coupled Devices (CCD's) that have recently been acquired as science instruments for use on Geneseo's 20" telescope. We have characterized both CCD's and determined parameters such as dark current, read noise, gain, and linearity. These CCD cameras will be used for both direct imaging and in conjunction with the new SBIG spectrograph and will be used to conduct a variety of projects including photometry of open clusters.

## **11 • Calibration of new Astronomical Spectrograph**

**Kevin McCabe and Lauren Bomeisl**

*Faculty Sponsor: Aaron Steinhauer, Physics and Astronomy*

We present a calibration of Geneseo's new high-resolution astronomical spectrograph. This spectrograph will be used with Geneseo's 20-inch telescope to study binary stars, star clusters, and galaxies. Wavelengths for both gratings were calibrated, the optics were aligned and focused and parameters such as the resolution and spectral coverage were measured using emission lamps. A solar spectrum was also obtained to check the above parameters.

## **12 • Stability of the Solar System to Stellar Intruders**

**Eamonn Moyer**

*Faculty Sponsor: Aaron Steinhauer, Physics and Astronomy*

In this project I have studied the stability of the solar system to outside intruders by numerically modeling solar system dynamics. Stars of varying masses were sent toward our solar system and the results of their interactions placed limits on how closely an intruder could have come to our solar system over its lifetime. The Mathematica code that exists to do this was modified to use symplectic integration using Hamiltonian mechanics rather than Newtonian. Parameters such as the impact parameter were varied so as to model a range of possibilities. I will discuss the background of the n-body problem, describe the methods I used, and present the results of my study on the stability of the solar system.

### **13 • Corrected UBVR CCD Photometry of Open Cluster NGC 6819 for Kepler**

**Sarah Muller**

*Faculty Sponsor: Aaron Steinhauer, Physics and Astronomy*

Presented here is the corrected UBVR CCD photometric data of open star cluster NGC 6819. A systematic abnormality in the raw images of NGC 6819 was discovered, after which part of the reduction process was redone for the existing data using a correctional procedure drawn up by collaborators at Indiana University. Fundamental stellar parameters of NGC 6819 such as age, distance, reddening and metallicity derived from these data will be used for the recently launched NASA Kepler Mission, which aims to extend our knowledge of extra-solar planets. Since any number of the cluster members may be potential candidates for hosting extra-solar planets, knowing basic properties of parent stars is vital to the planetary search.

### **14 • WIYN Open Cluster Study: Photometry of the Open Cluster NGC 6716 Over a One Degree Field**

**Ryan Rickert**

*Faculty Sponsor: Aaron Steinhauer, Physics and Astronomy*

We present BV CCD photometry of a 3x3 mosaic of open cluster NGC 6716. The data was taken from the WIYN .9m telescope at KPNO and was reduced using Landolt fields taken on the same night using PSF photometry. The data provides a combined 1 degree square field view which helps identify possible cluster members and will provide data for possible follow up observations on individual stars by an instrument such as the WIYN 3.5 m spectroscopic telescope.

## **POSTER PRESENTATIONS MacVittie College Union, Ballroom Anthropology**

### **15 • Proximate Mechanisms Governing Morning Male Howling Behavior in Mantled Howler Monkeys (*Alouatta palliata*)**

**Robert D'Andrea, Corey Hoffman, Ben Stokes, Rocio Gomez, San Francisco University; Sarah Robards - Sheaks, San Francisco University; Zach Brecheisen, New Mexico State University; Heberto Chaparro, New Mexico State University and Julie Jarvis, Michigan State University**

*Faculty Sponsor: Barbara Welker, Anthropology*

Howler monkeys' long distance communication is hypothesized to have evolved as a spacing mechanism. Male howling allows groups to monitor one another in space, thus minimizing time and energy expenditure in a genus characterized by a low quality diet. On the proximate level, here are numerous causes for male howling, e.g. other male calls, wind, thunder, predators, human noises, etc. However, what remains to be determined is what stimulates the first male to call each morning, thus beginning the dawn chorus of howling. Data were collected on the dawn calling behavior of up to five groups of mantled howlers monkeys, near the Ometepe Biological Field Station, Nicaragua. Researchers stood on roads or in forest clearings, adjacent to known group home ranges. They recorded data on light, temperature, humidity, cloud cover, and wind, at two minute intervals, while listening for the first howl and birdsong. Light was the only variable that significantly accounted for variance in the time of the first call (ANOVA  $t=2.611$ ,  $n=25$ ,  $P=.016$ ). Further support for the role of light came from correlation analyses. While not significant, results show a positive relationship between the time that both birds and males began calling (Pearson  $r=.482$ ,  $n=14$ ,  $P=.081$ ).

## **Biochemistry**

### **16 • Oxidation- or Radiation-Derived Effects on Human Mitochondria as Seen in Fibroblast Cell Line Derived from a Family with Elevated Levels of the 4977-bp Common Deletion in its Mitochondrial DNA**

**Zachary Stoll and Sarah Kaufer**

*Faculty Sponsor: Wendy Pogozeleski, Biochemistry*

DNA in the mitochondria of cells undergoes deletion events that compromise energy function but do not prevent cells from being viable. The mechanism of how these deletions occur is a topic of interest. We have been investigating the role of oxidative stress in deletion formation using a variety of methods, including gamma radiation. We observed a dose-dependent increase in the levels of a 4977-bp deletion called the "common deletion." using real-time PCR with an external DNA quantification standard in fibroblast cells.

## **Biology**

### **17 • Expression of the foraging gene in slavemaking ants and their hosts**

**Morgann Clark**

*Faculty Sponsor: Jennifer Apple, Biology*

The slavemaker species *Formica subintegra* is a social parasite that exploits the workers of the host species, *Formica glacialis*. The slavemakers conduct raids on the host species to take brood back to the slavemaker colony and raise them to serve the slavemaker species. The slavemaking ants and their hosts exhibit different behaviors, particularly in foraging. Foraging behavior in ants, *Drosophila*, and honeybees has been linked to a cGMP-activated protein kinase encoded by the foraging

gene. The purpose of this study is to determine if differences in expression of the foraging gene between slavemaker and host workers can explain the absence of conventional foraging behavior in the slavemaker species. Degenerate primers based on other ant species were used to amplify part of the foraging gene in both Formica species. We cloned and sequenced these gene fragments to design primers specific to Formica for real-time PCR. We are using real-time PCR to compare patterns of expression of the foraging gene in the host and slavemaker workers.

## **18 • Spatial Dynamics and Behavioral Patterns of Slavemaking Formica Ants and Their Hosts**

Sara Lewandowski

*Faculty Sponsor: Jennifer Apple, Biology*

Slavemaking ants are social parasites that raid nests of a related species and steal the developing brood, which is raised in the slavemaker colony as a workforce to forage, maintain the nest, and care for slavemaker offspring. The Arboretum is home to two slavemaking species, *Formica subintegra* and *F. pergandei*, which parasitize colonies of *F. glacialis*. We are analyzing spatial and behavioral patterns in these interacting populations. Over 220 host nests and 10 slavemaker nests have been mapped in the Arboretum using ArcGIS. Preliminary analyses suggest a clustered pattern among the host nests and spatial autocorrelation with respect to mound size. Clusters of nests may result from budding, in which multiple nests comprise a single colony. Behavioral assays were conducted to determine if ants from closely-spaced nests exhibited lower levels of intraspecific aggression, suggesting colony budding. No relationship was seen between internest distance and aggression levels. We are using DNA microsatellites to estimate the relatedness of host ants to determine whether there is a genetic component to the aggression patterns. Finally, we assessed the raiding activity of slavemakers. Approximately 50 raids were observed in 2009. We have found intercolony differences in raid distance and possible interspecific variation in raid frequency.

## **19 • Using microsatellites to estimate the impact of slavemaking ants on their hosts**

Bridget Neary

*Faculty Sponsor: Jennifer Apple, Biology*

Slavemaking ant species are social parasites that raid colonies of another species of ant, steal the brood, and raise it as their own work force. In the Arboretum, we have found two species of slavemakers which both parasitize the same host species of mound-nesting ant, *Formica glacialis*. In order to assess the impact of the slavemakers on the host population in the Arboretum, we are using genetic markers to calculate relatedness among *F. glacialis* workers in free-living colonies and in slavemaker colonies. We genotyped 106 *F. glacialis* ants from 20 free-living colonies and 77 ants in 9 slavemaker colonies at 4 microsatellite loci. Comparing the relatedness among host slaves in a slavemaker colony to that among workers in free-living colonies can indicate the number of nests that were raided to make up the slave population of a given slavemaker colony. In some cases, we may even be able to identify which host colonies were raided and thus the distance of some of the raids. This information will lead to a better understanding of the life histories of the two slavemaker species in the Arboretum.

## **20 • Infection of Formica ants with the bacterial endosymbiont Wolbachia**

Peggy Reyes

*Faculty Sponsor: Jennifer Apple, Biology*

Wolbachia are bacteria that live in the cells of various invertebrate species to which they cause a wide range of effects on physiology and reproduction. Commonly Wolbachia infection is spread from mother to offspring (vertical transmission), but due to intimate interactions between hosts and insect parasites, it is possible that infection could occur through horizontal transmission as well. Slavemaking is a form of social parasitism in ants in which the slavemaking ants invade neighboring colonies of the host ant species and capture their offspring, which will become slave workers in their own nests. The enslaved host workers are in charge of nest maintenance, foraging, and care for slavemaker offspring, while the slavemaker workers remain in the nest except during raids. The aim of this study is to determine if there is a difference in Wolbachia infection rates between free-living *Formica glacialis* ants and *Formica glacialis* ants that belong to the slave population of a slavemaking ant. Such a difference would suggest horizontal transmission of Wolbachia is occurring in this ant community.

## **21 • Starvation of Biomphalaria; similarities to schistosome infected Biomphalaria**

Mohammad Iqbal

*Faculty Sponsor: Susan Bandoni-Muench, Biology*

Snails in the genus *Biomphalaria* transmit schistosomes, flatworm parasites that cause intestinal schistosomiasis, a debilitating disease affecting millions of people in the tropics and subtropics. These snails are known to respond to a variety of chemical signals associated with mate choice, predation, food, calcium (and various other minerals), temperature, and light. Infection with *Schistosoma mansoni* causes altered behavior of the snail host *B. glabrata*; similar responses can be obtained from starved snails. I investigated whether starved snails showed altered responses to chemical cues. Snails were starved, in groups of 4-6, over 60 hours and then placed in aquaria containing lettuce, calcium or both lettuce and calcium. Snails were given a total of twenty minutes to reach their target (lettuce or calcium). Snails that moved within the first five minutes reached their target, whereas snails that remained stationary for a longer period of time either did not reach their target or took significantly longer time. When given a choice between calcium and lettuce, snails moved toward lettuce more often. A better understanding of the responses of *Biomphalaria glabrata* will open new avenues for control of this snail.

## **22 • Locomotion in Bulinus truncatus is altered by infection with Schistosoma Haematobium**

Kian Bichoupan and Olga Varechtchouk

*Faculty Sponsor: Susan Bandoni-Muench, Biology*

*Bulinus truncatus* serves as an intermediate host for *Schistosoma haematobium*, a parasite capable of causing Schistosomiasis. This parasitic disease affects 200 million people globally. We investigate the effect of infection with *S. haematobium* on

locomotion in the intermediate host *Bulinus truncatus*. A total of 23 parasitized and 21 unparasitized snails were analyzed by being placed in clear plastic aquarium over a grid. Movements of each snail were recorded with a video camera over a ten-minute interval. Video clips of infected and uninfected snails were analyzed, compared and tested for differences in rate of travel, total distance traveled, rotation and rest phases. The total distance traveled, rate of travel and time in rest phases were not significantly different between the infected and uninfected snails. Unparasitized snails rotated a greater amount than infected snails and displayed less rest phases. Parasitized snails also displayed unique behavior in climbing walls when compared to unparasitized snails. Our results support alteration of the behavior of the snail host by the parasite as a result of infection. Previous studies of another human schistosome, *Schistosoma mansoni* and its intermediate host, *Biomphalaria glabrata* agree with these results. Understanding of this behavior may provide new implications for transmission and control.

### **23 • *Schistosoma Haematobium*'s Effect on the *Bulinus* Snail's Pattern of Movement in the Presence of a Predator**

Hanna Zetterstrand - Robinson

*Faculty Sponsor: Susan Bandoni-Muench, Biology*

Snails in the genus *Bulinus* transmit *Schistosoma haematobium*, a parasitic flatworm that causes urinary schistosomiasis, a debilitating disease affecting 110 million people in sub-Saharan Africa. Although biological control through predation is often proposed, little is known about the response of infected and uninfected snails to predators. I investigated the response of parasitized and unparasitized snails to crushed snails. Groups of six infected or uninfected snails were placed in glass dishes with play sand and a tile on rubber stoppers as a shelter. Uninfected and infected snails were treated with snail slurry (snails crushed up in spring water) while controls were treated with spring water alone. Snails were observed for 30 minutes after addition of the slurry or spring water. A nonparametric analysis of variance was used to test the hypothesis that there is no difference in the response of infected and uninfected snails to snail slurry. Infected snails in fact did climb the walls of the dish significantly more often than uninfected snails when exposed to the snail slurry. My data indicate that parasitized and unparasitized snails respond differently to crushed snails, and may therefore respond differently to predators, which possibly could be used in the future for biological control.

### **24 • Observations of Oviposition in *Bulinus Truncatus*, Intermediate Host of *Schistosoma Haematobium*.**

Kaitlyn Clarke

*Faculty Sponsor: Susan Bandoni-Muench, Biology*

Snails in the genus *Bulinus* transmit *Schistosoma haematobium*, the causative agent of urinary schistosomiasis. Urinary schistosomiasis affects more than 100 million people in Africa and the Middle East. Currently, there are few options for control of medically important snails. Snails in the genus *Pomacea* feed on egg masses of other snails and have been proposed as agents of biological control. Investigating oviposition patterns in *Bulinus truncatus* is a first step in understanding the response to *Pomacea*. Ten *Bulinus truncatus* were placed individually into clear plastic cups prepared with play sand, 150mL of artificial spring water, a uniform size of a lettuce leaf and a raft made up of Styrofoam of approximately one inch by one inch. The containers were observed for egg masses every two hours over a period of 24 hours. Results showed that individual *Bulinus* have a rate of oviposition of about one egg mass per 24 hours with oviposition occurring chiefly between 4 pm and 8 pm. The next step in assessing behavior of *Bulinus* will be to observe oviposition behavior in the presence of a natural egg predator, *Pomacea bridgesi* using a divided tank.

### **25 • Identification of Symbiotic Bacteria in Clonal Sea Star Larvae (Echinodermata)**

Adam Dumas, Geoffrey Griffiths and Grace Savoy-Burke

*Faculty Sponsor: Isidro Bosch, Biology*

The goal of our project was to expand upon the understanding of a symbiotic relationship between internal bacteria and clonal sea star larvae that are found in the Sargasso Sea and the Atlantic Gulf Stream. The nature of this relationship is not well understood. We have isolated several bacterial strains from freshly collected larvae and cultured them using marine agar. Gram-staining and observations with light and electron microscopes have indicated the bacteria are gram positive rods. Bacterial DNA was isolated from strains in culture and from larvae preserved in alcohol. The first 400 base pairs of 16 S ribosomal DNA were amplified using the Polymerase Chain Reaction technique. This amplified DNA is currently being used in the process of cloning the bacterial strains with a pGEM®-T vector and transforming them with *E.coli* competent cells. The cloned strains will be amplified again via PCR and sent to Roswell Park for sequence analyses and identification. Identification of bacterial strains is an important step in understanding their role in the larvae-bacteria relationship.

### **26 • A Possible Relationship Between Agricultural Land Uses on Near Shore Algal Growth on Conesus Lake**

Matthew Stryker and Hannah Dodge

*Faculty Sponsor: Isidro Bosch, Biology*

Nearshore blooms of filamentous algae posed a persistent problem to water quality in Conesus Lake. Filamentous algae grow rapidly in response to runoff from the surrounding watersheds because the runoff carries high concentrations of nutrients (e.g. phosphorus and nitrate) that are essential to algal growth. From September 3-10, 2009 we measured filamentous algal cover along the nearshore of Conesus Lake near the mouths of streams that drained five watersheds primarily used in agriculture. Digital quadrant photographs were taken along three transects at each shoreline area and the percent cover by algae was determined using Image digital analysis software. Algal cover was higher in some areas (median range 12.9-19.4) while low or nearly absent in others (median range 0-2.6). Subsequent analysis of land use at these watersheds indicated that the highest algal cover was correlated with the size of the watershed and the acreage devoted to agriculture.

## **27 • Photomorphogenesis in Wisconsin Fast Plant *Brassica rapa***

**Shauna Davis**

*Faculty Sponsor: George Briggs, Biology*

Plants respond to light in a number of different ways. Particularly important to seedlings is the de-etiolation response which triggers a variety of changes in form, function and chemistry in a seedling as it emerges from the soil (darkness) into a lit environment. De-etiolation can involve several plant response systems, several having different pigments and consequently different action spectra. We are studying de-etiolation in Wisconsin Fast Plant (*Brassica rapa*), a plant bred for laboratory and instructional uses. We have developed an assay to study de-etiolation, specifically changes in cotyledon size, chlorophyll content and hypocotyl length and are using this assay with LED light sources with different wavelengths to study the action spectra of the different processes. In a protocol experiment we tested the de-etiolation effects of brassica under conditions of total darkness and condition of 48 hours of darkness then 6 hours of light followed by an additional 24 hours of darkness. The protocol has demonstrated that the samples exposed to 6 hours of light displayed de-etiolated characteristics such as larger cotyledons and shorter hypocotyl length. I predict that the LED sources will exhibit similar responses but the different wavelengths will elicit varied levels of de-etiolation.

## **28 • The Effect of Nutrient Deprivation on Myrosinase Gene Expression in *Brassica rapa***

**Ben Peterson and Colin Keenan**

*Faculty Sponsor: George Briggs, Biology*

Myrosinase is an enzyme found in members of the mustard family that cleaves glucosinolate and forming isothiocyanate or thiocyanate, compounds thought to serve as chemical defenses. We studied the expression of the myrosinase gene in Wisconsin Fast plant (*Brassica rapa*). In particular, we explored whether myrosinase expression is influenced by stress due to nutrient deprivation. Our hypothesis was that more myrosinase would be produced in nutrient deprived plants. We first used PCR techniques to verify that our primers recognized the myrosinase DNA sequence in *Brassica rapa*. We then studied the effects of nutrient deprivation on the expression of the myrosinase gene. Groups of plants were grown in differing concentrations of nutrients. Quantitative PCR was used to compare levels of myrosinase mRNA in control and nutrient deprived plants. The presence of more mRNA in the tissue of plants growing under low nutrient conditions would suggest that the plant is increasing the expression of the myrosinase gene in response to the nutrient deficiency. We will also be studying the effect of simulated herbivory on myrosinase expression.

## **29 • PCR Analysis for DELLA gene**

**Amber Townes**

*Faculty Sponsor: George Briggs, Biology*

One of the many marvelous things about plants is that they are able to adjust their growth patterns depending upon environmental conditions. The DELLA repressor, found in many types of plants, may play a general role in regulating growth in response to environmental variables. Our study compares the appearance and expression of the DELLA repressor gene in both weedy and non-weedy varieties of plants. One characteristic of weedy plants is that they are particularly able to adjust their growth depending upon conditions. Our hypothesis is that this characteristic of weedy plants will be reflected in the greater presence of DELLA genes and or greater expression of DELLA genes repressors in three members of the same genus: *Brassica rapa*, (a cultivar developed for fast growth under uniform conditions) *Brassica nigra*, (a wild type weedy plant) and *Brassica oleracea* (a non-weedy plant that is grown for cultivation). PCR performed on the DNA from each of these plants using primers designed based on sequenced DELLA genes from *Arabidopsis*, a closely related plant, allows us to test this hypothesis.

## **30 • Expressions of R-gene analogs in *Vitis aestivalis* cv. *Cynthiana* and *Vitis vinifera* cv.**

### **Cabernet Sauvignon Infected with Powdery Mildew**

**Laura Banks and Angela Chu**

*Faculty Sponsor: Ming-Mei Chang, Biology*

Many disease resistance genes (R-genes) in plants encode nucleotide-binding site and leucine-rich repeat (NBS-LRR) proteins. Although their precise role in recognition is unknown, they are thought to monitor the status of plant proteins targeted by pathogen effectors. The purpose of this study is to investigate expressions of NBS-containing resistance gene analogs in greenhouse grown grapevines, *Vitis aestivalis* cv. *Cynthiana* (resistant) and *V. vinifera* cv. Cabernet Sauvignon (susceptible), exposed to a major grape pathogen, powdery mildew (*Erysiphe necator*). Messenger RNAs were isolated from infected and uninfected grape leaves and reverse transcribed into cDNAs which were used for realtime quantitative PCR (qPCR) analysis. Our results show that higher mRNA expressions were observed in the uninfected *Cynthiana* leaves than that of infected ones as indicated by the lower delta Ct. However, there is no difference observed between the infected and uninfected Cabernet Sauvignon leaves. Also, for the genes tested, there was little or no mRNA expressions in the Cabernet Sauvignon leaves as indicated by their high Cts. The order of mRNA expressions of two genes tested, C2 and C5 is: uninfected *Cynthiana* > infected *Cynthiana* > uninfected and infected Cabernet Sauvignon. The results suggest that these NBS-containing genes may play an important role in defending *Cynthiana* against powdery mildew since they have the highest expression levels in the uninfected leaves of *Cynthiana*.

## **31 • Does actomyosin contraction regulate intestinal lumen diameter in *Caenorhabditis elegans*?**

**Christie Salisbury-Ruf, Nicole Vissichelli and Soohyun Oh**

*Faculty Sponsor: Abbi Cox, Biology*

The *C. elegans* intestine provides an excellent model system for studying processes involved in organogenesis, including the formation of biological tubes. *C. elegans* has a simple intestine that consists of an unbranched epithelial tube with a fluid filled lumen. Regulation of lumen diameter is crucial for biological tubes to function properly, however how lumen diameter is regulated is not well understood. We hypothesize that actomyosin contractility may be involved in regulating lumen width,

with increased contraction leading to a smaller lumen diameter. We used a technique called RNA interference (RNAi) to deplete expression of genes involved in actomyosin contraction in a *C. elegans* strain that expresses an ERM-1::GFP fusion protein. This marker can be viewed with a confocal microscope thus allowing us to see the effects of the eliminated gene products on the shape of the intestinal lumen. Preliminary results indicate that depletion of some genes predicted to have roles in decreasing actomyosin contractility (*rhi-1*, *T04C9.1*, *Rhogf-2*, *rga-6*, and *gfi-2*) resulted in decreased intestinal lumen diameter. In summary, our results indicate an important and previously undocumented role for actomyosin contractility in regulating the lumen diameter of endothelial tubes.

### **32 • Strategic Land Conservation Plan for Genesee Valley Conservancy**

**Kun Ma**

*Faculty Sponsor: Kristina Hannam, Biology*

The Genesee Valley Conservancy (GVC) is a local land trust dedicated to the conservation of high-quality natural habitats and farmlands. This project involves the development of a Strategic Land Conservation Plan (SLCP) to establish conservation priorities for the GVC. The SLCP will incorporate information regarding the natural, agricultural and scenic resources of Genesee River Watershed, display the results of GIS data analysis, and present the conservation status of lands located in the Genesee River Watershed. The completed SLCP will highlight focus areas that are worthy of major conservation effort from GVC and serve as a guide in selecting conservation land projects. I will report on the progress in developing the SLCP, including performance of suitability analyses on GIS data collected by GVC and other interns, development of a set of project selection criteria, and set up of parameters for focus area mapping.

### **33 • Sumoylation and its Effects on Spindle Pole Body Positioning in *S. cerevisiae* During the Cell Cycle**

**Alex Coots and Allison Cornwall**

*Faculty Sponsor: Harold Hoops, Biology*

Cell division is a tightly regulated process controlled by many proteins within the cell. The small ubiquitin-related modifier (SUMO) protein is known to have implications in the cell cycle; however its purpose and roles have been elusive. This project aimed to outline whether or not SUMO influenced the spindle pole body positioning and orientation within budding *S. cerevisiae*. The spindle was viewed using immunostaining and epifluorescence on temperature-sensitive strains that under-expressed (*yHH58*), over-expressed (*yHH59*), or were wild-type (*yHH57*) for SUMO. Cells were scored for position of the spindle pole body within the mother/daughter cell as well as for angle relative to the bud axis. Under the restrictive temperature, the average angle of *yHH59* was 33.07° and the average angle of *yHH57* was 19.08°. We are continuing to collect data on spindle positioning in these strains under both restrictive and permissive conditions to determine if over-sumoylated and under-sumoylated mutant strains have abnormal spindle pole body within the mother/daughter cell and the angle relative to the bud axis. If true, this suggests a role of sumoylation in determining spindle position in dividing yeast cells.

### **34 • A B-galactosidase Assay to Determine the Strength-of-interaction Between Sumoylation Pathway Proteins and Spindle-positioning Proteins in Yeast.**

**Mitchel Costa and Eric Lenhard**

*Faculty Sponsor: Harold Hoops, Biology*

Cell division is an elaborately choreographed process where proteins interact with each other and the mitotic spindle over space and time. It has been proposed that sumoylation might be involved in this process as sumoylation frequently controls protein-protein interactions. Previous work has shown both genetic and physical interactions between sumoylation proteins and spindle-positioning proteins, but the biological significance of these interactions is unknown. Cellular stressors are known to influence sumoylation of some proteins. Here we report an assay to determine the strength of interaction between sumoylation and spindle positioning proteins using the yeast two-hybrid system. We transformed one mating strain with plasmids coding for the B galactosidase activating domain attached to sumoylation proteins and another with the DNA binding domain coupled to one of two spindle-positioning proteins, *Kar9p* or *Bim1p*. Each of the 22 mated diploid strains thus tests for an interaction between sumoylation pathway proteins and spindle-positioning proteins. The strongest interaction was shown between the sumoylation protein *WSS1p* and the spindle-positioning protein *Bim1p*. In our preliminary experiments, the strength of the interactions was strongly dependent on culture age. We are continuing to explore the effect of environmental influences on the strength of this interaction.

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

**Laura Fisher**

*Faculty Sponsor: Kevin Militello, Biology*

In *E. coli*, DNA methylation of cytosine bases occurs in the sequence 5'CC(A/T)GG3' and is catalyzed by the Dcm protein. Our laboratory has previously demonstrated that 5-methylcytosine plays a role in transcription in *E. coli*. However, it is unknown if DNA methylation levels or sites change in response to growth phase and this was directly investigated. Bacteria were grown and DNA was isolated at log and early stationary phases. The presence of methylated 5'CC(A/T)GG3' sites was analyzed using a restriction enzyme isoschizomer assay, where *PspGI* and *EcoRII* do not cut methylated sites. The results demonstrated that some wild-type log phase DNA was sensitive to *PspGI* and *EcoRII*, indicating the presence of unmethylated sites. In contrast, stationary phase DNA was resistant to *PspGI* and *EcoRII* indicating that DNA methylation is present at most, if not all loci. Our data is the first that demonstrates unmethylated sites, and this indicates there may be a system for differential regulation of DNA methylation and possibly differential bacterial gene expression. In the future, we aim to identify the unmethylated sites and determine if there is regulation of *dcm* transcription.

### **36 • Expression of TbDMT gene in baker's yeast, *Saccharomyces cerevisiae***

**Richard Smindak, Brittany Frankel, Tony King and Rebecca Pietrasik**

*Faculty Sponsor: Kevin Militello, Biology*

*T. brucei* is the parasite that causes African sleeping sickness. The *T. brucei* genome contains a putative DNA methyltransferase called TbDMT that we hypothesize to be responsible for the creation of 5-methylcytosine residues. We hypothesize that these residues play a role in regulating expression of the parasite's surface proteins, making the disease difficult to combat by the human immune system. This experiment aimed to express both the TbDMT enzymatic domain and full-length protein in yeast. We intended to later purify these proteins to test the methylation capability of the TbDMT protein. To achieve this, the DNAs were amplified by PCR, inserted into yeast expression vectors, and introduced into baker's yeast. SDS-PAGE and western blot analyses determined that the enzymatic domain was successfully expressed in yeast but was insoluble. Expression of the full-length protein was barely detectable in some experiments and not detected in others, suggesting that little to no TbDMT was expressed in yeast. Future research may involve improvement of experiments to isolate the soluble TbDMT protein. Ultimately, we intend to test if the soluble, purified TbDMT protein indeed methylates DNA.

### **37 • An Exploration of the Interaction Between Sulforaphane and Tumor Necrosis Factor $\alpha$ on Acute Leukemia, Melanoma and Breast Cancer Cells**

**Matthew Chung, Jason Garner and Melissa Kaye**

*Faculty Sponsor: Robert O'Donnell, Biology*

Drugs often have unpredictable effects and react with each other and the body in strange and damaging ways. To counter this, it is sometimes possible to use combinations of different chemicals to achieve the desired effect of killing the most cancer cells possible while preserving the patient's other rapidly dividing cells. In our previous studies we showed that sulforaphane alone could block the cell cycle in G2/M and cause the death of three tumor cell lines in vitro. In this research project we are testing the effects of combining sulforaphane treatment with tumor necrosis factor  $\alpha$ ; based on reports in the literature that showed that the combination of sulforaphane and necrosis factor  $\alpha$ ; (TNF  $\alpha$ ;) together cause apoptosis despite the fact that TNF  $\alpha$ ; alone prevents apoptosis. In our preliminary experiments using cytotoxicity assays we did find increased killing when the drugs were used in combination with one of the cell lines. To determine if enhanced apoptosis is induced we are currently using flow cytometry, comet assays and caspase 9 assays to assess apoptosis induction in three different cell types and comparing each drug alone and in combination.

### **38 • The Effect of Artesunate on MDA-MB 231 Breast Cancer Cells**

**Joseph McDonald**

*Faculty Sponsor: Robert O'Donnell, Biology*

Artesunate, a semi-synthetic derivative of Artemisinin, has traditionally been used in the effective treatment of drug resistant strains of malaria; however, new findings have suggested its capabilities as a new chemotherapeutic agent for cancer. Human breast cancer cells from the MDA-MB 231 cell line were grown and exposed to Artesunate to test if the drug had cytotoxic effects on these cells and determine an optimal dose for use in subsequent experiments. The cells were plated in a 96-well plate and a dose of 1000 $\mu$ mol of Artesunate 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). Cytotoxicity was observed at a dose range of 1000 $\mu$ mol to 62.5 $\mu$ mol when cells were exposed for 72 hours. The cells were also examined using an Enzyme Linked Immunoabsorbent Assay (Roche Applied Sciences) after exposure to Artesunate, to determine if the cytotoxicity observed was due to apoptosis. The assay results showed a 12-fold increase in apoptosis at a drug dose of 62.5 $\mu$ mol. A microarray is planned for the future to determine the genetic targets of Artesunate by comparing the changes in gene expression that result from a 72 hour exposure to Artesunate in sodium bicarbonate to sodium bicarbonate alone.

### **39 • The Presence of DNA Cytosine Methylation and Enterobactin Production in Iron Limited *Escherichia coli***

**Michael Reinhardt**

*Faculty Sponsor: Simon Robert, Biology*

Most *Escherichia coli* isolates contain DNA with 5-methylcytosine (5-MC), a product of post-replication modification by the DNA cytosine methylase (dcm). Yet cytosine methylation is not required, as *E. coli* strain B has no 5-MC, and mutants without dcm show no effect on growth. We are interested in the function of 5-MC in *E. coli*. One approach used microarrays to examine the differences in global gene expression in strains with and without the dcm gene. Experiments in Biology 390 suggested that dcm was involved with iron metabolism. During iron limitation *E. coli* produces Enterobactin, a catechol that aids in iron uptake by the bacteria. Enterobactin genes were over expressed in dcm- *E. coli*. The experiments reported test the hypothesis that 5-MC status will change the amount of Enterobactin produced as well as alter the response of *E. coli* growth under iron limiting conditions. Growth was measured by monitoring culture optical density (600 nm) and Enterobactin was quantified using the Arnow test for the detection of catechols. We will report on the effects of iron limitation or supplementation on the growth and Enterobactin production in two strains of *E. coli*, a wild type strain BW-25113 (dcm+) and the mutant JW1944-2 (dcm-).

### **40 • Aerobiology Research**

**Kyle Healy and Christine Barbaccia**

*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. We are using a Rotorod collection sampler on the roof of the ISC to gather pollen. A rotating head at the bottom of the sampler spins at a set rate and has special adhesive rods that 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. Using this data we have recorded the daily pollen concentrations for the 2009 growing season. We plan to collect similar data for the 2010 growing season. The data allows

to develop a phenology of flowering plants and allergens in the air and to correlate this with medical allergy incidences. Furthermore, with multi-year data we hope to be able to determine how weather impacts pollen concentration.

#### **41 • Climate and Forest Ecology: the Hemlock Decline**

**Heath Marchand**

*Faculty Sponsor: Ray Spear, Biology*

Approximately 5400 years ago, *Tsuga canadensis* underwent a large region-wide population decline in north eastern forests. Paleoecologists have proposed two major hypotheses to explain the decline (1) a period of intense drought and (2) a pathogen. Previous research assessed the extent of the decline in a number of sites across the north eastern United States. We are assessing the extent and possible explanation of the decline in Western New York by looking at the paleoecological records at Hanging Bog, Belmont Bog and Springwater Bog Pond. We are comparing the history in western New York to that of Crocker Pond in Maine. Pollen analysis of the sediments at these sites will be used to determine the ages and extent of the decline throughout the region and provide potential evidence for dry conditions. Loss on ignition data from the sediments and increased inorganic material will be used to assess the possibility of drought as a cause of the decline.

### **Center for Community**

#### **42 • The Ghana Project**

**Jesse Parent, Rejoyce Owusu, Hannah Schmidt, Meg Leahey, Kerisha Hawthorne, Michael Cornell and**

**Abigail Boateng**

*Faculty Sponsor: Tom Matthews, Center for Community*

Through the efforts of SUNY Geneseo students, we will promote global awareness and civic engagement. By conducting educational programming and developing community partnerships, we will raise funds in order to help build and sustain a school in Ghana. In addition, we will share Ghanaian culture, and maintain a connection with Kwame Nkrumah University of Science and Technology in Kumasi, Ghana. The Ghana Project is a Civic Engagement Project conceived through the GOLD Diamond Civic Engagement Leadership Certificate

### **Chemistry**

#### **43 • Advanced Organic Lab Development: Stereochemistry of the Alkene Bromination Pathway**

**Devin Burke and Steve Wasserman**

*Faculty Sponsor: David Johnson, Chemistry*

The primary objective of this research is to develop an advanced organic laboratory that uses NMR spectroscopy to elucidate the stereochemistry of an alkene addition reaction. Deuterated trans-1,2-bis(methoxycarbonyl)-4-cyclohexane was synthesized using a Diel-Alder reaction with butadiene-2,2,5,5-d4 sulfone as the diene and dimethyl-fumarate acting as the dienophile. This trans-diester alkene will be brominated and analyzed with NMR spectroscopy to determine stereo-chemical properties of the reaction mechanism. Through analysis of deuterated molecules, it can be deduced whether the addition of bromine occurs in a syn or anti fashion. The NMR analysis of the product after bromination should reveal a trans-bromine product, which would support the anti-addition reaction pathway.

#### **44 • Aggregation of Cholesterol-Based Gelators: Spectroscopic Studies**

**Melissa Lamson and Hannah Whitcomb**

*Faculty Sponsor: Christina Geiger, Chemistry*

This poster will report on the formation and spectroscopic characterization of two different cholesterol-based gelators, cholesteryl-biphenoxyoctanoate (MBC) and dicholesteryl-4-4'-biphenoxydioctanoate (DBC), and their respective 2% gels. In order to study the aggregation of both compounds, 2% MBC and 2% DBC gels were synthesized. Absorption, emission, and circular dichroism studies were performed on 2% MBC and 2% DBC octanol gels and the 10-5 M solutions of both compounds, to compare the spectroscopic results of the aggregates and the isolated compounds. Absorption and emission data reveal a shift in the absorbance and emission of each gel when compared to its solution. In addition, solvent dependent studies of the emission and absorption of MBA and DBA were performed. It was observed that solvent polarity resulted in a shift in both absorbance and emission. Circular dichroism studies reveal, as expected, no aggregation or chirality of the dilute solutions of the isolated compounds. However, the circular dichroism spectra of 2% MBC and DBC gels, in octanol, clearly reveal chiral aggregate formation on the gels. Circular dichroism temperature studies of 2% DBC gel depict inversion of chirality as the temperature increases. Where as, studies of 2% MBC gel show disappearance of the absorption as the temperature increases.

#### **45 • The Synthesis of a Novel N,N,S,S Macrocyclic Ligand**

**Thomas O'Loughlin**

*Faculty Sponsor: David Geiger, Chemistry*

Our attempts to synthesize and characterize a new macrocycle with nitrogen and sulfur donor atoms will be presented. Our efforts employ Schiff base coupling of 1,2-diaminobenzene and 2-thiophenecarboxaldehyde. The characterization of the novel macrocycle will be discussed. We plan to explore the coordination chemistry of the new macrocycle. Progress to date will be presented.

#### **46 • Synthesis and Microscopy Studies of Novel Cholesterol-Based Organogels**

**Hannah Whitcomb and Melissa Lamson**

*Faculty Sponsor: Christina Geiger, Chemistry*

We report the synthesis and structural characterization of two novel gelators, a monocholesterol biphenyl derivative; cholesteryl-biphenoxyoctanoate (MBC) and a dicholesterol biphenyl derivative; dicholesteryl-4-4'-biphenoxyoctanoate (DBC).

Proton Nuclear Magnetic Resonance data confirms the structure and purity of each gelator. Molecular Modeling studies were performed to determine the most stable conformation of each gelator. Microscopy images of both MBC and DBC gels provide insight of their morphology, showing a three dimensional network of fibers throughout the entire gel. From the images obtained by conventional and fluorescence microscopy and the molecular modeling results, we propose a scaffolding model for MBC and DBC gels. Currently, single crystal growing procedures are being attempted on MBA, the acid derivative of MBC, in order for the molecule to be analyzed by X-ray crystallography. This will lend more support for the physical aggregation of the gel.

#### **47 • Determining the Non-Markovnikov Electrophilic Addition Mechanism of Atropic Acid**

**Elizabeth Hoffman**

*Faculty Sponsor: Eric Helms, Chemistry*

The electrophilic addition of HCl to an alkene should follow a 1,2 Markovnikov addition. However, when atropic acid is reacted with HCl, the reaction follows non-Markovnikov addition and an unexpected product is obtained. It seems that the carboxylic acid acts as an electron-withdrawing group that destabilizes the product, preventing a Markovnikov addition. Instead, the mechanism could be a 1,2 or a 1,4 non-Markovnikov addition. By reacting atropic acid with 1 M HX and DX (where X is a halide), the products can be run through NMR and analyzed. If the product's alpha carbon has a 50%/50% mix of hydrogen and deuterium, then 1,4 non-Markovnikov addition took place. If the alpha carbon is 100% deuterium based on NMR, then the 1,2 non-Markovnikov addition occurred. We predict that the 1,4 addition is the mechanism of this reaction.

#### **48 • Identification of the Acetylenase Gene in *Anaphalis margaritacea***

**Robyn Strauss**

*Faculty Sponsor: Eric Helms, Chemistry*

A 13 carbon-chlorine-containing enol ether polyacetylene has been isolated from the *Anaphalis margaritacea*, commonly known as the Pearly Everlasting. Similar organohalogens and polyacetylenes have proven to antimicrobial, antitumor and antibacterial properties and are often involved in antifungal reaction in plant species. The three triple bonds in this 13-carbon halogenated acetylene are most likely modifications catalyzed by acetylenase enzymes, a divergent form of the FAD2 desaturase enzyme. Degenerative PCR was performed to detect if acetylenases are present in the *Anaphalis margaritacea* genome using primers that have successfully amplified FAD2 derived acetylenase genes in Asteraceae and Apiaceae species. Furthermore, the number of genes amplified by PCR will indicate the specificity of the acetylenase enzymes.

#### **49 • Thermodynamic Properties and DNA Binding Affinity of Naphthalene Diimide (NDI) Variants Using Isothermal Titration Calorimetry (ITC) and EtBr Displacement Assays.**

**Joseph Giles and Manuel Pintado**

*Faculty Sponsor: Ruel McKnight, Chemistry*

Therapeutically significant small molecules and their nucleic acid targets have been under investigation for many years. 1,2 Our recent work has focused on the naphthalene diimide (NDI) moiety using side-chains of different sizes and hydrophobicities. The NDI molecules of this study have two substituents on either side of the molecule, inducing a threading molecular geometry if NDI is intercalative. Herein, we report the relative DNA binding affinity and thermodynamic properties of the series of NDI molecules based on our work using isothermal titration calorimetry (ITC) and an ethidium bromide (EtBr) displacement assay. Our ITC results have suggested that there are differences in both the binding affinity and binding mode adopted. The relative binding affinity for one of the two binding modes were more than an order of magnitude (~108) greater than that for NDI-7 (~107). Additionally, we observe that the relative binding affinity trend was not smooth from one end of the homologous series to the other, implying that more than one factor may be involved in binding. That is, one factor may govern the initial binding affinity trend, followed by other factor(s) that may later dominate. These findings were corroborated using EtBr displacement assays.

#### **50 • Analysis of DNA Binding Mode and Affinity Using Topoisomerase I DNA Unwinding Assay**

**Alexandra Leo**

*Faculty Sponsor: Ruel McKnight, Chemistry*

The topoisomerase I DNA unwinding assay (topo I assay) has proven useful in investigating the interaction of therapeutic drugs with nucleic acid. This assay can reveal both the binding mode (intercalation or minor groove binder) and relative DNA binding affinity of drugs. In the current study, we are using the topo I assay to investigate the DNA binding efficacy and mode for a model homologous naphthalene diimide (NDI) series. The NDI molecules of this study have two substituents on either side of the central naphthalene moiety and differ in substituent size and hydrophobicity. Therefore, each compound should adopt a "threading" molecular geometry if bound to DNA via intercalation. This type of geometry would necessitate the involvement of the side chains during binding. Although NDI's have potential therapeutic uses as well, here they are specifically used as a model system to interpret ligand-DNA interactions. The results of these assays show a dependence of DNA-binding mode and affinity on the nature of the NDI substituent. NDI's are known bind to DNA via intercalation due to their planar ring system. However, our Topo I results imply that other modes may be also be involved.

#### **51 • Development of a Real-time PCR Assay to Quantify Mitochondrial DNA Deletions Relative to a Housekeeping Gene**

**Jason Pitarresi and Matt Siegenthaler**

*Faculty Sponsor: Wendy Pogożelski, Chemistry*

Mitochondria contain DNA in the form of a double-stranded circle. This DNA (mtDNA) is often found to contain large-scale deletions of several hundred to several thousand base pairs. These deletions correlate with a variety of disorders in oxidative phosphorylation. Using a real-time PCR assay based on an external cloned mtDNA quantification standard, we observed that a particular deletion increases in cells treated with gamma rays. However, the data have not always been consistent. We are

examining the use of a parallel approach that involves real-time PCR but measures the deletions and the total mtDNA relative to a nuclear DNA gene.

## **52 • Construction and Validation of a DNA Combinatorial Library of 2<sup>8</sup> Combinations Designed for Solving Satisfiability Problems in Biomolecular Computing**

**Colin Waters and Lea Bellomo**

*Faculty Sponsor: Wendy Pogozelski, Chemistry*

DNA is being investigated as a tool for computing. Some of the computing methods being investigated require the creation of DNA libraries. These libraries, called combinatorial libraries, are sets that represent every possible solution to a problem. In the case of DNA, the library is a set of DNA strands that represent every possible sequence combination that meets a particular constraint. We have constructed a library of 2<sup>8</sup> combinations designed to contain all combinations of 128 bp strands. These 128 bp strands are made by linking together eight shorter 16-bp DNA strands. The short strands that are linked together have a sequence representing a value of "true" or a sequence representing a value of "false." Thus, the first two strands could be linked to create 2<sup>2</sup> combinations: TT, TF, FT or FF. To create 2<sup>8</sup> combinations we used a variety of primer extension and ligation techniques. We then used PCR-based methods and gel electrophoresis to demonstrate that the sequences in the library have the expected length and composition.

## **53 • Long-Extension PCR Studies of Mitochondrial DNA Deletions in Irradiated MOLT-4 (Human Acute Lymphoblastic Leukemia) Cells and Pearson's Syndrome Fibroblasts**

**Zachary Lynch and Michael Siegenthaler**

*Faculty Sponsor: Wendy Pogozelski, Chemistry*

Mitochondrial DNA, a double-stranded circle, undergoes large-scale deletion events. In humans, many of these mitochondrial DNAs that bear deletions can accumulate and compromise energy production. Cells with high energy demands are particularly affected, leading to a variety of disorders. As a first step in an effort to determine how these large-scale deletions arise, we have developed a long-extension PCR assay that detects these deletions. Here we show the assay used to observe deletions in the mtDNA of gamma-irradiated human MOLT-4 cells (a lymphoblastic cell line) as well as in a fibroblast cell line derived from a boy known to have elevated levels of a 4977-bp deletion called the "common deletion".

## **54 • The Conjugation of Amyloid Beta Protein on the Gold Colloidal Nanoparticles' Surfaces**

**Winnie Eng, Miriam Barnett and Vipul Chandhok**

*Faculty Sponsor: Kazushige Yokoyama, Chemistry*

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

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

**Andrew Fisher, Amanda Amori, Erika Pumple and Jared Pilbeam,**

*Faculty Sponsor: Kazushige Yokoyama, Chemistry*

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

## **56 • Temperature Dependence of Conjugation of Amyloid Beta Protein on the Surfaces of Gold Colloidal Nanoparticles**

**Nicole Gaulin, Miriam Barnett and Vipul Chandhok**

*Faculty Sponsor: Kazushige Yokoyama, Chemistry*

The absorption spectrum of the amyloid beta 1-40 peptide (AB1-40) conjugated to gold colloidal suspension of 15, 20, 30, and 40 nm size were examined under temperature ranging from 5 to 50 degC. As the pH was externally altered repetitively

between pH 4 and 10, A<sub>1-40</sub>-coated 20 nm gold colloid nanoparticles exhibited a reversible color change at the entire temperature range tested in this study except for 5 ± 0.2 degC. This reversible change may be due to the fact that hydrophilic A<sub>1-40</sub> evolves between a three-dimensional network containing mainly β-sheet and R-helices, and an intermediate of this process implies a reversible step reported as initiation of the fibrillogenesis in Alzheimer's disease. When other nanosize particles were investigated, A<sub>1-40</sub>-coated 30 and 40 nm colloids exhibited the reversible color change when temperature was lowered to 18 ± 0.2 and 6 ± 0.2 degC, respectively. This specific and unique size and temperature dependence in reversible color change strongly suggests that the noncovalent intrinsic intermolecular potential formed between the nanocolloidal surface and each A<sub>1-40</sub> monomer conjugated at the surface drives the process.

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

**Makaia Papasergi, Marissa Anne Evarts and Songwoung Hong**

*Faculty Sponsor: Kazushige Yokoyama, Chemistry*

Our research involves the investigation of the nanoscale aggregation of the Amyloid Beta Protein (A-Beta) under interfacial condition. A-Beta is involved in the process of fibrillogenesis, a characteristic of Alzheimer's disease. Through research of the reversibility of the A-Beta aggregated conformation it may be possible to find a process to reverse Alzheimer's disease. We succeeded to characterize microscale properties of 20nm gold colloids and silver colloids by using Transmission Electron Spectroscopy (TEM) for various pH conditions. This study enabled us to determine the role of the protein in interactions between gold and silver colloid nanoparticles.

### **58 • Ethyl-Violet Dye as a Tool to Study Diffusion Rate**

**Jisu Ryu, Jocelin Kalish, and Dan Mark**

*Faculty Sponsor: Kazushige Yokoyama, Chemistry*

Our group's interest is centered on developing a smart capsule that can be controlled and thereby able to carry its content into desired sight. Silica sol gel has this possibility. Therefore, diffusion rate of its content was investigated using Ethyl-violet dye. The dye exhibits a color change according to the pH condition, and was chosen 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 acidic and basic buffer was added successively to produce change of the color. As the buffer solution penetrated into the location of the dye, the color became light blue under an acidic condition and violet under basic condition. This rate of color change was monitored by ultraviolet-visible spectroscopy under several different temperatures. Quite interestingly, the pH dependent color change was found to be a reversible process and its effect depends on specific range of temperatures. From this study, acid and base diffusion rate in sol-gel matrix was extracted.

### **59 • AFM Study of Gold Nano Colloids Amyloid-β; Conformations**

**Jisu Ryu, Jocelin Kalish, and Dan Mark**

*Faculty Sponsor: Kazushige Yokoyama, Chemistry*

Atomic Force Microscopy (AFM) is a technique which creates images of extremely high resolution. Amyloid-β; is responsible for the formation of the plaque in the brain of Alzheimer's patients, thus making it a key attribute to the Alzheimer's disease. The goal of our research is to image the conformation of the Amyloid-β; protein when it associates with a 20 nm Gold Colloid particle in various conditions and to determine the aggregation reversibility of Amyloid-β; in those conditions. We are considering the imaging of the Gold Colloid- Amyloid-β; complexes under a pH of 2, 4, 7, 8 and 10. The circumstances that allow for the reversibility of the Amyloid-β; will provide essential information into Alzheimer's treatment.

## **Communication**

### **60 • Global Media: Post 9/11 Advertising and Propaganda**

**Serge Berig**

*Faculty Sponsor: Atsushi Tajima, Communication*

Propaganda can be defined as any material spread for the purpose of promoting some cause. It has existed in potent form ever since the invention of the printing press, and has many purposes. In recent years, particularly in time of terrorism, propaganda has been used to influence public opinion, predominantly by having fearful and direct messages integrated into the medium by which it is sent. Various pieces of propaganda imagery from World War 2 and post 9/11 America and Britain are analyzed to determine any possible similarities and differences, while bearing in mind the historical context in which they have been created.

### **61 • Speak Softly and Carry a Big Serif: The Quiet Ubiquity of Typography and Its Role in Social Influence**

**Alyssa D'Anna**

*Faculty Sponsor: AtsushiTajima Tajima, Communication*

This presentation critically analyzes the role that typography plays in social influence and manipulation of ideologies. Typography is an essential building block in the way any culture, nation, or organization represents itself, yet its effect is seldom acknowledged or considered. Its effects are subtle, yet tangible and influential. This research examines several key periods in the evolution of typographic design, with particular focus on Nazi influence on type during World War Two, the post-war period, and present trends. Finally within this historical context, I examine how particular typographic styles have been used to advance specific hegemonic ideologies.

## **62 • Discourses that Cell Phone Users Voice: An Analysis Using Relational Dialectics Theory**

Jessie Briel

*Faculty Sponsor: Meredith Harrigan, Communication*

As cell phones become an essential tool of technology in American society, it becomes increasingly important for scholars of interpersonal communication theory to explore cell phone usage patterns. This study used semi-structured interviewing and relational dialectics theory as a theoretical lens to examine the discourses that people exhibit when using their cell phones. The participant reported usage patterns that displayed the discourses of freedom, urgency, intimacy, connectivity, distance, privacy, and community. Through analyzing these discourses, several dialectical tensions emerged. Opposing discourses included freedom and connectivity, privacy and community, urgency and connectivity, urgency and intimacy, freedom and connectivity, and distance and urgency. Implications of these findings are discussed to provide further insight into the systems of meaning that people develop while using their cell phones.

## **63 • Discourses Voiced by Cell Phone Users: An Exploration of Undergraduate Students' Cell Phone Usage**

Nicole Kivitz

*Faculty Sponsor: Meredith Harrigan, Communication*

Abstract As the number of people who own and use cell phones continues to significantly increase, so too does the need to understand how this trend affects interpersonal communication in today's society. This study explored the discourses cell phone users' voice through the lens of relational dialectics theory by interviewing two undergraduate students who were cell phone users. Participants reported usage patterns that strongly voiced discourses of connectivity, both with their devices and others, individualism, and independence. Implications of these findings are discussed to provide further understanding to researchers and individuals who communicate through the use of cell phones.

## **64 • Cell Phone Communication and Communication Privacy Management Theory**

Mindy Long

*Faculty Sponsor: Meredith Harrigan, Communication*

The main argument of the Communication Privacy Management Theory is that we are in an ongoing process of negotiating privacy and disclosure, and it is this process that helps to maintain and develop our relationships. This research specifically studied the extent to which participants engage in disclosure of private information through cell phone communication. The specific question was asked "What private information do cell phone users engage in private disclosure regarding and what private information do people own/control?" To determine this information, one on one interviews were conducted in a face to face setting. The private information that my participant stated that she would engage in private disclosure regarding were very similar to topics she felt she would disclose face-to-face. The information the participant chose to maintain ownership of was the content of text messages, as well as intimate details about a romantic relationship. Since my research did not seem to find the depth of information she disclosed, just the topic of the information, further research could be conducted to determine this information.

## **65 • Get Healthy Online**

Maggie Hagan

*Faculty Sponsor: Ginni Jurkowski, Communication*

The rise of computers and the Internet has not helped stop America's obesity problem. Sitting in front of a computer for hours a day is not a great way to burn calories, and updating your Facebook status won't help raise your fitness level. But there are several social media tools you can use to improve your health and overall well-being.

## **66 • Internet for Children**

Colleen Knopeck

*Faculty Sponsor: Ginni Jurkowski, Communication*

People quickly judge the idea of kids using a computer. Lately it has been seen as negative. Childhood obesity is on a rise and people blame the internet and video games. But it is important to see that the internet can help educate kids.

## **67 • erunners**

Marie Montondo

*Faculty Sponsor: Ginni Jurkowski, Communication*

Some of the most valuable running advice is on the internet. On an almost daily basis, you can skim the internet for training plans, post-workout recipes, and stretches to incorporate into routines. You also need to be able to trust your own judgment over what any website claims.

## **68 • The Virtual Activist**

Sruthi Venigalla

*Faculty Sponsor: Ginni Jurkowski, Communication*

Protest and dissent, boycotts and rallies, street marches and hunger strikes. In the last five years: blogging, Facebooking and Twittering have focused on these. Social change in the past and present has always been based on varying standards of

strategic communication. In a matter of very few years, the Internet has changed the way we communicate by making distances shorter and the world smaller.

### **69 • Iconic Athlete Brands: Tracing Historical Perspectives**

**Khadija Campbell**

*Faculty Sponsor: Mary Mohan, Communication*

This poster documents and critically evaluates the branding process as exemplified in athletic figures used as spokespersons to communicate with target market segments. Focusing specifically on basketball over the past decade, the presentation examines the legacy of Michael Jordan and the subsequent innovators, such as LeBron James. Both print and electronic media is used in this study, as logos, taglines and themes are analyzed for their cultural significance. A slide show will accompany the poster, featuring media spots that built the iconic brands, such as The Witness Campaign. This study has special significance to the student researcher; when not in class, she is on the SUNY Geneseo basketball team in her "spare" time!

### **70 • A Service Learning Challenge from Rochester to Mount Morris, NY - Place Branding in Urban and Rural Contexts**

**Karen Lemischak, Danielle Williams, Olga Zvinyatskovskaya, Erik Adamson and Alejandra Rivas**

*Faculty Sponsor: Mary Mohan, Communication*

Over the past year, teams of students have been working in urban and rural neighborhoods in the Greater Rochester area to assist residents and community leaders in developing brands that will create a strong identity for their declining Main Street businesses. Originating in Comm 341 Public Relations Case Problems, students formed integrated marketing communications agencies and worked in teams to develop brands for the Charlotte area in Rochester after the loss of the Fast Ferry damaged its image. Currently, teams are working to revitalize Mount Morris New York and to assist small business owners in developing collective promotions. Efforts continued with the graphic design staff of LIVE Magazine collaborating with local designer Kat Nichols to finalize logo designs. Geneseo alumni have also supported the projects both through monetary donations and through their expertise. The poster will document the process of Place Branding and will display selected logo and tagline concepts.

### **71 • The Negative Portrayal of the Burqa in the U.S. Media**

**Shannon Alexander**

*Faculty Sponsor: Atsushi Tajima, Communication*

This paper argues that the U.S media negatively framed the burqa, a traditional face and head covering worn by Afghan women, in order to gain support for the bombing of Afghanistan, especially by American women. First it reviews the cultural practice of wearing the burqa and how it has been used before to gain support for foreign interference. In addition it gives some historical information about former relations between the U.S and the Taliban and the conditions of Afghan women post-bombing. Then it demonstrates the negative framing of the burqa in two NY Times newspaper articles, and analyzes how this was used merely to gain the support of American women, without actually improving conditions for Afghan women.

### **72 • Hegemonic Propaganda: Wartime Propaganda and its Effects**

**Amanda Britzzalero**

*Faculty Sponsor: Atsushi Tajima, Communication*

This paper explores four journal articles related to wartime propaganda, and two newspaper articles associated with the current war in Iraq. The journal articles depict the varying degrees of propaganda in Germany, the United States, and Japan, in relation to World War II. They stand to answer questions such as how propaganda is implemented and how its effect alters perceptions of the enemy. The two newspaper articles show the differences between factual reporting and reporting that demands an emotional response, as well as how the framing of these articles assist in propaganda. In addition to the newspaper articles and the journal articles, this paper also discusses and interprets two different propaganda posters from the World War II era as a way of showing the effect they had on viewers.

### **73 • The Emergence of an Alternate Press Service to Challenge Unequal Global News Flow**

**Caiti Caputo**

*Faculty Sponsor: Atsushi Tajima, Communication*

This presentation explores the inequality of news production in the current international environment as a result of the world systems theory. It chronicles the history and explores the effectiveness of three alternative news agencies of the Global South, the Inter Press Service, Gemini News Service, and the Non-Aligned News Agencies Pool. Each experienced similar financial difficulties which ultimately resulted in two of the three ceasing to exist. Ultimately, I give two recommendations to sustain the existence of alternative news agencies: a) the remaining agencies must work collaboratively and pool resources b) the remaining resources must expand their customer market and create demand for their product.

### **74 • Be Mad About March Madness**

**Andrea Lesins**

*Faculty Sponsor: Atsushi Tajima, Communication*

"March Madness" is one of the most exciting times in college basketball. Unfortunately the NCAA Division I Basketball Tournament is not publicized equally for both its male and female participants. There is a substantial difference in the coverage and portrayal of the male competitors compared to their female counterparts. The representations from print, online, and televised coverage of select tournaments was studied. A textual analysis was performed on an ESPN.com article to

demonstrate the language used when reporting on female athletes and male athletes in the tournament. KEYWORDS: Basketball, NCAA, Coverage, Representation, Gender

### **75 • The British Are Coming! A Study of the British Creation of an Anti-Hegemonic Response to American Television's Global Predominance**

**Ellen Thompson**

*Faculty Sponsor: Atsushi Tajima, Communication*

This article investigates the response of a one culture against the hegemony of another culture; specifically, efforts by the BBC against the omnipresence of American television media. Anti-hegemonic measures are often considered only in the context of third-world globalization. It is important to note, however, that some Western cultures are not only aware of, but actively resisting American cultural hegemony. The article highlights the BBC's awareness of, and desire to halt, a massive global television culture shaped solely by American exports. Exports of British content into American markets and beyond are analyzed, as well as the way in which these new markets adapt British content for their own cultural audience. "The Office" is used as one example of British television content that has effectively been exported not only to an American market, but to over 80 countries. "The Office" and other such exports represent the British desire to not only assert cultural independence from American media hegemony, but a market-fueled interest in becoming a rival television power globally.

### **76 • Comparative Study: Media Portrayal of Women and Its Effects in Sweden versus United States**

**Katarina Wirth**

*Faculty Sponsor: Atsushi Tajima, Communication*

Jämställdhet, an expression practiced in Sweden, meaning "equal opportunities between the sexes" marks the essence of this comparative study. Compared is the difference between Swedish and American mass media's depiction of women and the effects on gender roles within society stemming from this. Mass media's portrayal of women has been diligently researched throughout the last couple of years. The societal structure in the two countries is different; Sweden, with its neo-socialistic structure, and the US, with its capitalistic structure. Dependency Theory (Baran, 2009) explains how media's influence on their audience lies in the relationship between the social system and media's role in that particular system. The audience is dependent on the media in order to understand the social world and how to act accordingly. There is a difference in how media portray different categories of society; women constitute one category dependent on mass media's depiction of a woman's role in society.

## **Communicative Disorders & Sciences**

### **77 • Communicative Disorders and Sciences Organic and Neurogenic Etiologies of Speech Impairments and Original Intervention Brochures**

**Lynda Feenaughty**

*Faculty Sponsor: Irene Belyakov, Communicative Disorders & Sciences*

Speech-language pathologists' scope of practice includes treatment designed for articulatory-phonological deficits that have organic (physical or structural) and/or neurogenic (nervous system) causes. Specifically designed treatments are available. Many children and adults make excellent progress when they participate in treatment and use the specific skills they have learned. Even when there is no cure, many learn to communicate efficiently in lieu of the lost fluent speech. This poster will present descriptions of Apraxia of Speech, Dysarthria, Cerebral Palsy, Cleft Palate, and Hearing Impairment with corresponding brochures that provide details of some effective, research based treatment strategies.

### **78 • Speech Buddies: How it Affects ESOL Students and Speech Pathology Majors**

**Jennifer Rose and Satoko Hirano**

*Faculty Sponsor: Irene Belyakov, Communicative Disorders & Sciences*

International students from all over the world come to Geneseo to gain a reputable education. However, entering a packed classroom with both their peers and professor speaking in a foreign language has proved to hinder their learning process. As Geneseo's ESOL center provides a great deal of service to these students, students in the Communicative Disorders and Sciences (CDSC) major have also signed up to help. The unique Geneseo Speech Buddies Program pairs up ESOL students with American students to assist in adjusting to American academic and social life. This presentation will provide information about the difficulties ESOL students have attending an American college and how the Speech Buddies Program helps both the ESOL and the CDSC students in the form of a poster presentation, as well as brochures and a DVD presentation.

### **79 • Brochures and Visual Aids for Parents of Children with Articulation and Phonological Disorders**

**Emily Bennett, Katrina Benson, Melissa Bonner, Katherine Botash, Carly Butler, Jessica Conrad, Emily DiDuro, Briana Dunton, Carly Feiner, Heather Ford, Holly Garrison, Stephanie Habura, Thomas Harrison, Kerry Haugh, Kimberly Henck, Sarah Holmes, Jessica Ingham, Alyssa Kennedy, Amy Lafleur, Amelia Loewer, Tamar Massen, Megan McGinnis, Kerry McTiernan, Krista Memi, Kaitlin Mohr, Isabel Munoz, Stephanie Novok, Colleen Prendergast, Christopher Presto, Jessica Raes, Adam Reinhardt, Claire Rohrabacher, Holly Schimpf, Christine Stasiw, Casey Williamson and Hannah Zimmerman**

*Faculty Sponsor: Irene Belyakov, Communicative Disorders & Sciences*

Students will present for display the brochures they have made for parents and other caretakers of children with articulation and phonological disorders. This work describes a range of causes of these disorders: from dysarthria and childhood apraxia

to craniofacial syndromes, to hearing loss, and other causes. The students' main focus was presenting Speech Language Therapy (assessment and therapy) for children with these disorders and what parents can do to assist in this process. Presenters will also display games and other assistive devices they created to go along with their brochures.

### **80 • Original Student Works**

**Kelly Battaglia, Laura Bennett, Brianna Bicknell, Kathryn Duggan, Ashley Keppeler, Erin McGrattan, Hannah McMahon, Lindsay Pearce and Laura West**

*Faculty Sponsor: Linda Deats, Communicative Disorders & Sciences*

The speech-language materials were designed by Communicative Disorders & Sciences students enrolled in their first 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-language goals. While their aim is to foster the acquisition of new skills, the materials are also motivational for clients as their areas of interest are often the basis of the creation. The materials were designed for individuals who are working on language, articulation, voice and fluency skills.

### **81 • Examining Effective Communication and Teaching Techniques for Young Children at the Valley School of Dance (Geneseo, NY)**

**Katherine Botash, Carly Butler, Tricia DeSario, Meghan Duffy, Katarina Ernestus, Denise Faicco, Emily Henderson, Jenny Holley, Amanda Leonard, Tamar Massen and Kasey McHale**

*Faculty Sponsor: Beverly Henke-Lofquist and Doug MacKenzie, Communicative Disorders & Sciences*

SUNY Geneseo Students observed one creative dance class and participated in a second class at a later date. Written observations of communication events, teacher-child interactions including descriptions and example target behaviors representative of selected developmental stages were completed. During the second dance class opportunity, SUNY Students participated by interacting and communicating with an individual child or a small group of young children. Giving instructions, promoting following directions and managing undesirable behaviors were investigated. In the final written project, students used several principles of clinical writing style for organization of a complete lesson plan. Individual projects were prepared for submission and will be presented at the Fourth Annual Great Day (Geneseo Recognizing Excellence, Achievement, and Talent) on April 20, 2010.

### **82 • Fluency Intervention: Educating Parents and Teachers**

**Brooke Amari, Katherine Botash, Carly Butler, Abigail Hartnett, Amanda Leonard, Tamar Massen, Leanne Meidenbauer, Kelsey Ogden, Lauren Palumbo, Morgan Rinck and Holly Schimpf**

*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.

### **83 • Traumatic Brain Injury**

**Lauren Babcock**

*Faculty Sponsor: Linda House, Communicative Disorders & Sciences*

I did a directed study last semester that consisted of researching information about TBI. I took some of what I found and made it into a poster. The information present on the poster includes what TBI is, how it occurs, effects of it, how it affects speech and communication, and what can be done to help post-TBI.

### **84 • Fluency Intervention: Student Created Original Brochures for Family, Medical Personnel and Teachers**

**Katherine Botash, Carly Butler, Alyssa Csendom, Carly Feiner, Holly Garrison, Abigail Hartnett, Kristin Hauser, Shannon King, Amanda Leonard, Tamar Massen, Leanne Meidenbauer, Kelsey Ogden, Lauren Palumbo, Morgan Rinck, Kathryn Roberts, Holly Schimpf, Jillian Swimmer, Jessica Tornatore and Casey Williamson**

*Faculty Sponsor: Linda House, Communicative Disorders & Sciences*

Students have designed original brochures with detailed material in the area of fluency disorders. These brochures are designed to provide information and educate family members, medical personnel and teachers.

### **85 • Second Formant Frequency Transitions in Diphthongs During Simultaneous Communication Produced by Inexperienced Signers: A Systematic Replication**

**Jenny Holley, Isaac Leibold-Steiner, Roseanna Marrapese and Erin McGrattan,**

*Faculty Sponsor: Dale Metz, Communicative Disorders & Sciences*

The magnitude of second formant frequency transitions in diphthongs produced during simultaneous communication (SC) were investigated by recording inexperienced sign language users during SC and speaking alone (SA) conditions. Results showed longer segment durations during SC than SA, but no differences in the absolute values of diphthong second formant frequency changes. These results are consistent with previous research indicating temporal alterations during SC do not degrade important acoustical characteristics of spoken English.

# Computer Science

## 86 • Parallel Processing and Visualization

Michael Gruszewski

*Faculty Sponsor: Homma Farian, Computer Science*

This is an interdisciplinary undertaking where parallel processing is used to simulate a real-time, interactive fluid dynamic visualization by using a computer cluster of many nodes. The Navier-Stokes equations used to govern fluid dynamics is computationally very expensive and becomes a bottleneck for an interactive application of this nature. However, separating the fluid rendering from the fluid computations will speed up the process, particularly when the fluid computations are carried out on a cluster rather than a single computer. This approach creates a client/server model in which the server is the cluster of SPMD nature; and makes the manipulation of large-scale fluid scenes achievable. In this attempt the 3D time-dependent incompressible Navier-Stokes equations are reformulated using Smoothed Particle Hydrodynamics. The computation of particle positions can be distributed across the nodes of the cluster where the result of each time step is sent back to the client application for post-processing. User interactivity and visual plausibility are of prime concern in this approach. The results of this simulation is encouraging and once again proves that parallel computing is crucial in the implementation of some scientific applications.

## 87 • Have Changes in Facebook Privacy Policy Compromised User Information?

Chad Bogar

*Faculty Sponsor: Scott Russell, Computer Science*

Facebook.com has, in recent years, become one of the most popular websites on the Internet. Since its inception in 2004, the number of members has grown to over 400 million active users. As the number of users and the amount of usage increase daily, the privacy policy of the website is constantly pushed to its limits. As Facebook's business model evolves and their site requirements change, updates to the privacy policy are needed. The influx of advertising and presence of third party applications on the site itself have motivated significant modifications to the privacy policy. Amendments to Facebook's privacy policy have led to compromises in the security of user information. Facebook's site improvements have in many ways enriched the website, but what have been the consequences to the users? The personal information of the users, who have helped to build the prestige of the site, is no longer as secure as it was once thought to be. The goal of this research is to thoroughly examine the privacy policy of Facebook.com and evaluate the resultant consequences for the security of user information.

## 88 • Code Breaking with Linear Cryptanalysis

Aaron Menezes-Pinto

*Faculty Sponsor: Scott Russell, Computer Science*

Linear Cryptanalysis is a powerful mathematical technique for trying to break encryption schemes that protect the privacy of sensitive information. The technique was developed as an attack against Data Encryption Standard (DES), a government approved encryption algorithm introduced in 1976 and still in use. While Linear Cryptanalytic attacks against DES succeeded in theory, in practice they are considered impractical. Nevertheless, Linear Cryptanalysis has proven useful for evaluating newer encryption schemes such as Advanced Encryption Standard (AES), the modern replacement for DES. I will describe some of the inner-workings of linear cryptanalysis, specifically its use of probability and linear algebra, and how to attack DES using it.

## 89 • Analysis of the Strengths and Weaknesses of the German Enigma Cipher Machine

Allen Parfitt

*Faculty Sponsor: Scott Russell, Computer Science*

The Enigma machine developed and used by the Germans provided a highly secure means for encrypting messages in World War II. This ingenious device involved several important parts that not only rotated as the message was encrypted/decrypted, but could also be reordered to make decryption harder. To better understand the strengths and weaknesses of the Enigma's design and inner workings, I implemented my own software version of the original typewriter-like machine. I also examine information leakage, design weaknesses, flaws in the rules for use, and oversights made by the operators, all of which enabled the Allied forces to break the Enigma encryptions day after day.

## 90 • A Secure Instant Messaging Implementation

Christopher Zorn

*Faculty Sponsor: Scott Russell, Computer Science*

In recent years, instant messaging programs have become an extremely popular means of communicating. They have been working their way into corporate environments as an easy way for professionals to communicate. For some professions, such as accounting, human resources, or medicine, it may be necessary that the information exchanged among colleagues be kept confidential. I will describe my own implementation of a simple secure instant messaging application built using an open-source version of SSL/TLS, which is the same protocol used to keep online web transactions confidential. Additionally, I will be comparing my secure implementation to products that are currently available.

## 91 • Quantum Medical Imaging Internship

Thomas Harrigan

*Faculty Sponsor: Christian Shin, Computer Science*

Quantum Medical Imaging is on the cutting edge of radiographic imaging technology. Quantum is a highly innovative company that designs and manufactures superior medical radiographic systems for hospitals and imaging centers around the world. The

company's mission is to supply the radiographic imaging industry with superior products for enhanced diagnostic capability. Quantum puts a high value on user experience in its products. The Q-Vision is a control panel for x-ray generators that provides a means to control generator exposure parameters and exposure modes, select available receptors, display generator post exposure parameters, store, load, and edit Anatomical Programmed Regions. The console also provides a means of configuring the generator and performing calibration and setup functions. My experiences during the internship included working hands on throughout the development of the Q-Vision, as well as learning about programming in a team/business environment and current programming technologies and practices.

## **92 • Imbedded Design Internship at Cerebode**

**Nicholas Rowe**

*Faculty Sponsor: Christian Shin, Computer Science*

From early January to May 2009 I worked with a Boston based startup called Cerebode to develop interactive technology for the home. One of my primary responsibilities was interfacing with a media system called the XBMC. This media system provides an interface to music, movies, pictures, and television shows. The end user is presented with a graphical interface to control all functions of the media center; the programmer has access to all functions of the media center (things like play, pause, queuing media) through a web interface. This interface is customizable in terms of how the data is output. I worked with XML output which was processed through a Ruby library called the hpricot. This Ruby code was then used with JRuby to interface with the Cerebode's existing Java codebase.

# **Geography**

## **93 • Bible Place-Names in the U.S.**

**Kathleen O'Hern**

*Faculty Sponsor: Norris Darrell, Geography*

Results of research exploring biblical allusions in American place names. Place names are classified into several allusion categories, and the geographic patterns of these place names in the US are discussed.

## **94 • Social Vulnerability to Hurricanes in Baldwin County, Alabama**

**Laura Cardoso, Samuel Finn, Erin Mahaney and Eric Svenson,**

*Faculty Sponsor: Jim Kernan, Geography*

The role of social factors in disaster vulnerability is a relatively recent area of geographic inquiry. In the past, the emphasis has been on the physical environment, yet social issues are critical to effectively evaluating risk. This was evidenced by the impacts of Hurricane Katrina on the Gulf Coast of the United States, suggesting that future disaster vulnerability studies must address physical and social aspects. We analyzed hurricane vulnerability in Baldwin County, Alabama in the context of social factors, using a Geographic Information Systems (GIS) approach. Our research was based on a Social Vulnerability Index (SVI) applied to Lee County, Florida by the Department of Human Services. The data for our study were from the 2000 Census, and variables were selected based on a review of relevant literature. Age, income, population density, language, disability, and persons per household were assessed. Using GIS, we mapped these vulnerability factors and generated an overall risk index for the study area. Our results suggest that age, language, and disability contribute significantly contribute to social vulnerability in Baldwin County, Alabama.

## **95 • Routes of Illegal African Migration: A Meta-Analytical Study**

**Kathleen Milligan**

*Faculty Sponsor: Darrell Norris, Geography*

My poster will present the routes that illegal African migrants take to escape into Europe, Israel, and Latin America, using data I collected from local and regional African newspapers, and special-interest articles. I feel this information is useful to the Geneseo community because illegal African migration isn't often a focus of academic study, and the routes themselves are surprising.

## **96 • Buffalove and Buffalothe: Place Ambivalence in Buffalo, New York**

**Alicia Dezik**

*Faculty Sponsor: David Robertson, Geography*

This paper investigates sense of place in Buffalo, New York. Buffalonians' place perception is analyzed in terms of "Buffalove" and "Buffalothe." These terms are commonly used by residents to describe the positive and negative aspects that comprise a Buffalo sense of place. Interview responses from Alex Bitterman's, *Buffalo is a Cool Place to Live* are transformed into word clouds in order to display and analyze the commonly held experiences that form Buffalonians' sense of place. Expressions of Buffalove and Buffalothe emerge from word cloud analysis and are explained using supplementary materials including newspaper articles, a WBFO essay contest, the US Census, and personal experience. Also incorporated is scholarly geography literature describing the common tension that exists in sense of place experience between place meaning (the emotional qualities of place) and place means (the practical opportunities that places afford for survival).

# Geological Sciences

## 97 • The morphological, mineralogical and chemical classification of Clintonville iron-slag

Meghan Guild

*Faculty Sponsor: Dori Farthing, Geological Sciences*

In the mid 1840's Clintonville, New York was home to perhaps the largest charcoal-fueled iron forge in the world. The Clintonville works were operational from 1810 to 1890, yet today the small pile of slag, the byproduct of ore smelting, is the most visible evidence indicating the metallurgical history of the site. Slag is either tapped from the blast furnace or hammered off the consolidated metal. Seventy samples iron slag were collected from the Clintonville site, located north of the high peaks of the Adirondack Mountains and east of Ausable Forks, NY. The slag was then divided into nine broad groups and subgroups based on morphology and physical properties. The morphological and physical characteristics included the presence of a breccia-like surface, massive crystals, spinifex textures, pores, elongated vesicles, ropey surfaces, and dull or vitreous lusters. Representative samples from each group were analyzed by X-ray diffraction (XRD) and X-ray fluorescence (XRF) to identify similarities and differences in their mineralogy and chemistry. The observed textures and mineral assemblages provide insight to the slag's cooling history and the ingredients used by the smelters. The chemistry of the slags provides insight to the uniformity of the smelting process at the Clintonville Forge.

## 98 • XRD Analysis of Paper

Benjamin Hocking

*Faculty Sponsor: Dori Farthing, Geological Sciences*

X-ray diffraction (XRD) is a method commonly used by material scientists to determine what crystalline structures are present in the sample. The XRD measures the intensity of an x-ray beam's refracted intensity, due to the atomic structure, fired at a variety of angles. The XRD, can also be used to determine other compounds, for example, geologists use XRD to determine they types of minerals present in rock samples. A study was conducted to determine the compounds present in different samples of sheets of paper using XRD, to try and make a database of compounds found in paper. Different brands of notebook and computer paper were compared to determine differences in composition. While there are obvious similarities in the results of most paper samples, some interesting differences were observed between brands, and unexpected compounds were identified.

## 99 • Mapping the Genesee Valley Using Gravity Anomalies

Nicholas Crider

*Faculty Sponsor: Scott Giorgis, Geological Sciences*

The Genesee Valley drainage basin underwent glacial erosion and depositional events during the Wisconsin Glaciations. As the ice retreated, a series of glacial lakes formed that were later filled in. Gravity data was collected to determine the depth to bedrock in this glaciated valley as well as the shape of the buried valley. This was done first by determining the precision of the gravimeter which was used in the research. Repeat measurements taken with the gravimeter indicate a 5 mGal gravity anomaly can be measured with 15% precision. The gravity signals across transects of the valley were then taken using the gravimeter, with locations determined by a real time kinematic GPS system. Standard corrections were applied to the data collected to determine the gravity anomaly across each transect. Two profiles show an asymmetric shape along transects on Genesee Street and Mt. Morris Road; however a symmetrical shape was seen on the Cuylerville road transect. The depth to bedrock was found to be 312 + 25 meters on the Cuylerville Road transect, 181.55 + 5 meters on the Genesee Street transect and 170 + 7 meters on the Mt. Morris Road transect.

## 100 • Real or Artificial: The Search for the "Greener" Christmas Tree

Katherine Hart and Tina Jensen

*Faculty Sponsor: Scott Giorgis, Geological Sciences*

The goal of our project was to determine how many years one would have to reuse an artificial tree, in relation to how far they would otherwise drive to a Christmas tree farm, in order to pay off the carbon "debt" related to the transportation of the artificial tree. To do this, we calculated the amount of CO<sub>2</sub> emitted by the transportation of artificial trees in a best and worst case scenario and compared this to the amount of CO<sub>2</sub> emitted by driving to a tree farm, depending on the distance one must travel round-trip. We found that it would take approximately 4 years, in a worst case scenario, for a person living ten miles away from a tree farm to pay off the carbon debt of an artificial tree, and consequently less time for someone who lives farther away. It is important to note that we did not take into account the carbon emissions from production of the artificial tree and we made several assumptions regarding transport. Assuming the average lifespan of an artificial tree is 5-10 years, those who live more than five miles from a tree farm can reduce their carbon output by buying an artificial tree.

## 101 • The Environmental Impact of XLERATOR Dryer, Conventional Dryer, and Paper Towel Hand Drying at Genesee

Kevin Muller and Emily Durstewitz

*Faculty Sponsor: Scott Giorgis, Geological Sciences*

This analysis examines the life-cycle impact of paper towels, conventional hand dryers, and XLERATOR dryers on climate change in the U.S. Most public restrooms at SUNY Genesee offer some combination of these alternatives for patrons wishing to dry their hands. Using studies commissioned by Excel Dryer, Inc., manufacturer of the XLERATOR dryer, and Kimberly-Clark, we look at the costs and benefits of each option. Factors analyzed include electricity use of the dryers, transportation emissions, materials required to produce dryers and pulp, and differences in use among users. Looking at a life cycle analysis of the different alternatives, we find that the XLERATOR high-efficiency dryer is almost always the most environmentally-friendly option, though

paper towels may be superior to conventional dryers depending on usage level. Moreover, paper towels which contain recycled pulp are slightly better for the environment than standard paper towels, but not enough to make them superior to the XLerator dryer.

### **102 • Constraining the Timing of Tectonic Activity Along the Caribbean-South American Plate Boundary Based on Topographic Relief, Northern and Central Ranges, Trinidad**

**Sean Sanguinito**

*Faculty Sponsor: Scott Giorgis, Geological Sciences*

A well documented relationship exists between the topographic relief and rate of erosion in a mountain range. It is also well established that isostatic rebound in response to erosion increases the longevity of mountain ranges as positive topographic features long after the tectonic forces that originally created them up have ceased. The effects of topographic relief, erosion rate, and isostatic rebound can be combined to develop order of magnitude scale estimate of rates of uplift (e.g. Ahnert, 1970). We integrate more recent estimates of the relief vs. erosion rate relationship (Montgomery and Brandon, 2002) into a simple numerical model that examines the topographic evolution of a mountain range in response to isostatic rebound and erosion. Model results are applied to the Northern Range and the Central Range in Trinidad. The Northern Range is a rugged mountain chain with approximately 900 m of relief that borders the El Pilar fault system in Trinidad. The Central Range mountains follow the Central Range fault and consist of low rolling hills with a maximum relief of approximately 300 m. In the recent geologic past (<2-3 Ma ?) movement on the Caribbean-South American plate boundary stepped south off of the El Pilar fault to the Central Range fault zone. Preliminary model results place constraints on the rate of uplift needed to maintain the current relief in the Northern Range. Similarly, our tentative model results for the Central Range mountains have the potential to place broad constraints of the duration of modern deformation and the rates of uplift characterizing this low relief range.

### **103 • Green is the New Blonde: Why the Environment Hates Your Shampoo**

**Hannah Schmidt and Audrey Stevens**

*Faculty Sponsor: Scott Giorgis, Geological Sciences*

The recent “no poo” trend is based on an elimination of shampoo and conditioner from one’s daily shower habits. Not only is it healthier on an individual level, but it is also potentially hugely significant when looked at through an environmental lens. By calculating the effect that removing shampoo can have on one’s water usage, carbon dioxide emissions, and wallet, we determined that it is the healthiest choice for both oneself and one’s world.

### **104 • Rigid Grain Net Vorticity Analysis of the Western Idaho Shear Zone, McCall, Idaho**

**Matthew Travis**

*Faculty Sponsor: Scott Giorgis, Geological Sciences*

The western Idaho shear zone (WISZ) is a crustal scale zone of Late Cretaceous deformation. The WISZ reactivated the Salmon River suture zone, which represents the arc-craton boundary in that region of west Idaho, as recorded by a change in  $87\text{Sr}/86\text{Sr}$  ratios. Previous structural analyses indicate transpressional kinematics describe the WISZ. Additionally, the narrow width of the  $87\text{Sr}/86\text{Sr}$  transition zone suggests that a significant amount of shortening must have taken place. Past work utilizing the  $Rf/\dot{\epsilon}$  method in the Payette River tonalite suggested an angle of oblique convergence of  $40^\circ$  to  $75^\circ$ , while work utilizing the Porphyroclast Hyperbolic Distribution (PHD) method suggested an angle of  $60^\circ$ - $85^\circ$  in the Little Goose Creek Complex. We apply the Rigid Grain Net (RGN) method to the Little Goose Creek Complex to estimate the mean kinematic vorticity number ( $W_m$ ) of the WISZ. This method uses the aspect ratio and orientation measurements of feldspar porphyroclasts from 16 sites to estimate the vorticity number. Our data suggests a mean vorticity number between 0.65 to 0.71. This correlates to an angle of oblique convergence of  $30^\circ$  to  $35^\circ$ . We also combined the vorticity estimates with rigid clast rotation model results to constrain the overall strain in the WISZ.

### **105 • Modeling the 20th Century Retreat of the Agassiz Glacier, Glacier National Park, Montana**

**Laura Best**

*Faculty Sponsor: Benjamin Laabs, Geological Sciences*

The Agassiz Glacier has experienced continuous retreat since A.D. 1859. To better understand the causes of observed changes in the Agassiz Glacier, we applied a 2-D model of the glacier to simulate its changes throughout the past century. The model computes net-annual mass balance of a glacial valley based on a set of meteorological variables, chiefly temperature, precipitation, and solar radiation. The calculated mass balance is combined with a glacier-flow model which simulates ice extent under specified climate conditions. Results of model experiments suggest that warming of approximately  $1.3^\circ\text{C}$  ( $-2.3^\circ\text{F}$ ) was the primary cause of ice retreat from A.D. 1907-2003. The glacier’s equilibrium line altitude intersected the divide above the glacier in 1942, diminishing the size of the accumulation area and causing the glacier to split into two masses. Since this time, the accumulation area has further diminished and the glacier has been sustained mostly by avalanching snow.

### **106 • Drumlin Morphometry in Wayne County, New York**

**Joanna Clark, Jeffrey Green, Molly McEvoy, Ashley Swede -Grakowsky, Bethany Malenick, Rachel Atkins, Chelsea Boyd, Jacob Calabrese, Rebecca Deisenroth, Ryan Herlihy, Jillian McPherson, Christine Rao, Megan Russ, and Christopher Waid**

*Faculty Sponsor: Benjamin Laabs, Geological Sciences*

Drumlins are a common feature of glaciated regions, yet their origins are controversial among glacial geologists. In an effort to better understand the trends of drumlin characteristics and gain insight into how drumlins formed, we explored the drumlins of eight quadrangles within Wayne County, New York. ArcGIS was utilized to plot the GPS coordinates of drumlins and document

their height, width, and length. We identified 371 drumlins and classified them based on whether they are compound, truncated or tapered. Linear regression reveals a strong relationship between the length and width of drumlins in this region, which has an average ratio of 3.91. However, there is no correlation between the width versus height, and length versus height. The drumlins of Wayne County are tapered in a north-south direction, indicating that ice flowed from north to south through Wayne County. The fact that 28% of the drumlins are compound and the lack of correlation between the length to width ratio and northing suggests that the drumlins formed at different times. The drumlin morphometry data collected here, combined with further study of the composition of drumlins in Wayne County, may help clarify how they formed.

### **107 • Reconstruction of Glacial Ice Volume for the Lake Bonneville Basin**

**Andrea Leggett**

*Faculty Sponsor: Benjamin Laabs, Geological Sciences*

Lake Bonneville is a prehistoric lake that rose and fell periodically in the Great Basin region of southwestern North America. The lake reached its highest level near the end of the last Pleistocene glaciation (15,500 years ago), covering an area greater than 52,000 km<sup>2</sup> and attaining a maximum depth of over 300 m. Several glaciers in the Wasatch and Uinta mountain ranges of Utah advanced prior to the lake highstand and drained into the Bonneville Basin. In order to determine whether melt water from these glaciers contributed a significant volume to the lake, the volumes of the glaciers are reconstructed based on surficial geologic data compiled in a geographic information system. The volume of the Wasatch glaciers is estimated to be 87 km<sup>3</sup> and the volume of the Uinta glaciers is estimated to be 293 km<sup>3</sup>. Despite forming the largest mountain glacier system in the Bonneville Basin, the melting of these glaciers would have accounted for less than 5% of Lake Bonneville's total volume (~9500 km<sup>3</sup>). Additional work is underway to reconstruct volumes of several mountain glaciers elsewhere in the Bonneville Basin, although it is clear that glacier melt water was not a significant component of the lake's water budget.

### **108 • Givetian Middle Devonian Opsiconidion (Phylum Brachiopoda, Class Inarticulate, Order Acrotretida) from the Govi Altai Formation, Shin Jinst Region, Southern Mongolia**

**Zachary Arno**

*Faculty Sponsor: Jeffery Over, Geological Sciences*

Six whole and fragmentary valves of *Opsiconidion* c.f. *Opsiconidion aldridgei* (Cocks, 1979) from the Middle Devonian, Mongolia were recovered and analyzed. The specimens are characterized by a highly conical pedicle valve which flares outwards at the junction between the post-larval shell and the prolegulum. The prolegulum is ornamented with a variety of coarse pits that range in diameter from 4.29 μm to 7.24 μm. Major and minor growth lines on the post-larval shell were not preserved well enough to correlate with any time cycles. This occurrence marks the first record of *Opsiconidion* in Mongolia, extends the range of the species (?) from Eifelian to the Givetian, and indicates that the taxon was widespread within the Middle Devonian.

### **109 • Mineralogical Analysis of Gummy Horizon in the Middle Devonian**

**Andrew Gerwitz**

*Faculty Sponsor: Jeffery Over, Geological Sciences*

Bentonite beds, altered volcanic ash layers, occur relatively frequently in Devonian strata of the Appalachian Basin. These beds typically have a gummy or soapy feel due to the water saturated clays. One of these gummy layers in the East Berne Member of the Mount Marion Formation is found at Hannacroix Creek in eastern New York and does not have the typical characteristics of a bentonite bed, including illite/smectite mixed layer clays and igneous phenocrysts such as biotite, quartz, zircon, apatite, amphibole and/or sanidine. The clay mineralogy of the gummy layer is similar to the surrounding shale consisting of illite, chlorite. Similar clay mineralogy may suggest similar source material going through differential weathering and depositional processes to create layers with gummy characteristics.

### **110 • Oligocene Mammals from the Loh Formation, Central Mongolia**

**Andrew Gerwitz**

*Faculty Sponsor: Jeffery Over, Geological Sciences*

The Hsanda Gol and Loh formations of southcentral Mongolia contain a diverse mammal fauna from the Oligocene-Miocene epochs of the Paleogene period. Many of these fossils present the Orders Rodentia and possibly Lagomorpha. During this time global climate shifted from the warm and humid conditions of the earlier Eocene to the cooler arid conditions of the Oligocene and Miocene. These climate shifts resulted in rapid evolution of mammals living in Mongolia, from large perissodactyl faunas to smaller rodent/lagomorph faunas. The study of evolutionary trends during periods of global climate change can provide a better understanding of how evolution can be affected by changes in the environment.

### **111 • Current alignment of Silurian orthoconic cephalopods**

**Michael Jones**

*Faculty Sponsor: Jeffrey Over, Geological Sciences*

An assemblage of orthoconic cephalopod fossils in a block of Rockway Dolomite from Niagara Gorge shows a preferred orientation. It is proposed that a current aligned the cephalopod shells during deposition and burial, an indication of a prevailing seafloor current. The bimodality of the data suggests differences in specimen morphology, rather than any irregularities of the current itself.

### **112 • Investigation of Silurian Rusophycus Assemblages in the Thorold Sandstone**

Chelsea Lyle

*Faculty Sponsor: Jeffrey Over, Geological Sciences*

Rusophycus are shallow trace fossil burrows commonly created by trilobites that give the history of both depositional environment of the rock they are preserved in and the behavior of the trilobites. A rock was found, from the Thorold Sandstone in western New York, which had an assemblage of clustered Rusophycus, varying in sizes from 0.4-1.3 centimeters. This sample had evidence of current alignment in two different orientations. From this, it was determined that the Rusophycus were deposited in a low energy environment at two different times of differing current direction and the clustering assemblages are resting traces due to feeding habits of the trilobites.

### **113 • The Eifelian Givetian Boundary (Middle Devonian) at Tsakhir, Gobi Altai Region, Southern Mongolia**

Nicholas Sullivan

*Faculty Sponsor: Jeffrey Over, Geological Sciences*

The Eifelian-Givetian boundary was a time of significant biotic and climate change, marking the approximate end of a global transgressive episode known as the Kaçak-otomari event, identified at sections in North America, Europe, and Africa. The position of the Eifelian Givetian boundary and strata equivalent to the Kaçak event interval in Mongolia has not been previously studied. The lithology of the Tsakhir section is stratigraphically similar to sequences found in North America where thick Eifelian carbonates are overlain by organic-rich shales that contain thin carbonate beds and concretions. The presence of *Polygnathus ensensis*, *Polygnathus linguiformis linguiformis* and *Icriodus* sp. in samples collected from 65.5 m above the base of the Tentaculite Member of the Govialtai Formation constrain the age of the interval to uppermost Eifelian into the lowest Givetian. Positive jumps in the magnetic susceptibility of samples collected from 0.0-3.4 meters and from 46.0-49.0 meters are potential indicators for the end of the Kacak-otomari event, suggesting a possible horizon of the Eifelian-Givetian boundary.

### **114 • Thoreau's Bedrock: Emerson's Influence and the Geomorphological Significance of Emerson's Cliff, Concord, Massachusetts**

Patrick Morgan

*Faculty Sponsor: Amy Sheldon, Geological Sciences*

The geologic context of Emerson's Cliff, located in Concord Massachusetts, reveals how the local bedrock influenced the formation of Walden Pond. It is no coincidence that the only bedrock found near Walden Pond is called Emerson's Cliff. Starting in 1845, Henry David Thoreau, author of Walden, spent two years and two months living on the shores of Walden Pond. The petrology and geologic significance of the granite composing Emerson's Cliff represents a fitting metaphor for Ralph Waldo Emerson's great influence on Thoreau. Just as Emerson was a major influence in Thoreau's life, the bedrock now named Emerson's Cliff influenced the geomorphology of Walden Pond. This link between bedrock and Emerson in relation to Thoreau represents a new iteration in the ever-evolving understanding of the relationship between Thoreau and his mentor.

### **115 • Investigating the Possible Reactive Behavior of CFCs as Sorbing Tracers in Low Carbon Content Sedimentary Aquifers**

Neil Swanson and Dana Smith

*Faculty Sponsor: Amy Sheldon, Geological Sciences*

CFC-11, CFC-12 and CFC-113 are environmental tracers that provide quantitative information about flow paths and age dates of groundwater recharged within the last 50 years. Due to the relatively soluble nature of chlorofluorocarbons, the common consensus expressed in literature assumes conservative (no sorption or degradation) transport of CFCs in aerobic, low carbon content aquifers. However, preliminary sorption experiments that have tested this paradigm in low foc (fraction organic content) sedimentary aquifers have yielded discrepant results. Conditions within systems containing thermally-altered carbonaceous material (TACM), which includes products of combustion, such as char, as well as coal and kerogen, have the potential to delay the transport (retardation) of CFCs. If experiments conducted at typical groundwater conditions indicate that retardation plays a significant role in transport, this would necessitate reexamination of previous literature that assumed conservative CFC behavior. In conjunction with colleagues at the University at Buffalo who are examining CFC sorption at elevated concentrations, the potential sorption of CFCs at natural groundwater concentrations will be examined in a new CFC laboratory at Geneseo. The initial phase of this research is the development of the experimental method, which involves the conceptual and mechanical design followed by testing for accuracy and repeatability.

### **116 • The Power of Physical Science (POPS)**

Angie Stewart

*Faculty Sponsor: Kurtis Fletcher, Physics and Astronomy, Amy Sheldon and Dori Farthing, Geological Sciences, and Katie Rommel-Esham, School of Education*

The Power of Physical Science is a National Science Foundation MSP-Start program designed to investigate ways to encourage middle and high school girls to study physics and the geological sciences. Discovering successful strategies for encouraging young women to study these areas is the first step in addressing the problem of under representation of women in these disciplines. To identify research-based strategies for increasing young girls' interests in physics and geology, we have reviewed the current literature in science education and have surveyed local science educators. Five neighboring rural school districts in Livingston County are K12 partners on this project. This summer the POPS team will develop a hands-on enrichment curriculum that emphasizes the societal benefits of the physical sciences, since research indicates that "helping others" is an important consideration for girls in choosing a career. The K-12 partners will be involved in designing and testing a pilot study curriculum that introduces students to issues of energy, climate change, and ideas for meeting our nation's future

energy needs while safeguarding the environment. Pre- and post-testing will be used to determine the impact of this intervention on students' attitudes and self-efficacy.

## **Health Promotion**

### **117 • Active Minds: Depression in College Students**

**Kristen Kolb, Paul Strusienski, Sarah Holmes and Timothy Caughlin**

*Faculty Sponsor: Dana Minton, Health Promotion*

The goal of this presentation is to provide information about depression in college students. Statistical data about the prevalence of the disorder in college students will be provided, as well as information about common symptoms, the effect of the disorder on academic performance, and information about where to find further resources or where to get help. The poster will also include information about the mission of the national student mental health awareness organization Active Minds.

## **History**

### **118 • Chinese and Japanese Relations Over The Ages**

**Matthew Adams**

*Faculty Sponsor: Tze-Ki Hon, History*

This poster will show a brief time line with pictures and writings to illustrate the changing and complex history between Japan and China. From their pre-imperial backgrounds, through WW2, and to the present, it will demonstrate the tensions and history the two have together, and maybe speculate on the future.

### **119 • Panda Diplomacy; the Progression towards Peace**

**Laura DeMarco, Kerry Goleski, Sarah Hang and Kelsey O'Loughlin,**

*Faculty Sponsor: Tze-Ki Hon, History*

China's Diplomatic relations have changed drastically in recent decades as demonstrated through the practice of panda diplomacy; a panda represents peace and good relations between China and other countries. Panda diplomacy started as far back as the Tang Dynasty in the 7th century but was revived in the 1950s. Panda diplomacy marked crucial points in relations with both the United States, during the Cold War, and Taiwan, after a period of hostility. Although now the issue has become one of environmental and economic concern pandas remain a sign of peaceful relations with China.

### **120 • The Impact of the 2008 Olympic Games on China**

**Sybil Esenyan, Cara Stewart, Christine Walsh, Kristen Geroult and Rianna Travers**

*Faculty Sponsor: Tze-Ki Hon, History*

We will examine the effects of the 2008 summer Olympic games in Beijing on China. China was impacted economically, environmentally, politically, and socially. These Olympic games allowed China to truly assert itself as a world power in the 21st century.

### **121 • Nixon's Visit to Modern China**

**Christopher Hall and Rebekah Guiliano**

*Faculty Sponsor: Tze-Ki Hon, History*

This presentation will focus on the impact of former President Richard Nixon's visit to China in 1972. There will be a focus on political impact for both nations as well as showing the different viewpoints each nation had following the visit.

### **122 • China's Dairy Contamination Scandal**

**Gemini Randolph, Dan Schreier, Matt Rucinski and Erin Peterson**

*Faculty Sponsor: Tze-Ki Hon, History*

Our GREAT Day poster will discuss China's Dairy Contamination Scandal beginning in September 2008. It will explore the source and effects of the contamination resulting in numerous deaths and hospitalization of children. We will examine the role of the Chinese government agencies in relation to the scandal. As well as analyzing the short and long term ramifications of the Dairy Contamination Scandal.

### **123 • The Role of the United States in East Asia: U.S. Involvement in China/Taiwan Relations.**

**Richard Walter and Greg Weerasinghe**

*Faculty Sponsor: Tze-Ki Hon, History*

For our GREAT Day poster presentation, we will research the dynamics of the U.S./Chinese/Taiwanese relationship, the history of the relationship and the policies of each actor will be studied particularly recent developments relating to this issue. Major issues, like the status of China in the United Nations, armed conflict and arms sales between these nations, and China/Taiwan at the Olympics will also be brought up. Hopefully, by looking at the tensions that are pertinent to this issue and its possible future, we can make sense of a complicated and complex foreign policy issue.

# Mathematics

## 124 • Stochastic Differential Equations

Daniel Barron and Co Sou

*Faculty Sponsor: Andrzej Kedzierawski, Mathematics*

Stochastic Differential Equations are prevalent in physics, engineering, biology, economics, as well as many other sciences in which mathematical methods are applicable. In general, it is more useful to determine the probability of the phenomenon under evaluation instead of the exact solution of differential equation which models the phenomenon. In particular, we'll discuss the random harmonic oscillator and partial stochastic differential equation describing the propagation of a wave through a 1-dimensional random medium.

## 125 • Analyzing the n-Ball

Robert Magnus

*Faculty Sponsor: Andrzej Kedzierawski, Mathematics*

We will present a few problems relating to an n-dimensional ball in Euclidean space. One of our objectives is to get a better grasp on why the volume of an n-ball increases if n is less than or equal to 5, decreases if n is greater than 5, and approaches zero as n goes to infinity. We will also discuss n-dimensional trajectories and attempt to visualize a higher dimensional n-ball.

# Political Science and International Relations

## 126 • The Welles Report: Student-Run World-Class Journalism

Christopher McClary, Eric Gomez, Elizabeth Barber, Jesse Parent and Ibrahim Tariq

*Faculty Sponsor: Jeremy Grace, Political Science and International Relations*

The presentation will discuss the origin of the Welles Report and what it seeks to accomplish - in terms of becoming a publication that is a fixture within SUNY Geneseo like MINT and the Lamron. We will discuss what the Welles Report is about, the responsibilities of the people - from writers to editors and so on - involved in producing it, and how the publication is a reflection of SUNY Geneseo's great IR/Poli-Sci department and a natural extension of the active learning environment that those departments promote. In addition to these points we will be promoting awareness of the next issue and showcasing the now activated Welles Report web blog. The primary purpose of this presentation is to give students an idea of what the Welles Report is and how they can participate in future issues.

# Psychiatry

## 127 • Acute Stress-Regulation of the Rodent HPA axis: Effects of Active Behavioral Coping.

Daniel Tylee

*Faculty Sponsor: Dana Helmreich, Psychiatry - U of R Medical*

The study's goal was to examine acute stress-regulation of the rodent hypothalamic-pituitary-adrenal (HPA) axis and to determine if active behavioral coping can ameliorate stress-induced fluctuations in neuroendocrine systems and behavior. The HPA axis has been studied extensively as a stress responsive system and has important physiological consequences (McEwen, 2003). Successful coping with stress is necessary to promote resilience and to prevent pathological outcomes. Therefore, it is also important to understand the neural, endocrine and behavioral consequences of stress and active coping. Performing a displacement behavior (e.g. chewing a stick) during a stressor may alter the neuroendocrine response, reducing reactivity of the HPA axis (Hennessy & Foy, 1987; Hori et al., 2004). We attempted to replicate the effect of stick chewing on HPA axis reactivity using a novel stress paradigm (tail-shock). We compared post-stress behavior between those in the coping condition and others who had no stick available to chew. The opportunity to chew did not impact the acute HPA axis response, suggesting that our paradigm was either too rigorous or different in nature from those used in previous research. The opportunity to chew was associated with protection against stress-induced fear-behavior, suggesting other physiological systems may be involved.

# Psychology

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

Benjamin Ampel, Aaron Iuppa, Michael Kalkbrenner, Kelly Insel, Daniel Bach, Christina Piccirillo, Anna McDonough and Trishana Crooks

*Faculty Sponsor: Jim 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. Results supported predictions, particularly when gas price was high.

### **129 • The Role of Personal Environmental Threat and Empathy in Predicting Environmentally Friendly Behavior**

**Aaron Iuppa, Michael Kalkbrenner, Kelly Insel, Daniel Bach, Benjamin Ampel, Christina Piccirillo, Anna McDonough and Trishana Crooks**

*Faculty Sponsor: Jim Allen, Psychology*

Previous research indicates that empathy, measured as a personality characteristic, predicts environmentally friendly behavior. However, because of the correlational nature of this research, it is not clear whether empathy causes environmentally friendly behavior. It also is not clear what might mediate the relation between empathy and environmentally friendly behavior. This research investigated these questions. Results indicated that empathy predicted environmentally friendly behavior independently of personal environmental threat, one likely potential confound. Results also indicated that attitudes toward the environment mediated the relation between empathy and environmentally friendly behavior.

### **130 • Effects of Manipulated Focus on TV Watching and Parental Support on Levels of Materialistic Values**

**Michael Kalkbrenner, Daniel Bach, Christina Piccirillo, Aaron Iuppa, Benjamin Ampel, Kelly Insel, and Trishana Crooks**

*Faculty Sponsor: Jim Allen, Psychology*

Previous research indicates that TV watching and low parental support independently foster the development of materialistic values. This is important because materialism is negatively related to well-being. In addition, a previous correlational study by the present authors examined the interaction between parental support and TV watching on materialism. Results indicated that low levels of materialism were found only among participants who reported low levels of TV watching and high levels of parental support. The present study extended these findings by manipulating participants' focus on TV watching and on times their parents either had or had not been emotionally supportive. Results were largely consistent with previous findings: low levels of TV and high levels of parental support predicted low levels of materialism.

### **131 • The Effect of Mortality Salience on Observers' Perceptions of Litterers in Semi-Wilderness and Developed Areas**

**Christina Piccirillo, Daniel Bach, Michael Kalkbrenner, Benjamin Ampel, Aaron Iuppa, Kelly Insel and Trishana Crooks**

*Faculty Sponsor: Jim Allen, Psychology*

Previous research indicates that reminders of personal mortality motivate individuals to defend personal values. This occurs because individuals look for ways to suppress death thoughts by enhancing self-esteem, and defending personal values raises self-esteem. For instance, after a reminder of their mortality, participants defend personal values by derogating a litterer. We extended this finding by manipulating whether a target person littered into a semi-wilderness area or into a developed area. This comparison is interesting because other data indicate that mortality salient participants have negative attitudes toward semi-wilderness areas because wilderness is uncontrolled and further reminds them of the uncontrollability of their own mortality. Therefore, we predicted that participants would react less harshly toward a target that littered into a semi-wilderness area than toward a target that litters into a developed area.

### **132 • Assertive and Affiliative Language in 4-Year-Old Girls' Interactions with Siblings and Friends**

**Sarah Laudico, Kathleen Bronchetti, Christy Allen, Carly Kramer, Alyssa Cope and Kaitlynn Zeiser**

*Faculty Sponsor: Ganie DeHart, Psychology*

As part of a longitudinal study, we analyzed assertive and affiliative language in 4-year-old girls' sibling and friend interactions. Assertive utterances were those used primarily to influence or control others' thought or behavior (e.g., directives; assertions of desires, intentions, opinions, or rules). Affiliative utterances were those used primarily to establish or maintain contact with others (e.g., showing support, expressing agreement or inclusion, seeking contact or approval). Forty-eight white, middle-class 4-year-old girls were videotaped in separate 15-minute free-play sessions with a sibling and a same-sex friend. Videotapes were transcribed, and assertive and affiliative utterances were identified. The role of gender in their use of assertive and affiliative language was not straightforward; partner, sibling gender, and sibling age all made a difference. Based on these results, future research will examine other age groups to see if the role of gender similarly affects the use of assertive and affiliative language as development progresses.

### **133 • Social Engagement in Same-Sex and Mixed-Sex Sibling Pairs**

**Jessica Wade, Anna McDonough and David Liesegang**

*Faculty Sponsor: Ganie DeHart, Psychology*

As part of a larger longitudinal study of sibling and peer relationships, we examined social engagement in these interactions. Pairs included same-sex or mixed-sex siblings. Participants in the study were 25 sibling pairs. Each pair was videotaped at home in 15-minute semi-structured free play sessions. This process was repeated at ages 4, 7, and 17. The videotapes were transcribed and coded for social engagement at 10-second intervals. Each child's behavior was coded separately, using six main interaction categories adapted from Parten's (1932) coding scheme (Cooperative Play, Associative Play, Parallel Play, Solitary Play, Onlooker, and Unoccupied). Sibling pairs consistently showed less engagement than peer pairs. The gap between percentage of engaged time narrowed as the children aged from 4 years old to 17 years old. Both siblings and peers increased in total engagement over time. It seems that with maturity children are better able to maintain high levels of social engagement across the taping session. These results suggest that sex composition does have an impact on the amount of social

engagement during sibling interaction when collapsed over time. Sex composition at this point seems to have an influence on peer relations; however, the relationship is complex.

### **134 • Did She Want To? A Retrospective Study of Relationship Context, Partner Pressure, and Negative Consequences of Refusing First Vaginal and Oral (Hetero)Sex**

**Catherine Herman**

*Faculty Sponsor: Jennifer Katz, Psychology*

Much research on first sex focuses on its potential negative consequences rather than the potential negative consequences of refusing (e.g., relationship disruption). We explored relationship status, pressure from partners, and women's interest in avoiding the negative consequences of refusing sex as predictors of how much women wanted to engage in consensual vaginal and oral sex for the first time. Female undergraduates anonymously provided retrospective self-report data on their consensual heterosexual experiences; 95 reported past vaginal sex and 97 reported past oral sex. When study variables were simultaneously entered into regressions predicting how much girls wanted each type of sex, the only unique (negative) predictor of wanting first vaginal sex was direct partner pressure. In contrast, both partner pressure and negative consequences of refusal uniquely (and negatively) predicted wanting first oral sex. Partner pressure decreased how much girls wanted first vaginal and first oral sex; at the same time, feeling obligated or concerned about the relationship motivated some girls to consent to first oral sex they did not want. Sexual education for girls should legitimize girls' own desires, including their desire and ability to refuse unwanted sex.

### **135 • Unwanted Sex During Hook Ups and Problem Drinking: Prospective Effects of High School Experiences Over the First Year of College**

**May Wasilewski and Erika van der Kloet**

*Faculty Sponsor: Jennifer Katz, Psychology*

A hook up is "a sexual encounter usually lasting only one night, between people who are strangers or brief acquaintances. Some physical interaction is typical but may or may not involve sexual intercourse" (Paul, McManus, & Hayes, 2000, p. 79). We expected that unwanted sex during high school hook ups would predict heavy drinking. Furthermore, women who respond to unwanted hook up sex with binge drinking might be at greater risk for future unwanted hook up sex. Data were collected from 42 women in October (Time 1) and 39 in April (Time 2) of their first year of college. About 45% of the sample reported past unwanted sex during high school. Of these, 63.2% reported unwanted sex during a high school hook up. As expected, unwanted hook up sex during high school predicted unwanted hook up sex over the first year of college (at Time 2) but only among women who reported binge drinking (at Time 1). Examination of how drinking may interfere with the ability to resist or to perceive potential risks for coercion in hook up situations may help educators and victims understand and prevent future revictimization.

### **136 • Correlates of Cardiovascular Regulation in Response to a Cognitive Challenge**

**Julie Feola, Emily Reding and Daniel Tylee**

*Faculty Sponsor: Michael Lynch, Psychology*

The purpose of the current study was to examine patterns of cardiovascular response to challenge and their correlates. Different patterns of regulation may reflect differences in parasympathetic control of the heart. This control is indexed by vagal tone, measured as respiratory sinus arrhythmia (RSA). Initial results are based on data from 26 participants (42.3% females) from the full sample of 100 college students (mean age = 18.8 years). Factors that may influence cardiovascular regulation – such as personality, attributional style, and previous experiences of stress and trauma – along with indicators of well-being were evaluated. Four patterns of cardiovascular reactivity to and recovery from the challenge were identified. Two patterns were found to be adaptive in that the reactivity and recovery were appropriately balanced, whereas two maladaptive patterns were found that led to under-activation or under-regulation of heart rate. The under-activated and under-regulated groups reported a higher level of physical and emotional distress. These findings are important because they identify groups that may be predisposed, both physiologically and emotionally, to developing maladaptive patterns of coping. Individuals who fall into these categories may then be at risk for experiencing lower levels of physical and emotional well-being.

### **137 • Effects of Victimization on Well-Being and Academic Performance**

**Dominica Potenza, Stephanie Cristiano, Sara Wigderson and Stephanie Edwards**

*Faculty Sponsor: Michael Lynch, Psychology*

The primary purpose of this study is to examine how various forms of aggression and victimization affect the well-being and academic performance of college students. Increasingly, victimization can occur through the use of technology, so that victims can be vulnerable to threat at any time. This so-called "cyber-victimization" is important to study since its effects have not yet been clearly documented. The current study includes examines the possible co-occurrence of cyber-victimization with other forms of victimization, including physical and relational aggression, as well as dating victimization and hazing events. We are interested in the effects of victimization on outcomes such as self-esteem, anxiety, depression, and academic performance. We are also interested in examining the role that parental monitoring, social support, and coping play in modifying the effects of victimization. This study aims to build upon prior research in order to create a better understanding of the extent of cyber-victimization and its co-occurrence with other forms of victimization, along with their combined effects on individual functioning and well-being.

### **138 • Spatial metaphors and the representation of emotional expression.**

**Matthew Tompkins and Kim Hinman**

*Faculty Sponsor: Jeffrey Mounts, Psychology*

A study was conducted to determine whether spatial metaphors are used to represent emotional expressions. Participants made speeded emotion discriminations for pictures depicting happy and angry facial expressions using a pair of response keys that were arrayed vertically. Results are consistent with the hypothesis that facial emotions activate a metaphorical spatial code. Congruency effects were obtained such that responses were faster when a positive emotion (happy) was mapped to the “high” key and a negative emotion (angry) was mapped to the “low” key. Moreover, these response selection effects were independent of other factors influencing response speed such as the emotion itself as well as model gender, suggesting that these factors influence response speed at a stage prior to response selection.

### **139 • The Role of Personality in the Relationship Between Possible Selves, Coping Strategies, and College Adjustment**

**Craig Brinkman, Samantha MacDonald, Shannon Nagel and Benjamin Perry**

*Faculty Sponsor: Monica Schneider, Psychology*

Researchers investigating predictors of psychological well-being have 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. Further research suggests that ideal and feared possible selves may play a different role in adjustment depending on the personality traits of the students because of the different coping strategies employed by these students. The results from our previous study suggest that students' perceptions that they can achieve their ideal possible selves play a central role in adjustment because these perceptions are directly linked to positive affect, greater self-efficacy, and an increased tendency to engage in certain self-regulatory behaviors associated with success. Our current study extends our past research by examining how personality traits qualify how possible selves are related to coping and adjustment. Specifically, we assess the role of 1) global self-esteem, 2) academic and social possible selves, 3) personality, 4) positive and negative affect, 5) academic and social self-efficacy, 6) coping strategies, and 7) self-regulatory academic and social behaviors in students' college adjustment.

### **140 • Perceptions of the Popular Crowd and Adolescents' Academic Effort: Are Boys More Susceptible to Negative Influence?**

**Ashley Arthur, Kelly Hendricken and Caroline Harvey**

*Faculty Sponsor: Joan Zook, Psychology*

Effort in school is not highly valued in some peer cultures (Brown & Steinberg, 1990), especially for boys (Van Houtte, 2004) and many adolescents perceive hard-working adolescents as less popular (Juvonen, 1996; 2001). In this retrospective study, we interviewed Geneseo students (N = 138, 63 female, 75 male) about their perceptions of the academic culture of the popular crowd in their middle school and high school. We were interested in whether popular students cared about getting good grades and valued academic effort. We also assessed how participants wished to be perceived by their peers academically. Finally, we asked about participants' use of self-presentation strategies that hid their academic effort from peers. Results indicated that when popular crowds did not value effort, participants were more likely to want to be perceived by peers as less hardworking (especially popular tenth graders), more likely to downplay their academic effort (especially popular students for whom popularity was important), and to work less hard (especially boys). These results imply that popular crowd cultures are an important influence on adolescents and that boys' effort in school is more vulnerable to the popular crowd culture. Results are discussed in terms of gender and stereotypical notions of masculinity.

## **School of Education**

### **141 • Teaching Problem Solving Through Literature**

**Emily O'Leary, Lindsay Randall and Katie Ward**

*Faculty Sponsor: Michael Rozalski, School of Education*

This presentation will summarize strategies for teaching problem-solving through literature. The literature will help to eliminate violence and create positive behaviors in several schools where Second Step, a violence prevention curriculum, was adopted. Presenters will detail major program components of Second Step, present data documenting program effectiveness, and discuss barriers associated with large scale implementation.

### **142 • How have schools evolved over the last century and how are these changes relevant to school today?**

**Mindy Benamati, Meaghan Werther and Meredith Burkhardt**

*Faculty Sponsor: Ann Marie Lauricella, School of Education*

After researching several artifacts prominent in schools in the nineteenth century (e.g. desks, chalk/chalkboards, books) we created a unit plan that took an in-depth look at these tools of education. In this unit, students explored the similarities and differences between school now and in the nineteenth century. Students also considered technology that we utilize in schools now; does technology improve learning? This and other essential questions were explored throughout our unit design.

### **143 • What Put the Roar in the 1920s?**

**Carah Deal, Meredith Stevens, Molly Scheifflee and Julie Pangborn,**  
*Faculty Sponsor: Ann Marie Lauricella, School of Education*

This poster presentation connects our local past using artifacts from the Livingston County Museum, with the Golden Age of the “Roaring 20s.” The Roaring 20s highly influenced modern fashion and entertainment and pushed societal norms. Connections to production, industry, music, and entertainment will be made to life in the United States then, as it is now. When designing this unit, we wanted students to consider how reading market trends can be reflected in the zeitgeist of the times. In-depth investigation of this topic may serve to connect the current recession with issues that occurred almost 100 years ago. Indeed, we can see similar patterns in the rate of inflation; in all, students may note trends in fashion, production and/or industry to predict a future roar or slight meow.

### **144 • Evolution of Transportation Beneficial? Detrimental?**

**Kellie Mark, Tasha Ponko and Jennifer Tayne**  
*Faculty Sponsor: Ann Marie Lauricella, School of Education*

Transportation is a piece of history that continues to change over time and is featured throughout the Livingston County Museum (LCM) beginning in the 1800s and continuing into the early 1900s, when the automobile was introduced. The poster presentation focuses on three aspects of transportation displayed in the LCM: liveries (renting and riding public horses and coaches), stagecoaches and the early automobile. Our project focused on how these forms of technology influenced change in the village of Geneseo and also our nation as a whole. We looked at social and economic gains which led to technological advances in transportation. Specifically, we looked at the Wadsworth family. Our in-depth study suggests that, some changes in transportation were more beneficial than others. These conclusions were based on factors such as: pollution, government control of natural resources, and an increased cost of transportation. This study of transportation tied to the local community will provide the opportunity for students to investigate how the culture of their town is influenced by social and economic forces, and to examine technological gains from multiple perspectives.

### **145 • Women’s Roles in Society: The Late 1800’s Through Today**

**Lindsey Marotta, Samantha Locke, Paige Hakes and Clare Halpin**  
*Faculty Sponsor: Ann Marie Lauricella, School of Education*

This project uses four artifacts found at the Livingston County Museum to illustrate the various roles of women in the late 1800. The artifacts: the sewing machine, hoop skirt, china set and chalk board represent women’s work, dress and domesticity. The overall goal of our artifact exploration was for students to become aware of the evolution of gender roles from yesterday to today. Throughout history women have undergone a struggle for equality and have fought to expand their role in society. How have women’s roles evolved and what symbols and/or artifacts would best describe women’s roles today?

### **146 • Communication**

**Megan Mulvey, Tracey Bunce, Erin Zalewski and Jessica Barbis**  
*Faculty Sponsor: Ann Marie Lauricella, School of Education*

This poster presentation examines the ways in which communication works to maintain ties with people. In today’s society we are dependent on sophisticated forms of technology although most are unaware of how various forms of communication have evolved over time. Studying the development of communication serves to develop student’s appreciation of technological advancements, specifically in the field of communication. Students will be able to see the impact that technology has on their lives and compare this to generations before them. In the past it would have taken days to relay a message to another person; however, in today’s society it takes only a matter of seconds to send a message via text or email. This unit will challenge kids to think about how change is an inevitable part of life.

### **147 • Beyond the Band: A Unit Plan for Musical Instruments**

**Rachel Pierce, Samantha DeWitt and Sarah Burke**  
*Faculty Sponsor: Ann Marie Lauricella, School of Education*

This poster presentation is a unit design that explores musical Instrument artifacts found at the Livingston County Museum in Geneseo, New York. What makes this an engaging presentation is that these instruments are little known today yet were once quite popular. In fact, each of the three instruments we choose, the parlor organ, the reed pipe and the ocarina, can be traced to band instruments of today. Further, the unit works to explore the ways that musical instruments can offer insights into the time period and connection to the culture and music of an era. The unit plan was written for third grade students in order to connect to their own appreciation of music as they decide on band or orchestra as an extra-curricular activity.

### **148 • Butter Churns, Looms, and Candle Molds: The Technology of Comfort in the 1800s**

**Gabrielle Rice, Larkin Ryan and Lisa Zielinski**  
*Faculty Sponsor: Ann Marie Lauricella, School of Education*

This unit plan explores the production of the various comforts of our most basic needs—food, clothing, and light—during the 1800s. Furthermore, this unit focuses on how changes in technology have affected our society, in terms of societal values, cultural expectations, socio-economic factors, and individuals, with particular focus on children. Our unit encourages children to consider how hand-made products such as cream, fabric, and bee’s wax were used to improve and/or enrich the quality of life in the 1800s. Additionally, the unit will look at the evolution of technology in production of goods and how this has evolved into the marketing of goods. Throughout the unit, the children are provided with opportunities to “do” history by making candles, weaving cloth, and churning butter. Through these activities and discussions, children will understand the evolution of technology and consider possible directions for future goods production.

### **149 • Unit Plan - Getting There in Livingston County: Then and Now**

Amy Ryan, Dennis Costanza, Courtney Wheeler and John Hillman

*Faculty Sponsor: Ann Marie Lauricella, School of Education*

Traveling from place to place is something that most people today take for granted. During the 1900s, getting around in Livingston County was much more difficult than just hopping in a fuel-efficient (or not so fuel-efficient) car to drive to the store. The main methods of transportation in the late 19th and early 20th century on trains, canals, carriages and horses, were more time consuming than today. Our group designed a unit plan to incorporate the aforementioned methods of transportation and link them to the technological advancements in transportation today. Consideration of transportation engineering and technology is important for students to understand in light of the energy issues facing our world today. Furthermore, having students consider the possibilities of an inventor encourages critical thinking skills of a 21st century citizen.

### **150 • Doing Local History: What Can a County Flag Tell Us About a Community?**

Katie Ward, Emily Barron and Lindsey Clinton

*Faculty Sponsor: Ann Marie Lauricella, School of Education*

The study of local history has the potential to link powerful historical themes to the immediate surroundings of children, thereby fostering an appeal for the "doing" of history. Because each community is unique in terms of populations, (i.e. cultural inheritances, political leanings, etc.) working with children to explore these dispositions embedded within their surroundings provides an almost immediate connection to their lives. This poster presentation offers the opportunity to explore ways teachers can engage children using the flag of Livingston County. In addition, it will help students to consider and investigate the rich history of the community.

### **151 • The Underground Railroad: Journey from Slavery to Freedom**

Karalina Zimmerman, Amanda Peck and Kait Provencher

*Faculty Sponsor: Ann Marie Lauricella, School of Education*

This poster presentation will focus on a unit plan based on the Underground Railroad and the journey of a slave headed North towards freedom. This integrated unit will incorporate literature, geography, and multiple perspectives to explore the life of African Americans bound for freedom. Throughout the unit, students will investigate the conditions of slavery on plantations, navigation on the Underground Railroad including local Livingston County stations, and traversing through the country on their way North. The goal here is to show the intricate workings of the Underground Railroad system and of the incredible bravery and courage it took for those who were not only committed to escape from slavery, but to those individuals who committed their lives to help fight the system injustice.

### **152 • Comprehension/Retelling in Miscue Analysis**

Samantha DeWitt, Rachel Pierce, Meredith Burkhardt, Mindy Benamati and Meaghan Werther

*Faculty Sponsor: Maria Liwanag, School of Education*

We will be analyzing the comprehension process of selected readers as they read and retell a story out loud. We will use miscue analysis by marking and coding a predetermined typescript. At first the student will be asked to re-tell what they have read in the story. Then we, the researchers, will go back and ask the reader questions about portions of the story the student missed as well as details of the story (character, setting, morals, etc). Based on the students retelling we will have insight into their level of comprehension of the story. We will also examine how the student organized the details of the story, how they used knowledge of genre, and their background experience to retell the story.

### **153 • Examining Miscue Statistical Profiles: What Kind of Reader Do We Have?**

Kristi Kern, Colleen O'Carroll, Megan Argetsinger, Tracey Bunce, and Lisa Zielinski

*Faculty Sponsor: Maria Liwanag, School of Education*

We will analyze the reading of four students to see what the reading scores reveal about the readers' strengths and needs. We will explore how miscue coding gives an overview of the readers' knowledge of language and meaning. We will examine if their reading is syntactically acceptable, semantically acceptable, and any meaning change in their readings. We will gain a better understanding of how the reading process works through this mini inquiry.

### **154 • Comprehension Strategies in Miscue Analysis**

Gabrielle Rice, Erin Zalewski, Kellie Mark, Megan Mulvey, Tasha Ponko and Jennifer Tayne

*Faculty Sponsor: Maria Liwanag, School of Education*

The goal of our presentation is to examine the reading process through miscue analysis. Miscues are unexpected reader responses that differ from the text. In conducting a miscue analysis, the educator records a reader while reading an authentic text without interruption. The reader then retells the story to demonstrate their comprehension of the text. We will examine four oral readings as a way to understand the comprehension process and the strategies (patterns of self-corrections, repetitions, and evidence of predictions) employed by the reader. We will use this knowledge to improve upon individual strengths in the reading process; thus helping children value themselves as readers. Miscue analysis allows both the educator and student to better understand the reading process and strategies used.

### **155 • Keeping Kids in School: Year Three**

**Daniel Hart, Kristin Ververs, Alexandra Yauney, Katherine Brooks, Laura Van Etten, Leah Tingley, Jenna Marcellus, Erin Harding, Lwam Tecleab and Laura Jakubowski**

*Faculty Sponsor: Jane Morse, School of Education*

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

### **156 • Bibliotherapy: Teaching Empathy Through Literature**

**Danielle Goe, Erica Thogersen and Erica Joyce**

*Faculty Sponsor: Michael Rozalski, School of Education*

This presentation will summarize strategies for teaching empathy using literature to eliminate violence and create positive behaviors in several schools where Second Step, a violence prevention curriculum, was adopted. Presenters will detail major program components of Second Step, present data documenting program effectiveness, and discuss barriers associated with large scale implementation.

### **157 • Bibliotherapy: Helping Children with Anger Management Skills through the use of Literature**

**Phillip Heiler, Theresa Symer and Brittany Ischia**

*Faculty Sponsor: Michael Rozalski, School of Education*

This presentation will summarize recent primary prevention efforts to eliminate violence and create positive behaviors in several schools where Second Step, a violence prevention curriculum, was adopted. This poster presentation will particularly focus on the area of anger management. We will highlight various methods and ideas relating to using books and other media to help children with anger management problems. Through the use of rating scales, we will provide insight into what specific book titles are best for use in the classroom for different grade levels. We will be providing the audience with several examples of books and associated lesson plans that are ready for immediate use in the classroom. A primary focus in our presentation will be to sharing ideas about how to help children relate to the characters in these books.

### **158 • Primary Prevention of Violence: Implementing and Evaluating the Effectiveness of Second Step**

**Angie Stewart and Phillip Heiler**

*Faculty Sponsor: Michael Rozalski, School of Education*

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

### **159 • A Look at Childhood in America**

*Faculty Sponsor: Linda Steet, School of Education*

#### **Who, What, Wear and Why: An Anthropological Look at 8th-10th Graders**

**Pamela Tangel and Catherine D'Arcangelis**

This is a cultural study of American children grades 8-10 who are aged 13-16. The students in this age group experience a major transitional phase in their lives when they move from Middle School to High School where they encounter more subcultures, curriculum demands and stress. By researching statistics and observing the students in this group we have learned that currently, teens are active participants in the larger adult society while still maintaining a culture and lifestyle of their own. These teens have their own interests in media, clothing, technology and education. The demands on their lives are ever increasing and it has been fascinating to see how they interact with the world around them.

### **A 5th-7th Grade Overview**

**Robert White and Jack Jagodzinski**

A critical look at major characteristics of children in this unique age group of 5th-7th graders, with interesting facts, figures, and other information published through various forms of media. This presentation serves as a means of understanding major facets of life of a tween, and how all of these aspects are connected with each other.

## **Middle Schoolers take on America**

**Danielle Magiera and Kristi Lamb**

Upon researching middle schoolers we discovered many interesting facts pertaining to the way that they live. From puberty to pop culture to educational requirements it all seemed drastically different from when we were tweens. We hope to share our findings with other students, faculty, and staff so they can too have a better understanding of children today.

## **Teenage Life in 2009**

**Karina Stamatis**

This power point shows an overview all about teenagers in 2009. It includes the clothes they wear, music, movies, bullying, reading, drugs, education and much more.

## **A Day in the Life of a Kid-2009**

**Jaclyn Williams**

This is a Powerpoint that goes through a day in the life of a child (specifically ages 9-12) in 2009. It includes aspects such as clothing, books, homework, discipline, and health issues.

## **160 • How do undergraduates change their perceptions about diversity after participating in the co-curricular diversity activity, Real World Geneseo (RWG) and its corresponding seminar course, INTD388?**

**Yurino Kawashima**

*Faculty Sponsor: Annmarie Urso, School of Education*

The purpose of the study is to determine the impact of participation in the co-curricular diversity activity, the Real World Geneseo (RWG) Project, and its corresponding seminar course, INTD388. The study examines the developing cultural competence of the undergraduate student participants. RWG was held on January 14-17 in 2010 in Rochester, NY. INTD388: Real World Geneseo Seminar was held in the first half of this semester. One part of this study is to understand how RWG and INTD388 contributed to the student participants' changing perceptions about diversity. The participant students individually created concept maps three times; they developed concept maps about diversity based on their experiences prior to RWG, after RWG, and then after INTD388. I measured how their perceptions about diversity changed based on the complexity, breadth, and common themes which appeared on the participants' concept maps. This poster reports how the participant students changed and expanded their perceptions about diversity through RWG and INTD388.

## **161 • The Impact of Several Cognitive Correlates of Reading on Reading Achievement**

**Jennifer Tayne**

*Faculty Sponsor: Annmarie Urso, School of Education*

I am currently assisting Dr. Annmarie Urso in identifying the relationships of long-term memory and retrieval, short-term working memory, processing speed, and phonological skills on good and poor readers. Through entering statistical data from a data set of good and poor readers collected by Dr. Urso into a SPSS (Statistical Package for the Social Sciences) program, we have been able to identify the multiple cognitive correlations and their effects on a data set of readers. All of my data will be concerning students ages 6 to 10 with average or above average ability, identified as learning disabled or non-disabled readers. Understanding the relationships between these cognitive correlations on young readers will help target key influences of reading difficulties and identify profiles of cognitive abilities in students who are poor readers. These profiles can help diagnosticians and teachers plan effective interventions. The objective of this project is to understand these cognitive relationships in hopes that it will contribute to the larger body of scholarly work in understanding reading disabilities. If we are able to better understand the profiles of cognitive strengths and weaknesses of students with reading disabilities, we will be better equipped to help a student in need of intervention.

# **Sociology**

## **162 • The Media Portrayal of Gender in Athletics: An Analysis of Gender in Sports Section of the Lamron**

**Tara McCarron**

*Faculty Sponsor: James Bearden, Sociology*

Social theory suggests that sport serves as a homosocial arena in which a "cult of manliness" was created in order to meet recreational needs, to create masculine self-identities, and to reinforce male hegemony (Sage, 1998 p. 65 & Messner, Duncan, & Jensen, 2007). Messner, Duncan, and Jensen (2007) go on further to suggest that the continued efficacy of sport as a means of constructing and legitimizing masculine power is due to the mass-mediated nature of sport. Previous analyses of sports media has shown marked differences in both the amount and quality of coverage of male and female athletes. This study will analyze The Lamron, SUNY Geneseo's student newspaper, in order to determine if it displays gender bias in sports reporting.

### **163 • We Feel Fine: An Evaluation of the Subjective Well-Being of College-Aged Individuals**

**Michael Vaughn**

*Faculty Sponsor: James Bearden, Sociology*

The proposed research would examine the factors which determine the overall well-being of college-aged students, as well as investigate the connection between group identification and subjective well-being. Well-being is defined and evaluated by the individual based on his or her personal experiences. As such, it would be impractical, if not counter-productive to attempt to define well-being for the individuals surveyed. It is for this reason that they respondents will be evaluating their own lives through a survey of the domains which make up a college-aged individual's everyday life. This includes health, romantic interests, friends, family, sexuality, schooling, contributions to others, and finances. College-aged students were chosen as the target subject pool for this study. The proposed research is an adaptation of a study done by William Fleeson in which he examined the subjective well-being of middle aged individuals. This study altered his prescribed domains to better fit college-aged individuals. In addition, the proposed research would examine the impact of group identification on well-being. Does group membership affect the individual's subjective well-being in any tangible way? It is hypothesized that group identification will impact specific domains of well-being, which will, in turn, improve or worsen one's perception of one's life overall.

### **164 • Research on Transgender Voice Therapy**

**Sharon Fox**

*Faculty Sponsor: Elaine Cleeton, Sociology*

This is a summary of my research for the Women's Studies Capstone Research Project. As a women's studies minor and speech pathology major I wanted to find a field of study that involved both subjects. This presentation is on the process that male-to-female transgender people must undergo to change their voice to fit their gender. I contacted speech therapists who specialize in this type of voice therapy and researched the various methods available to individuals who want to change their voices. The therapy includes modification of resonance, pitch, and even vocabulary and intonation.

### **165 • Family Court, Family Friendly**

**Carolyn Randle**

*Faculty Sponsor: Denise Scott, Sociology*

Last Summer I spent 148 hours interning within Erie County's Family Court. The information I learned was highly valuable to my future and helped me understand the inter-workings and common misconceptions associated with the court system. In this presentation I will address the purpose of the court. Unlike criminal court, family court is not a place that punishes people. The main focus within the build is to preserve the safety, rights and well-being of the children involved, not to get revenge on a significant other. Besides focusing on the courts purpose, I will also address some of the common misconceptions people associate with the court system. Including, beliefs that it is overly complicated, not friendly, cold and uncaring, out to take their money and that whoever files a petition first will win the case. All of these are not factual. Through my research I will clarify these misconceptions and inform my peers of the benefits of the court system. Another section of this presentation will include an outline of the court system from the petition process through the court appearance. As well as different services the court provides for those who seek its help. Family Court is an asset.

# CONCURRENT PRESENTATIONS

SESSION 1 • 9:40-10:55

## Session 1-A • Anthropology

Welles 119

### The Meanings of Things: Material Culture Studies Part 1

*Faculty Sponsor and Session Chair: Jim Aimers, Anthropology*

#### A Gift to Nine: A Semiotic Analysis

**Katie Boyle**

Before I left the warm comforts of home last fall to take on the challenges of starting my college career, I received a gift. This was a silver bracelet that had the word "nine" inscribed in it. My eight friends and I would wear it every day as a reminder of our friendship, even though we would soon be hundreds of miles from each other. Material objects help humans in many ways; jackets keep us warm in the winter, and umbrellas keep us dry in the rain. My favorite object is my "nine" bracelet, which helps me feel the comfort and friendship of home, especially when five hours away at school. This sentimental piece of jewelry can be understood through semiotics because it not only communicates to me a sense of security, but it communicates to others, whether they know the special meaning behind it or not. Outsiders who look at my wrist may think it's my favorite number for a sports team I play on, or the number of people in my family. However, for those who care to ask, the bracelet shares a piece of my personality with them by demonstrating how valuable friendship is to me.

#### If the Bracelet Fits: Souvenirs and Self-Identity

**Ryan Broser**

It has been nearly ten months since I purchased a wood bracelet from the town of Puerto Viejo in Costa Rica. Most of the beads have fallen off, and the threads smell slightly of sweat and an odor most similar to hand-head soap, but I still wear it. At first, I believed that I wore it because it reminded me of my wonderful experience traveling to and visiting such a unique country. However, I have come to the realization that the reason that country was so unique, was because I had never been there before. Consequently, the bracelet was a material good that symbolized my time spent abroad. Additionally, it also provides me with an identity by covering a part of my arm that until now has been bare and expressionless. In my GREAT Day presentation I will use semiotics and Marxism to examine the underlying reasons why bracelets and other simple souvenirs provide tourists with a source of material comfort and self-identity. Through my research I will reveal how consumers purchase commodities that solidify their personal memories and demonstrate their likes (and even dislikes).

#### Jeans: What do your pants say about you; or, What do you want your pants to say about you?

**Katherine Joyce**

I chose to use Marxist and feminist theory to examine what jeans say about the person wearing them. Jeans are a garment that have come from humble beginnings as durable clothing suitable for working class men, to an inescapable part of virtually every man, woman, and child's wardrobe today. This drastic change in usage has come about due to a change of traditional gender roles in society and in light of the ubiquitous American 'middle class' mindset that has developed over the past few decades. Jeans can be used as a form of expressing ones identity or as a way of trying to blend into the crowd and be 'average'. They are a versatile and telling piece of clothing that play a larger role than they are given credit for in people's views of class and gender roles.

## Session 1-B • Anthropology

Welles 128

### Anatomy of a Disaster: Haiti Earthquake of January 12, 2010

*Faculty Sponsor and Session Chair: Rose-Marie Chierici, Anthropology*

#### International Intervention and Security Reform

**Nick Ponterio**

Haiti's January 12 earthquake left the country in a state of anomie: vulnerable to violence and crime as well as human rights violations. The international community responded through various civic, religious and military groups to bolster security. Yet Haitians had already begun to establish security for themselves. Even before the earthquake, Haiti had suffered from environmental, economic, political, social problems that jeopardized security. Multilateral attempts to improve the situation such as the UN multinational force, MINUSTAH, have only limited success. Our research addresses the current security situation by examining foreign interventions to establish security in Haiti and compares responses to other disaster situations. Finally, we will propose a strategy for Haiti to build security out of a state of anomie.

#### Effects of Lack of Infrastructure on the Rebuilding Process in Haiti

**Liana Felt**

This presentation introduces the challenges of reestablishing working infrastructures in Haiti after the devastating earthquake of January 12th, 2010 and subsequent aftershocks. It is estimated that % of structures were destroyed in the areas surrounding the epicenter near Port-au-Prince, leaving % homeless. Rebuilding efforts should ensure that structures be resistant to both earthquakes and other natural disasters. Cooperation between Haitians and relief agencies in both short and long term building goals should be to design and implement secure and sustainable infrastructures such as housing, hospitals, and public buildings. In the past housing construction in Haiti focused primarily on buildings that can withstand hurricanes. The recent events in Chile show how adequate construction techniques can limit the amount of destruction and damage from large earthquakes. As Haiti looks to the future it must find a way to integrate lessons from earthquake and hurricane resistant structures to better prepare for future disasters.

## **Impact of the Earthquake on Public Health: Relationship Between Sanitation, Clean Water, and the Spread of Disease**

**Geni Beninati**

Before the January 12th earthquake only half of the population of Haiti had access to clean water and sanitation, post earthquake the percentage is staggeringly lower. The medical problems related to access to clean water and adequate sanitary facilities complicate recovery efforts and long term rebuilding goals of Haiti. The lack of sufficient sewage systems leads to the pollution of the water supply which compromises the ecology and leads to the spread of infectious diseases such as typhoid, dysentery, tuberculosis, and malaria. The importance of prevention and treatment of these diseases must be weighed appropriately when planning for both short and long term recovery efforts. Our research focuses on water, sewage, health care and diseases. We have explored answers to questions such as: How does time affect the stages of the relief effort? What are the priorities of the Haitian people? Are cultural needs being considered regarding public health?

## **Session 1-C • Biomathematics**

**Newton 203**

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

### **Calculating the Fractal Dimension of a Sheep Cerebellum**

**Tyler Massaro**

Dissection of a sheep cerebellum reveals a highly branched section of white matter forming the backbone of this entire region of the brain. Due to the nature of this branching, we can calculate its fractal dimension (FD), which offers an idea of the degree to which the white matter permeates the entire region. To do this, we first isolated the cerebellum, set it in an agarose gel, and took cross sections. Pictures taken of the cross sections are then stacked using NIH ImageJ. Further analysis involving the mathematical technique of box counting offers a fairly accurate estimate of the fractal dimension, which is  $2 < FD < 3$ .

### **The Effect of Cattle as Reservoirs on the Rate of Infection of African Sleeping Sickness in Humans in Central Africa**

**Bohdan Klymochko, Paul Sapia, Alison Bowen, and Crista Fantone,**

*Faculty Sponsor: Gregg Hartvigsen, Biology and Christopher Leary, Mathematics*

Human African trypanosomiasis is a parasitic disease that has large impacts on humans and animals. The protozoan that causes this disease is transmitted by the Tsetse fly. Current estimates show that about 300,000 cases are seen per year, but the actual number of infections may be ten times greater. Cattle reservoirs have a significant effect on the probability of Tsetse flies becoming infected, which can increase the chance of humans becoming infected. We have developed an SEIS vector model, based on the work of Artzrouni and Gouteux (1996), to investigate the rate at which humans become infected with Trypanosomiasis brucei. We assume this to be a closed system with a constant population and test how the presence of cattle affects the rate at which humans become infected. We find that the rate of human infection dramatically increases with the introduction of cattle as a reservoir for the disease.

### **Modeling a Trophic Cascade in the Critical Habitat Established for Northern Sea Otters in Southwest Alaska**

**Dan Megelick, Shannon White, Nick Korach, Clarence Ling,**

*Faculty Sponsor: Christopher Leary, Mathematics and Gregg Hartvigsen, Biology*

Since the 1970s, there has been a 95% decline in the northern sea otter population. Research indicates that this is the result of an increase in killer whale predation. In 2005 the northern sea otters of the Southwest Alaska Distinct Population Segment were listed as threatened and, in October 2009, a 5,855 mi<sup>2</sup> critical habitat was established for their protection. The sea otter is a keystone species and significantly influences the status of kelp beds, which provide an important marine habitat. By feeding on sea urchins, sea otters initiate a trophic cascade, preventing the overgrazing of kelp beds by urchin populations. We have developed a model that extends basic theta-logistic predator-prey systems of equations to project the population trends of this four species linear food-chain within the critical habitat. Preliminary results show that the fate of the northern sea otter, as well as the overall effectiveness of the critical habitat in maintaining ecological stability, relies heavily on the level of killer whale predation in the region.

## **Session 1-D • Chemistry**

**Newton 204**

### **Honors Chemistry Research - I**

*Faculty Sponsor and Session Chair: Jeffrey Peterson, Chemistry*

### **Investigation Of A Halogenated Polyacetylene and the Halogenase Gene in Anaphalis Margaritacea**

**Wanda Lam**

The goal of this project is to isolate and characterize a 13-carbon halogenated polyacetylene from *Anaphalis margaritacea* in order to refine its original structure, and to identify the halogenase responsible for the chlorination of the halogenated polyacetylene of interest using a molecular approach. The isolated mixture from the roots was analyzed by NMR, IR, and TLC. The data reveal convincing evidence of the presence of the halogenated polyacetylene in the extract. Further separation techniques will be employed to purify the halogenated polyacetylene from the mixture. In order to enhance synthetic knowledge through the natural synthetic pathway, the halogenase in *Anaphalis margaritacea* that is responsible for the chlorination of the polyacetylene is examined. Identifying the halogenase, locating the halogenase-coding gene and sequencing the gene would provide important information about the halogenated polyacetylene, such as its synthesis, function, and conditions in which it is produced by the plant. This can also serve a model for further studies of halogenases in terrestrial plants, in which current understanding is limited. Four primers are designed from known sequence of halogenase-

coding gene in various bacteria, which are known to be highly conserved, to probe the genome of *Anaphalis margaritacea* by PCR.

## **Synthesis and Optical Characterization of PbSe Quantum Dots**

**Scott Eron**

Over the past decade, the use of colloidal semiconductor nanocrystallites, commonly referred to as quantum dots (QDs), has exploded in the chemistry community. QDs are spherical inorganic particles, with diameters between 2–10 nm that exhibit totally unique optical properties. In particular, lead selenide (PbSe) QDs have shown outstanding potential for use biological imaging, solar cells, and optical switches. In order to effectively incorporate QDs into new technologies, a fast and accurate means to measure concentrations of QD solutions is required. We will describe work to measure the size-dependent molar extinction coefficient of PbSe QDs, enabling concentrations to be readily determined by simple absorbance measurements. The primary outcomes of this research are threefold: (1) the development of a synthetic technique capable of producing high quality QDs in a range of particle sizes (2) the optical, structural and chemical characterization via absorption and fluorescence spectroscopy, transmission electron microscopy, and atomic absorption spectroscopy, respectively, and (3) a calculated value for the molar extinction coefficient for PbSe QDs that will help develop a fuller understanding of the underlying physics that govern optical properties in nanoscale materials.

## **A Method for Determining the Photophysical Properties of Aggregates of Platinum Complexes**

**Ray Hinton**

Platinum compounds are being investigated as a way to increase the efficiency of organic light emitting devices (OLEDs). In particular, Pt(II) compounds are coordinatively unsaturated and so can stack on top of each other, allowing metal centers from different molecules to interact. This stacking interaction can have a profound impact on the absorption and emission spectra of a compound. As an example, some compounds emit light in the solid state but not in solution. This is because molecules are packed closely enough in the solid state, while in solution such interactions are fleeting. We have proposed a way to measure specific intermolecular interactions in solution. This is accomplished by encapsulating guest Pt(II) compounds in a host molecular cage. The size of the cage can be controlled and thus different numbers and kinds of compounds can be studied. This talk will focus on synthesizing and characterizing these cages. Two types of cages have been synthesized, and some representative guest molecules have been encapsulated, as well.

## **Synthesis and Characterization of Pt(II) complexes with 2,6-Di(quinolin-8-yl)pyridyl Ligand**

**Kian Bichoupan**

The creation of a molecular-based system that is capable of converting light to chemical energy has long proven itself to be a difficult task. To convert light to chemical energy, a molecule must absorb light and store it in its own chemical bonds. In the past there has been a large amount of research on Pt(II) emissive square planar systems as potential chromophores with the ability to transfer energy. Diimine and terpyridine Pt(II) complexes have been shown to exhibit acceptor properties. Manipulation of substituents attached to these ligands have shown a degree of control over the molecules' electrochemical and photophysical properties. We have synthesized a tridentate ligand known as 2,6-(diquinolin-8-yl)pyridine (dqp) as well as the square planar platinum complex, [Pt(dqp)Cl]Cl and Pt(dqp)(CCAr). Electrochemical and photophysical properties of these molecules were examined. Molecular orbital calculations were also performed. We expect that Pt(dqp)X\* complexes will display increased lifetimes in excited states due to the increase bite angle between the platinum and the ligand.

## **Session 1-E • Communication**

**Milne 104**

*Session Chair: Atsushi Tajima, Communication*

### **Iron Man: A Case Study in Orientalism and Hegemony**

**Aidan Bryant**

*Faculty Sponsor: Atsushi Tajima, Communication*

This study examines media-propagated orientalism and Western hegemony in relation to the Middle East. There are countless films that portray Arabs as monodimensionally evil villains. One such film is the 2008 blockbuster *Iron Man*. This case study analyzes orientalism and hegemonic constructs in *Iron Man*; including media effects, historical precedent and function of comics, and stereotyping.

### **The Keffiyeh in the West**

**Keren Carmeli**

*Faculty Sponsor: Atsushi Tajima, Communication*

This paper addresses the recent appearance of keffiyehs (traditional headdress of Arab men, closely associated with Palestinian nationalism) in mainstream Western fashion. Often typecast as "Hipster", these "scarves" were termed "Anti-War scarves" by the popular clothing store Urban Outfitters. But in 2008, when cooking show host Rachael Ray, sported such a "scarf" in a Dunkin' Donuts commercial, public outcry demanded that the ad be removed because it suggested "terrorism". Through interviews with Geneseo students, I attempt to determine whether the people wearing keffiyehs associate them with the Middle East, Terrorism, Palestinian Rights, or whether the meaning behind these "scarves" has been diluted and lost.

### **Portrayals of "Others" in Space Battleship Yamato: an Exploration of Nationalism in Anime**

**Kim Perrella**

*Faculty Sponsor: Atsushi Tajima, Communication*

I closely analyzed the Japanese animated series *Space Battleship Yamato* to look at media portrayals of the national self and national others. While negative media portrayals of others have been described as "dangerous" (Ueno, 1995, p. 71), my paper proposes that they should be rethought as a part of the necessary process of maintaining a nation and national consciousness. I examined the content of the anime itself, including the physical appearance of the protagonists and antagonists, and contextual

features such as the name of the show. My goal was to determine what different aspects of the show signify in terms of idealizing Japanese culture by contrasting it with Western cultures. This process of glorification is known as reversed orientalism. Society urges members to believe that media representations of all people in all countries should be fair, unsteretyped and entirely free of prejudice. However, it may be that the reality of how nations are continually created, recreated and maintained does not allow for this ideal to exist. Rather than viewing this phenomenon of negative media portrayals of other as only as inherently “dangerous,” as suggests, they should also be evaluated in terms of their role in preserving nations.

### **Anime Subtitling and Global Englishes**

**Ellen Thompson, Marie Montondo**

*Faculty Sponsor: Atsushi Tajima, Communication*

ATTENTION OTAKU! Would you consider yourself a Japanophile? If so, does the anime you watch reflect your views? With growing access to international media materials, it is important to understand the means by which we are able to view foreign media products. The subtitling of Japanese anime serials process is an intricate process that plays a role in how we view these products and Japanese culture, as well as the medium itself. This presentation will outline the method of subtitling foreign anime products and the cultural significance of this process.

### **Session 1-F • Computer Science**

**Newton 209**

*Session Chair: Doug Baldwin, Computer Science*

#### **From the Birth of the Internet to the Birth of the iPhone: Examining Secure Credit Card Payments**

**Michael Thomsen**

*Faculty Sponsor: Scott Russell, Computer Science*

MasterCard and Visa among other credit card companies have worked tirelessly with merchants to improve the security of online payments. Because protocols are constantly under fire by attackers who desire to compromise personal information, people who purchase from online vendors wish to know their credit card numbers are safe. The constant need to change and adapt protocols in an effort to alleviate buyers' fears has resulted in advancing SET (Secure Electric Transaction) – one of the most primitive protocols – to today's most widely used protocol known as PCISS (Payment Card Industry Security Standard). With the onset of mobile phones and the ability to make payments through cellular networks, the security of payments is once again called into question. This project will investigate the security of online payments, and how changing schemes ease the minds of buyers. Furthermore, this project will examine the arising security issues of mobile phone payments, and how applicable previous securities for credit cards are to it.

### **Differential Equation Modeling Software**

**Malcolm Kotok**

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

There are many useful mathematical tools that use differential equations to model harmonic motion and spring motion in particular. My goal was to create a new, unique spring model tool that covers a broad variety of spring problems, is easy to understand with a coherent layout, and provides a degree of variability in the external forcing term beyond what existing programs provide. In this talk, I will provide a comparison between this new tool and several existing ones. I will also discuss the mechanisms for providing general external forcing terms and evaluate their success. The variability of the external forcing term allows this on-line program to solve an unlimited number of different exercises. Many programs do not allow for this, and those that do have put many restrictions on it. In the future, applications beyond springs will be added for greater variety, and the program's understandability will be tested with actual users.

### **The Use of Three-Dimensional Texture Mapping to Improve the Rendering of Constructive Solid Geometry**

**Nicole Loiacano**

*Faculty Sponsor: Doug Baldwin, Computer Science*

The ability to quickly render a constructive solid geometry model (CSG model) is a challenge in computer graphics. A CSG model is composed of simple three-dimensional objects ( e.g. spheres, cylinders, and cones) that are combined using logical operations (e.g. complement, union, and intersection). We are exploring a solution that involves three-dimensional texture mapping. A texture is created by determining where somewhat randomly generated sampling lines intersect the CSG Model. Based on this information individual voxels that make up the texture are tagged as being either “inside” or “outside” the model. This texture is then mapped to the simple objects of the CSG model. The results of a prototype implementing this approach are promising but also sensitive to the random positioning of the sampling lines. In this talk I will discuss these results as well as possible improves to the prototype.

### **Session 1-G • Edgar Fellows Capstone I**

**Welles 121**

*Faculty Sponsor and Session Chair: Olympia Nicodemi, Mathematics*

#### **An Educational Journey from Down Under to Upstate New York**

**Carly Tesler**

I had the unique opportunity to complete one of my student teaching placements in Australia and the other in Rochester, New York. As a pre-service educator reflecting upon my student teaching experiences, I found myself wondering about a few similarities and differences that I noted between the two placements. What role does character education play in the school setting? How does parental involvement impact the educational experience? Should schools require students to wear uniforms? Exploring the answers to these questions provides insight into the educational experience. *Mentor: Leigh O'Brien*

## **Social Inclusion: The Importance of Belonging in the Classroom**

**Carolyn Smith**

In 1990, the Individuals with Disabilities Act mandated that children with disabilities be educated to the maximum extent appropriate with nondisabled peers. As a result of these laws, inclusion classrooms have become increasingly common. In order to help teachers enable all students to learn, many resources, including guide books, journals and courses have been designed to improve the instruction in an inclusion classroom. While instruction in an inclusion classroom is important, the aspect of social inclusion is equally important. For an inclusion class to be successful, all students must feel as though they are a part of the class. However, little attention has been paid to the social aspect of inclusion. In this presentation, I will discuss the research that supports the importance of social inclusion. I will then focus specifically on the inclusion of students with Autism and the unique challenges that they present in terms of social inclusion. I will conclude with the presentation of several strategies that can be implemented by teachers of students with Autism in order to facilitate a sense of belonging for all students. *Mentor: Susan Salmon*

## **The GAAP and IFRS Convergence**

**Jocelyn Gaffington**

With the trend in globalization, the United States is attempting to converge its current accounting regulations, Generally Accepting Accounting Principles (GAAP) with the International Financial Reporting Standards (IFRS) that are widely used in developed countries across the globe. This is a commentary on the differences between U.S. GAAP and IFRS, how far-reaching the effects could be and the feasibility of creating a "universal" set of standards. *Mentor: Harry Howe*

## **Session 1-H • Edgar Fellows Capstone II**

**Welles 123**

*Faculty Sponsor and Session Chair: Olympia Nicodemi, Mathematics*

### **DNA Methylation Inhibits Transcription of the SLACS Retrotransposon in Trypanosoma brucei**

**Tina Jensen**

Trypanosoma brucei is a eukaryotic parasite that is the causative agent of trypanosomiasis, or African Sleeping Sickness. Its genome is colonized by the site-specific retrotransposon SLACS, or spliced leader-associated conserved sequence, which integrates into the spliced leader (SL) RNA genes. The T. brucei genome contains 5-methylcytosine, and we hypothesize that DNA methylation may serve to regulate the transcription and movement of retrotransposons. Real time PCR was employed to quantify the relative amount of methylated SLACS isolated by immunoprecipitation. We observed a 26 to 1687-fold enrichment in the isolation of the SLACS gene by an anti-5-methylcytosine antibody in comparison to an isotype control antibody. We then determined the change in the transcription of SLACS when the T. brucei DNA methyltransferase gene was knocked down by RNA interference. An approximately two-fold increase in the amount of SLACS transcript was detected in the RNA interference parasite line by real time PCR. Sodium bisulfite sequencing has been initiated and optimized on 581 base pairs of the SLACS gene in order to pinpoint the specific sites of 5-methylcytosine. These findings suggest a role for DNA methylation in the inhibition of the SLACS locus transcription in the procyclic form T. brucei genome. *Mentor: Kevin Militello*

## **Indigenous Resource Rights and Petroleum Extraction: A Comparative Case Study of Eastern Ecuador and Southern Nigeria**

**Emily Herman**

Humankind's increasing dependency on oil has led to clashes between indigenous peoples and petroleum companies in many parts of the world. Such has been the case in eastern Ecuador (the Oriente) and in Southern Nigeria (Niger Delta) since the 1970s. This project is a comparative case study of conflict between indigenous peoples and oil companies in these two regions. It will describe, explain, and analyze the historical, socioeconomic, geopolitical, and environmental dimensions of conflict. The project will also evaluate similarities and differences between the Ecuadorian and Nigerian experiences. Specific case studies from each region – the Huaorani people of Ecuador and the Ogoni people of Nigeria – will be presented and compared. Research methods primarily include reviewing existing academic literature and analyzing maps of oil production in both countries, as well as interviewing knowledgeable authorities when possible. *Mentor: David Aagesen*

## **Urban Re-renewal in Rome, NY**

**Anna Mellace**

In 1976, just in time for America's Bicentennial celebration, the city of Rome, NY was entering the final stages of its urban renewal project. At the center of the project was a reconstructed Revolutionary War era fort in downtown Rome. By rebuilding this historic structure, the city was reaching for its share of Bicentennial glory, finding its place in the grand narrative of American history. In order to reconnect with this narrative, though, the city had to demolish many preexisting historic structures, severing the threads of other narratives. This project seeks to examine the ways in which cities like Rome recreate their identities, and attempts to identify ways of doing so which incorporate the communities' complex preexisting narratives. *Mentor: Ken Cooper*

## **Session 1-I • English**

**Welles 131**

### **Papa was a Rollin' Stone: Writing Our Fathers**

*Faculty Sponsor and Session Chair: Rachel Hall, English*

#### **Fault Lines**

**Sheena McKinney**

This is an essay about coming to terms with the fact that your parents are never really who you think they are. This is an essay about coming to terms with why your parents are who they are. This is an essay about coming to terms with your parents in

general. This is an essay about refusing terms, like a nihilistic psychoanalyst. It is not a self-help guide, and it certainly is not a how-to. It is photos pinned to a clothes line, it is a terrarium not fully formed. It is what had to be said, and done.

## **My Father Is Godot**

**Andrew Rudansky**

There has been much consternation surrounding the literary debate of who or what is Godot, a character in Samuel Beckett's 1953 theatrical milestone "Waiting For Godot". Andrew "Rudy" Rudansky is the next literary scholar to throw his hat in the ring and submit that Godot is, in fact, his dad. Telling the story of his father, Dan Rudansky, in the episodic flash genre that characterizes both the author's rapid-fire writing style and the subject's unrelenting personality, the writer creates an endearing portrait of a man who simultaneously defines a generation while defying description. Set against the ocean-front vistas of The Hamptons, these stories encapsulate what it is to be a man in a declining America. With stories ranging from unsuccessful political campaigns to civil war battlefields, a cat named after the Russian prime minister to an assault on a bee hive, My Father Is Godot is destined to put a definitive end to the conversation.

## **Construction**

**Jillian Capewell**

Against the unlikely backdrop of live construction sites in Manhattan and Brooklyn, I reached an understanding of my father and our relationship the summer I took a job with his Electrician's union. We worked at separate sites but ultimately donned the same hard hats to sweat through the months of July and August. For a brief period of time, I was able to shed my college-educated notions of class and hard work, and who I could become while finally seeing my father for who he is.

## **Session 1-J • English**

**Welles 132**

### **iThink, Therefore iAm: Descartes and Virtuality**

*Faculty Sponsor and Session Chair: Kenneth Cooper, English*

#### **Descartes Through the Eyes of a Robotic Dog**

**Mari Rogers**

In Descartes's "Discourse on the Method," he discusses the consciousness of the human soul by distinguishing it from the existence of animals and automata. Comparing Descartes' thoughts to the modern world and the relationships people have with higher-functioning technology and the "other" world of cyberspace, it becomes clear that since the his time the line between what is a soul and what is not a soul has become less and less distinct. While in Descartes' time animals, humans, and automata were three discrete categories, we now have automated voice-answering systems, "aimbots," robotic pet dogs who respond to a plethora of commands and human emotions—and humans who respond to robotic dogs. As technology and human consciousness come increasingly closer to each other, will there be a point in time where the space of the digital world is indistinguishable from the physical space around us? Given the advancement of these ideas since the time of Descartes, it seems quite possible.

#### **Photo-Manipulation and the Limits of Human Reason**

**Anjali Bermain**

Though we often do not realize it, photo-manipulation is part of our daily lives. In media, advertisements and art, we are bombarded with images which could be true or false, original or fabricated. This paper aims to raise consciousness of the subject, asking listeners to think critically about the daily images with which they are presented.

#### **Gamer vs. Musician: Illusion or Art?**

**Elizabeth Weybright**

In a world of virtual experiences, we can do nearly anything that normally would require extensive training, even simulate musicianship. For a musician who plays "real" music, this seems ridiculous. Music is regarded by many as something almost sacred, an art that the mastery of which requires endless practice. Yet some people now practice games like "Guitar Hero" rather than practice a real guitar. For them the illusion is reality. What, then, is the difference between hearing sounds as a result of playing a game where one performs physical actions upon a mechanism, and playing an instrument, which is in some sense a mechanism itself? The separation between action and sound causes both an instrumentalist and a Guitar Hero player to enter what Descartes alludes to as 'imaginary' space in his "Discourse on the Method." However, this space is occupied by the two in different ways. Though the sensory sequences of both experiences are similar, it is the spontaneity of the musical process that separates the spiritual presence of a musician in the music they create from the illusion of musicianship in the virtual experience of "Guitar Hero."

#### **Discrediting Binary Reality: Sleep Paralysis and Descartes' Waking-Dreaming Problem**

**Emily Alvo**

Where do humans get their ability to conceive of a reality at odds with what is before them? The alternatives to objective reality that we experience involuntarily in our dreams might be conceived of as the ultimate source of human ingenuity. Although we usually can tell when we've been dreaming, the seemingly clear distinction between waking and dreaming is actually quite artificial. The human mind is fallible and limited in many ways, but it may be surprising, even unsettling, to find out just how ill-equipped it is to draw a distinction between objective reality and a dream. Rene Descartes recognized this limitation, and discussed it in his treatise "Discourse on Method." The problem he posed has come to be known as the waking-dreaming problem: if we cannot distinguish between dreams and reality, how can we ever recognize objective reality? Descartes was right to mistrust human perception, and the problem he posed is not one that is limited to highly abstract metaphysical discourse. The distinction between waking and dreaming states is swiftly problematized through an analysis of a common, episodic sleep disorder during which a sleeping, inert body is at the mercy of an alert, waking mind.

## **From Monkeyspheres to Virtual Communities: The Limits of Connectivity**

**Adam Kroopnick**

How do we define society, and how does the individual fit into that? This paper examines the Cartesian definition of the individual, and what influence it has had upon our increasingly mediated world. It takes a look at both Facebook as a social networking tool, and the biological limitations of our brains based on studies done by evolutionary scientists, and how these two are related.

## **Descartes and the Architecture of Communication**

**Olivia Cammisa-Frost**

This paper focuses on the connection between Rene Descartes' *Discourse on Method* and an installation entitled *The Tunnel Under the Atlantic* by Maurice Benayoun. Through the use of images that link both sections of the exhibit (France and Montreal), Benayoun attempts to foster communication between the two cities. To accomplish this, the virtual tunnel connecting the two locations is lined with images of history. This analogy between communication and physical "connection" is explored in *Discourse on Method*—its conceptions of nature and bodily experience—in relation to what Benayoun calls an "architecture of communication."

## **Session 1-K • English**

**Welles 133**

### **Picturing the Bible: How Many Marys???**

*Faculty Sponsor: Julia Walker, English*

*Session Chair: Erin Corsones, English*

This PowerPoint presentation examines a number of paintings of the Mary and Martha story against both the narrative itself and the problem of identifying women in the scriptures.

**Tonisha Clinton, Erin Corsones, Catherine D'Arcangelis and Marie Danieli**

## **Session 1-L • Foreign Languages and Literatures**

**Welles 115**

*Session Chair: Edward Vanvliet, Foreign Languages and Literatures*

### **Hiroshima mon amour**

**Marc Johnson**

*Faculty Sponsor: Edward VanVliet, Foreign Languages and Literatures*

Beginning his career as an editor and documentarist, Alain Resnais would become one of the most important new wave film directors. The 1959 classic *Hiroshima mon amour* is arguably his best work. Written by Marguerite Duras, this film explores tragedy (collective and individual), love, time, and memory.

### **Une Critique du Film 13 Tzameti**

**Philip Gagnon**

*Faculty Sponsor: Edward Van Vliet, Foreign Languages and Literatures*

I will be doing a Power Point presentation critiquing the French film *13 Tzameti*. My presentation will be entirely in French. It will focus on the reasons why the director, Gela Babluani, chose to create the film and what it meant to him personally. The presentation is derived from my final paper on the same subject that I wrote for my Fall semester class FREN-318 which I took with professor Van Vliet.

### **La Haine**

**Cassandra Hoffman**

*Faculty Sponsor: Edward Vanvliet, Foreign Language*

An analysis of the 1995 French film *La Haine*, directed by Mathieu Kassovitz. The presentation considers the economic and social factors that led to the riots in Paris in 2005 and how Kassovitz's 1995 film predicted them.

### **A French Film Study: Les parapluies de Cherbourg**

**Hannah Huhr**

*Faculty Sponsor: Edward VanVliet, Foreign Languages and Literatures*

The presentation will detail several aspects of the French film, including the biography of the film director, the plot of the film, historical context, and personal analysis.

## **Session 1-M • History**

**Welles 138**

### **Radicals, Redemption, and Revolution: History Honors Theses on Transformations in the Civil War Era**

*Faculty Sponsor and Session Chair: Justin Behrend, History*

#### **Enemies from Within: Slaveholders Turned Abolitionists**

**Katie Smart**

Very rarely did white planters in the pre-Civil War American South examine their position as slaveholders and decide to emancipate their slaves and become abolitionists. But a few did just that, and they became enemies in their own land. What caused three slaveholders to emancipate their slaves and become abolitionists is the question that drives this paper and a question that delves into the educational, religious, and social issues of the time. While the transition to abolitionism was a very

personal decision for all three men, there were significant aspects of each slaveholder's northern education, evangelicalism, and relationship with the abolitionist movement that impacted their conversion. Moreover, separation from family and friends became a defining characteristic of the slaveholders who chose to emancipate their slaves, become abolitionists, and fight against the society they were expected to promote and maintain. By exploring education, evangelicalism, abolitionism, and location, this paper seeks to uncover the intricacies of each slaveholder's conversion to abolitionism and to shed light on three slaveholders who destabilized the society they were raised to support.

## **From Hinderling Tale to Imperative Weapon: The Correlation Between the Haitian Revolution and Abolitionism in America**

**Matt Saccocio**

The Haitian Revolution, a slave uprising in the French colony of St. Domingue that led to the first republic ruled by blacks, resonated strongly throughout antebellum America. Slaveholders and white supremacists, deeming slavery a necessary evil, denounced the rebellion. Blacks and white abolitionists, however, drew inspiration from the insurrection. These abolitionists, rather than evade recollections of the "horrors of St. Domingue," utilized the memory of the Haitian Revolution and its leader, Toussaint Louverture, as a means to bolster and support their cause. This memory, which was altered numerous times in the years leading up to the Civil War, is strongly correlated with the abolitionist movement. In an effort to strengthen the limited amount of information available on this topic, this paper connects the growth of the abolitionist movement with the popularization of a positive outlook on the Haitian Revolution, tracks the simultaneous shift toward violence that both sides experienced in the 1850s, and examines how abolitionists employed a heroic remembrance of Haiti and Toussaint in their effort to recruit black soldiers. The connection between the Haitian Revolution and the abolitionist movement is strong, and a thorough understanding of this topic is essential to a comprehensive understanding of the Civil War.

## **Redemption Granted: The President and the Mississippi Election of 1875**

**Josh Glass**

As the election of 1875 approached in Mississippi, President Grant found himself in a difficult position. Republicans in Mississippi were under siege, and sending federal soldiers to police the election could ensure their safety. His other option was to do nothing and allow Democrats to intimidate voters and win through fraud and violence. Grant was confronting the essential question of when military force is appropriate to use, and in this case Reconstruction itself was at stake. Ultimately, the soldiers were never sent and the Democrats took the state by wide margins. The common explanation for the President's lack of action was that federal intervention would have cost Republicans the state of Ohio in the October election. This is not telling the whole story. In actuality President Grant faced a variety of Constitutional obstacles that prevented him from marching soldiers into Mississippi in 1875. He also had to confront the realities of a rapidly shrinking United States military and conflicting information coming from inside the state. These factors, combined with Grant's desire for a third term, are the reasons the President did not heed the request for troops in time for the November election.

## **Session 1-N • History**

**Welles 140**

### **Culture and Mass Media in Modern China**

*Faculty Sponsor: Tze-Ki Hon, History*

*Session Chair: Brian Whitney*

#### **Mao's Propaganda**

**Julie MacMartin**

This presentation is an examination of Mao Zedong's belief in and use of propaganda during the years of his reign. Propaganda became a tool for Mao and the Chinese Communist Party to spread their ideals and, according to some, effectively brainwash the masses in China. Posters, paintings, literature, and speeches all played big parts in the Communist takeover and the campaigns and Cultural Revolution that followed. This presentation will take a closer look at the ideas behind and expressed in various forms of Chinese propaganda from the late 1940s through the 1960s and what power they gave Mao and the people he championed.

#### **The Eight Model Works**

**Kristen Pestka**

This presentation will focus on the "eight model works" of the Chinese revolution. As an enigma in the category of fine arts, the model work have continuously been looked over and analyzed since the end of the Cultural Revolution. They were meant to depict a new and reformed China, proudly displaying the courageous tales of the revolutionary heroes represented in the China's new state. The works themselves were split into five operas, two ballets, and a single symphony. These eight performances were the primary performances accepted and displayed during Mao's reign over China. The presentation will discuss their ideological significance in relation to the politics, events, and culture at the time.

#### **The Evolution of 5th Generation Chinese Cinema**

**Brian Whitney**

Following the Cultural Revolution, Deng Xiaoping ushered in a new era of economic reform and a generation of displaced artists and students returned from the countryside to study and to reinvent Chinese cinema under new conditions. By the mid 1980s, despite domestic limits on artistic freedom, this 5th Generation of Chinese Filmmakers captured international attention. In the face of censorship and international competition, directors such as Zhang Yimou and Chen Kaige continue to court domestic and foreign audiences to the present. How have transformative forces of industrialization, capitalism, and globalization affected the ways in which these directors engage history, identity, and art over the course of the last three decades?

**History of Mathematics I***Faculty Sponsor and Session Chair: Jeff Johannes, Mathematics***Parallel Postulates: A Brief Overview from Euclid to Playfair****Amanda Greene**

This presentation will focus on the changes in the parallel postulate throughout time. Starting with Euclid's fifth postulate which states: "If a line falling on two lines makes the interior angles on one side of the line less than two right angles, the two lines, if extended, will meet on that side," and working through various mathematicians axioms and postulates, Playfair's postulate is reached which states: "Given a straight line and a point not on the line, there is at most one straight line through the point that does not intersect the given line." Several mathematicians between Euclid and Playfair who worked with the postulate, changed it, and tried to prove theorems will be explored as well.

**Sum of Its Parts****Kory Kneher**

Aristotle once said "the whole is more than the sum of its parts". What happens when the whole is equal to the sum of its parts? The question has sparked the interest of many mathematicians throughout history. This presentation is a brief look at perfect numbers through the historical lens of the life and times of Euclid.

**The History of Perfect Numbers****Andrew LaRosa**

The focus of my research is the history and mathematical relevance of perfect numbers from the first known historical references of perfect numbers by the Pythagoreans in ancient Greece to the works of Fermat, Euler and Mersenne in terms of both mathematics and religion. Perfect numbers have had significance in many different areas of human culture and religion, with references to them in Christianity, Sufi mysticism, and uses by computer programmers today. Today this problem, which was first posed around 300 BCE, remains unsolved, and the existence of an odd perfect number or an infinite number of even perfect numbers remains unanswered. Nonetheless, the mystery that surrounds perfect numbers has contributed to many vital contributions of number theory.

**Newton's Method****Michael Weachock**

Newton's method is an iterative algorithm for finding the roots of an equation and is one of the fundamental topics in calculus. It arose in the late 1660s and continues to be one of the fastest and most accurate methods of its kind. In our discussion we will talk about the historical context that led to its inception and many of its applications.

**Session 1-P • Mathematics****Dante in the Sphere of Mars***Faculty Sponsor and Session Chair: Gary Towsley, Mathematics***Hey, You Got Your Boethius in My Dante: The Application of The Consolation of Philosophy in Paradiso's Circle of Mars .****Jenna Geiser**

This paper discusses the application of classical reasoning to Christian theology as seen in Boethius' The Consolation of Philosophy, specifically the ability for man to fall from his natural state of goodness into evil, the need for the slow and steady contemplation of his faith by fallen man to remind him of his proper place as a being of goodness and to assure that he practices Christianity because he understands its doctrine as opposed to blindly following religious dogma without question, and finally the ever-changing nature of fortune and how it can both distract and remind man of God's providence. This paper then goes on to address the necessity of an understanding of the principles of Boethius' work in order fully appreciate the content of the Cantos concerning the heavenly sphere of Mars from Dante's Paradiso. Finally, this essay establishes the point that while Boethius sets up the theory for the application of classical thought to Christian theology, Dante applies the theory to real world situations in terms of historical figures and the Florence of his own time, thus more solidly bringing classical reasoning into the Christian faith.

**Cacciaguida as Boethius's spokesman in the Circle of Mars: The Influence of and Correlations Between The Consolation of Philosophy and Paradise.****Caitlin Klein**

Dante Alighieri, in his Divine Comedy, is a master of the allusion. He not only incorporates the thoughts, theories, and philosophies of others, he also includes the people themselves in his epic poem. Dante assigns them a place in either the inferno, purgatory, or paradise, and gives them the voice in which to explain their placement. As Dante the Pilgrim encounters the various people in the afterworld, they lament their mistakes, talk about the past, and predict the future. While in paradise, as Dante nears the end of his journey, he is introduced to his great-great-grandfather, Cacciaguida. This newfound relative, who was the "root" to Dante's "branch" of their mutual family "tree," holds the unique role of explaining the prophecies that Dante has been hearing about himself through the previous two canticles (Dante XV.90, 88). In both the rhetoric and content of his speech he echoes Boethius, and becomes in many ways Dante's second guide. As Jesus revealed to Peter he was to be the rock of the Christian church, Cacciaguida reveals to Dante his charge of relaying the image of paradise to those back in the world of the becoming.

## **The Consolation of Boethius for Dante the Poet and Pilgrim.**

**Gian Martinelli**

Although Dante incorporates many of the great medieval thinkers into his final canticle, few are more represented than Boethius in the Circle of Mars. As we progress through Mars, we get a sense that Dante is using the ideas of Boethius as a support for himself as both a pilgrim and poet. As a poet, Dante seems to be inspired by the connections between his life and the life of Boethius. This connection is explored in deeper detail through a discourse on Fortune and wisdom. For Boethius, an abandonment of the wheel of Fortune leads to a life devoted to the good. In this way, Dante the poet identifies with Boethius' initial bitterness to loss, but ultimate gain in transcending Fortune. As a pilgrim, Dante develops intellectually as Cacciaguida recapitulates the Boethian solution to the problem between divine foreknowledge and human free will. Indeed, the argument serves as a preparation for the pilgrim before his bittersweet future is revealed. By the end of the journey through Mars, we see that Dante has combined these two perspectives through the Boethian claim that everything is done for the sake of the good.

## **Session 1-Q • Political Science and International Relations Contemporary Issues in American Politics**

**Welles 24**

*Faculty Sponsor and Session Chair: Jeffrey Koch, Political Science and International Relations*

### **Electoral Systems in America**

**Curtis Biederbeck**

In its founding the United States became the beacon of representative democracy throughout the world. Why then do most contemporary countries, in their move towards democratic elections, choose to mimic the proportional electoral systems of European countries rather than the majoritarian system found in the United States? This paper analyzes the proposed benefits and downfalls of proportional electoral systems and compares them with those of majoritarian systems. Consequently, this paper evaluates what kinds of changes proportional representation could provide the United States, and whether the change would be at all feasible. Furthermore, this paper serves to evaluate whether the Electoral College in America is an outdated mode of presidential selection or if it is the best means in which federalism can be implemented in the executive's election.

### **Unemployment and the Federal Government: Effective Policy to Combat Unemployment During Economic Contraction**

**Andrew Heyman**

The collapse of the housing market and subsequent fallout of the most recent recession was initially a localized issue to befall Wall Street financial firms. Soon, these worsening conditions began to affect 'Main Street' and national unemployment began to rapidly climb. To help combat rising unemployment, the Federal Government took proactive spending measures to help mitigate these issues. With the passage of the American Recovery and Reinvestment Act (Pub.L. 111-5), one of the largest fiscal stimulus packages in our nation's history, the Federal Government initiated one of several measures aimed at saving hundreds of thousands of jobs. Were these measures effectively targeted at rising unemployment rates? Was the money used in an efficient and effective way? What are the long term implications of proactive fiscal stimulus? This paper will address specific policy measures taken by the Federal Government and evaluate the efficacy of stimulus measures. Furthermore, this paper will attempt to provide future recommendations for policy in future recessions.

### **The President's War Powers**

**Shaun Tooker**

The president's war powers' is a topic that has been controversial and heavily debated in recent times. Has the modern president overstepped his constitutional bounds? Is the president too strong when it comes to issues of war and peace? Is a strong president in the best interest of the country? This presentation addresses these questions, as well as three aspects of presidential war power: the history and Founders intent, application in the Bush administration, and its future in the Obama administration and beyond.

## **Session 1-R • Psychology**

**Welles 26**

### **Research on Student Scheduling Preferences and Women's Intimate Partner Victimization**

*Faculty Sponsor and Session Chair: Jenny Katz, Psychology*

#### **A Brief Survey of Students' Preparedness for Learning at Different Days and Different Times**

**Erika van der Kloet**

The current research examined student sleep behaviors in relation to class scheduling preferences. Previous research confirms that student preferences for class times correspond with actual cognitive performance. Geneseo students (N = 431), sampled across majors and class years, reported their typical bedtimes on Tuesday, Wednesday, and Thursday nights and the number of hours of sleep needed to feel rested and alert. Students also indicated preferences for classes at different days and times, likelihood of enrolling in 8 am classes, and concern about scheduling conflicts. Typical student bedtimes were past midnight and significantly increased over the week. On average, students needed 7.57 hours of sleep. Over 80% of students preferred noon classes on Wednesdays, Thursdays or Fridays. Only 12-14% of students preferred 8 am classes, although about 35% of students regularly enrolled in 8 am classes. Students enrolled in 8 am classes reported average bedtimes past midnight yet need the same amount of sleep as others. Most students expressed moderate concern over scheduling conflicts. Results suggest that scheduling changes to increase late morning or early afternoon offerings would promote optimal learning conditions for most students. In contrast, few students are cognitively alert for classes beginning before 9 am.

## **Sexual Victimization During the Transition to College: Binge Drinking and Hooking Up as Risk Factors for Women**

**Kristen Pyles**

The purpose of this study was to investigate sexual victimization during the transition to college. It was expected that women would be more likely than men to be sexually victimized, and that binge drinking and hooking up would be more common among these women. It was also expected that men would engage in the same risky behaviors but not be as subject to victimization. Participants included 112 freshmen (68% female) who provided self-reports of sexual victimization, binge drinking, and hooking up behaviors within their first two months on campus. About 12% reported sexual victimization since moving to college, with rates significantly higher among women (17%) than men (3%). Most 67.0% (n = 75) said they had hooked up since age 14 and just under half 48.2% (n = 75) reported binge drinking within the last 30 days. Although more men than women reported both binge drinking and hooking up, these behaviors were associated with sexual victimization among women only. Overall, results show that sexual victimization is a serious problem for women during the transition to college and risk factors should be addressed in preventing future victimization.

## **Breaking Up is Hard to Do: Psychological Entrapment and Women's Commitment to Violent Dating Relationships**

**Melanie Schukrafft**

Psychological entrapment occurs when people continue investing in unfavorable situations after already devoting too much to lose. This process may explain why some women maintain violent intimate relationships. We predicted that women who already invested more time or resources into their relationships would attempt to improve their relationships following partner violence; these attempts were expected to increase women's subjective investment in and thus commitment to violent relationships. Undergraduate women (N = 98) in heterosexual relationships reported on partner violence and relationship duration at Time 1 and relationship sacrifices, subjective investment, and commitment at Time 1 and Time 2. Compared to those with non-violent partners, women who reported partner physical violence at Time 1 made more relationship sacrifices six weeks later, and this effect was especially strong within longer relationships. Time 2 sacrifice was positively associated with women's concurrent relationship investment, although this association was only marginally significant in multivariate analyses. Consistent with the investment model, greater investment was associated with greater commitment. These results provided preliminary support for the idea that women's attempts to cope with partner violence may entrap them in their relationships.

## **Child Sexual Abuse and Women's Later Sexual Functioning: Mediating Effects of Avoidant Attachment**

**Clare Campbell**

Childhood sexual abuse (CSA) is a serious public health problem. One way of conceptualizing the potential long-term effects of CSA on adult interpersonal and sexual functioning is to consider attachment theory. The most common types of interpersonal difficulties reported by adult CSA survivors, including a lack of trust and discomfort with intimacy, are consistent with the avoidance dimension of adult attachment. To the degree that women with a history of CSA exhibit avoidant attachment tendencies, they may be less comfortable with intimacy during sexual interactions, thus disrupting sexual functioning. To test this hypothesis, data were collected from undergraduate women in current heterosexual dating relationships (N = 127). About 15% reported CSA. As expected, women with a history of CSA reported more attachment avoidance and poorer sexual functioning, including decreased sexual satisfaction. Analyses revealed that attachment avoidance mediated the relationship between CSA and poorer sexual satisfaction only. The effects of CSA on sexual satisfaction may be due to emotional distance during sexual interactions. Maintaining emotional distance from one's sexual partner may not necessarily disrupt the more mechanical aspects of sexual functioning (such as arousal, lubrication, or orgasm), but may still negatively impact one's sexual experiences by making sex less satisfying overall.

## **Session 1-S • School of Business**

**South Hall 338**

*Session Chair: Farooq Sheikh, School of Business*

### **The Implementation of an Expert Scheduling System for Student Research Consultations at Milne Library**

**Jaclyn Aguado**

*Faculty Sponsor: Farooq Sheikh, School of Business*

In this article we propose an improved system for scheduling Student Research Consultations at Milne Library of SUNY Geneseo. We show that the time between the request for an SRC and the actual consultation will decrease once this expert scheduling system is implemented. We identify the changes that need to be made to the Milne website and reference librarian routines. We propose that the average SUNY Geneseo student is often busy, stressed, and pressed for time. Students will utilize this service if they are able to set up an appointment quickly and easily, when it is convenient for them. A key result of this paper is to show that by placing more scheduling responsibility in the hands of the student, we can achieve an expert scheduling system for the Student Research Consultations. This, in turn, will make such a beneficial resource more widely used among the students of SUNY Geneseo.

### **Fiber Tube Moisture Study**

**Kallyn Dowell**

*Faculty Sponsor: Farooq Sheikh, School of Business*

Fiber tubes used for ink ribbon cores undergo shrinkage or expansion after being manufactured due to changes in relative humidity and temperature throughout the year. This causes difficulties for fiber tube vendors to meet target inner and outer diameters of the tubes at the time of manufacturing in anticipation of the shrinkage/expansion they are going to undergo before actual use. This study was completed for Iimak, an ink manufacturer, to ensure that its fiber tube vendor could consistently meet their specifications by predicting the rate of moisture loss/gain in the tubes and the corresponding changes

in the tubes' dimensions. From this analysis, we supplied the tube manufacturers with a formula that is based on the changes in dimensions of the tubes per every 1% change in moisture level at each time of the year that will help them meet the target dimensions set by Iimak.

### **Minimizing Profit Erosion through Return Policies and Discount Pricing**

**Anna Lehet**

*Faculty Sponsor: Farooq Sheikh, School of Business*

A 2008 survey conducted by the National Retail Federation revealed that retailers were expected to see a total of \$219 billion in returns from sales made in 2008. Developing a return policy that will protect a retailer from profit eroding product returns requires balancing both demand and cost implications. We undertake this study to develop a return policy model which may enable retailers to separate tentative buyers from earnest buyers, by discount pricing and abbreviated return periods. In particular, we wish to find an optimum discounted price of a product to offer during a shortened return period for the product. We hypothesize that product return rates will be reduced and profit erosion will be minimized.

### **Session 1-T • School of Business**

**South Hall 340**

#### **A Brief Look Into the Geneseo Student Managed Investment Fund**

*Faculty Sponsor: Anthony Gu, School of Business*

*Session Chair: Matthew Winters*

#### **A Brief Look Into Geneseo's Very Own Student Managed Investment Fund**

**Matthew Winters**

The Finance Club at Geneseo, advised by Dr. Anthony Gu, runs what is known as the Student Managed Investment Fund, or the SMIF, where students actively invest real donated money and act as analysts and fund managers in the pursuit of financial education and applicable hands-on experience. Five years ago, the Fund had little to rely on besides the vision of its founders and a meager pool of money to invest. Today, the Fund has grown to nearly \$80,000 of generous donations, with approximately 70% of the money invested in equities and ETFs that were chosen by Geneseo students and continue to be managed by Fund officers. At the same time, the Fund has grown tremendously in organization and talent with even more energy than before. Today, we are going to present what we have done with the Fund's holdings, how we have gotten to where we are, the things we've learned on the way, and what the future holds for the SMIF.

#### **A Brief Look Into the Geneseo Student Managed Investment Fund**

**Kyle Menz**

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#### **A Brief Look Into Geneseo's Very Own Student Managed Investment Fund**

**Zubair Dawood**

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## **Session 1-U • School of the Arts/Theater**

**Alice Austin Theatre**

### **Neil Labute Plays in Production**

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

#### **Evelyn in *The Shape of Things* by Labute**

**Kathryn Tubbs**

Kathryn Tubbs will present her senior project in theatre, which includes playing the role of Evelyn in *The Shape of Things* by Neil Labute and co-directing the play with Christina Baurle. She will include presentation of scenes and the preparation and analysis she did in order to act in and direct the play.

#### **Directing *Bash* by Neil Labute**

**Jack Frederick**

Jack Frederick will present his work directing the three short plays that make up the larger work *Bash*, by Neil LaBute. He will present his concept, some scenes from the play, and supporting design elements.

#### **Solo Performance of *Medea Redux*, part of *Bash* by Neil Labute**

**Meaghan Elicks**

Meaghan Elicks will present some of her senior project performance, *Medea Redux*, along with some of her preparation of the role. A modern retelling of the Medea myth, this is a solo piece that presents great challenges to an actor.

## **Session 1-V • Sociology**

**Milne 105**

### **Historical Studies in the Sociology of Emotions**

*Faculty Sponsor and Session Chair: Steve Derne, Sociology*

#### **Parental Control Systems Between Class Lines: The Aristocratic Class and the Emotional Implications of Parenting Techniques**

**Kaylin Wilson**

In *The Managed Heart* Arlie Hochschild claims there are two different kinds of parental control systems. The positional control system is used mainly by working class parents, and is defined by giving direct orders to children. Insubordination is not tolerated and is punished. Instead of dictating orders, the personal control system works through the will of the child and appeals are aimed at the child's feelings. Punishments are doled out for children not being able to control their emotions. The personal control system is noted for being primarily used by middle class families. Hochschild claims these techniques have larger emotional implications for the children later on in life. What Hochschild fails to address is parenting techniques of higher class families. I focus my research on aristocratic families and parenting techniques. I do this using movies as historical data to observe the parenting techniques and childhoods of the families presented in these films. I then look to address how these parenting techniques imply emotional learning, and the larger implications of this emotional learning.

#### **The Conception of Love among American Female Workers in the Sex Industry**

**Yurino Kawashima**

According to Ann Swidler, the structure of marriage shapes the conception of love; because marriage is the decision to be with only one person for an entire lifetime, the American conception of love is love as a clear feeling toward a special person and the feeling overcomes obstacles. This paper examines the conception of love among American female workers in the sex industry, in order to see how they think of love while they intimately serve many men in their work. Do their occupation-specific experiences affect their conception of love? By searching for love related experiences in two memoirs written by American female workers in the sex industry, I found that their conception of love is the same as the American conception of love. This suggests that, regardless of their frequent intimate interactions with men, the influences of the social structure of marriage are strong and do not allow them to have their occupation-specific conception of love, which might be love as more ambiguous or as transient feelings toward multiple partners relative to other Americans.

#### **Excessive Conformity in Large Groups: An Analysis of Pride and Shame in the Sociology of Emotions**

**Emily Olson**

Thomas J. Scheff's theory of pride and shame is important to consider when exploring why individuals conform to groups. Scheff theorizes that individuals will conform in order to either obtain pride or avoid shame. These emotions are important for the social self because they influence people's perceptions and judgments. Scheff's deference-emotion system provides two types of sanctions (public and private) in which individuals experience praise or punishment. Scheff's theory is based on experimental data from strangers in small groups, however. This paper applies his system to a large-scale group: The Peoples Temple, in order to see if it also pertains to groups with relationships between members. Through a memoir of Deborah Layton, a survivor of Jonestown, there was evidence to support Scheff's proposal, although there were also flaws. This paper neglected to look at other types of groups as well as connecting how self-esteem affects shame or pride. It also only collected data from one source, due to limited data. But both types of sanctions were evident, as well as actions made by Deborah and other members to join The Peoples Temple in order to gain pride or avoid shame. Therefore, Scheff's deference-emotion system can apply to large groups.

## **Self-Perceived Emotional Deviance in Normative and Non-Normative Role Transitions**

**Kaitlen Burns**

Peggy Thoits suggests that most self-perceived deviance in emotions are likely to be found in both normative and non-normative role transitions. Although Thoits hypothesizes that there is a more frequent account of self-perceived emotional deviance in these circumstances, she neglects to provide empirical research behind her assertions. The current study uses memoirs to demonstrate how self-perceived emotional deviance is expressed in both normative and non-normative role transitions. Particularly, the normative role transition of an adult caring for their aging parent was looked at as well as the non-normative role transition of a younger child caring for their sick parent.

## **CONCURRENT PRESENTATIONS**

**SESSION 2 • 11:05 – 12:20**

### **Session 2-A • Anthropology**

**Welles 119**

#### **Life on the Bottoms: Student Research on Ohio Hopewell Archaeology**

*Faculty Sponsor and Session Chair: Paul Pacheco, Anthropology*

#### **Taphonomic Analysis of Two Ohio Hopewell Domestic Sites**

**Robert D'Andrea**

A taphonomic analysis has been performed on faunal remains recovered from two Ohio Hopewell sites referred to as Brown's Bottom #1 and Lady's Run. The faunal remains were chosen from earth ovens, basin shaped pits, and thermal basins within structures from both sites, as well as a large buried secondary refuse deposit from the Lady's Run site. I performed a multivariate analysis on the different feature types within each site and compared similar feature types between each site. The variables under investigation included taxon, skeletal part, weathering stage, fracture type, gnawing damage, butchery marks, burning, calcination, polish, abrasion, weight, and shape. The results indicate differential use and deposition of the various feature types at each site.

#### **People Who Live in Big Houses: A Case Study from Brown's Bottom**

**Rachel Saunders**

My research focuses on the demographics and social organization of the Ohio Hopewell families (@ 300 A.D.) who lived in the two big square houses excavated by the SUNY Geneseo archaeological field schools held in the Central Scioto Valley of Ohio at a location known as Brown's Bottom. I calculated a series of estimates of the approximate number of house occupants for each house using Naroll's classic demographic formula which is based on the ethnographic relationship between floor area and house population size. To provide a range of estimates I also use modified versions of Naroll's formula as well as other proposed formulas to estimate the number of occupants each house might have contained. A cross-cultural analysis of kinship patterns, settlement patterns, and subsistence patterns from documented societies that are known to have lived in equally large houses provides a way to understand why the Ohio Hopewell built such large houses and reveals a glimpse into their social organization.

#### **Engineering a Hopewell House**

**Benjamin Patrzalek**

This paper examines the Hopewell structures known as Browns bottom #1 and Ladies Run excavated in Ohio near the Scioto River. The purpose of this analysis was to answer whether or not it was possible for the two structures to support a roof as well as a realistically defined snow load. The analyzed data collected concludes that the posts that made up the walls of both structures were more than capable of supporting both a roof and the added weight of a snow load. The specifics of how the data was computed as well as how the roof and snow load were determined are shown in the research paper.

### **Session 2-B • Anthropology**

**Welles 128**

*Session Chair: Rose-Marie Chierici, Anthropology*

#### **An Analysis and Application of Paradoxical Belief in Contemporary Russian Culture**

**Sarah Bradley**

*Faculty Sponsor: Rose-Marie Chierici, Anthropology*

During a five-month study abroad experience in Moscow, Russia, I became powerfully connected with the Russian people and their way of life. But as a marginal observer, I found considerable difficulty in penetrating the Russian perspective, a seemingly disorganized conglomeration of conflicting belief systems. This presentation will provide a logical framework for interpretation of the Russian world-view through the concept of 'dvoeverie' or 'dual belief', a term associated with paradoxical religious rituals in Russian Christian Orthodoxy. I will present several scholarly analyses relative to the meaning and context of 'dvoeverie', and extend an application of this concept to experienced elements of contemporary Russian culture that display a co-existence of oppositional systems of belief.

## **Art of Maynard Dixon**

**Sarah Lydon**

*Faculty Sponsor: Russell Judkins, Anthropology*

One term that is always used in connection with the art of Maynard Dixon is “distinctive.” Dixon’s art is a timeless, completely unique style. He often chose to draw and paint Native Americans, a people he greatly respected and spent much of his time with. What is it about Dixon’s work in particular that lends such a strong feeling and strong association to the Native Americans that he so admired? In my paper and presentation I plan on studying Dixon’s work, how he managed to evoke that feeling, and what image that portrayed. In particular, I will be studying the changes he made throughout his life’s work, from early sketches that were not particularly distinguishable, to paintings that could not be mistaken for any other artist or subject. It was the influence of his many trips to the southwest and the people there, as well as influential figures in his life such as his wife Dorothea Lange, that pushed Dixon to be the great artist that he was.

## **The Aztec Calendar in the Maya Riviera**

**David Bliss**

*Faculty Sponsor: Ellen Kintz, Anthropology*

The goal of this presentation is to explore the presence of the image of the Aztec calendar in Mayan tourist sites in southern Mexico. A large part of the presentation will revolve around a material culture analysis of the Aztec calendar as tourist art.

## **Session 2-C • Biomathematics**

**Newton 203**

*Session Chairs: Gregg Hartvigsen, Biology and Christopher Leary, Mathematics*

### **The effect of latency and carrier classes on a host behavior dependant SIR model**

**Noah Dukler, Will Brotherington, Andrew Lam, ,**

*Faculty Sponsors: Gregg Hartvigsen, Biology and Christopher Leary, Mathematics*

Disease transmission is influenced by a wide range of factors including human behavior. Adding a behavioral component to the basic SIR model (SIRX) allows the hosts to choose two separate behaviors at each time step, each with its own costs and transmission rates. We studied the effect of the addition of carrier and exposed classes to the model, creating the SEIRCX model. By adding the assumption individuals cannot always recognize if another individual is infectious, we believe that our work can be used to model diseases like tuberculosis and typhoid fever more realistically. Comparison of the effect of the addition of carriers and exposed classes to the SIRX model suggests that neither class will always create a more widespread epidemic than the other; their effects are highly parameter dependant. Therefore there is no dominant disease control strategy; strategies must be chosen on a case by case basis.

### **Observing the spatial effects of exploiting a species through the use of a cellular automaton model**

**Tyler Massaro, Peter Kelley, Dale Iglesia, and Michael Gruszewski**

*Faculty Sponsors: Gregg Hartvigsen, Biology and Christopher Leary, Mathematics*

A cellular automaton model can effectively simulate the population dynamics of a two species predator-prey system. Compared to Lotka-Volterra models, which describe global trends based on a system of coupled differential equations, cellular automata offer the distinct advantage of incorporating the role of local interactions as the means to illustrating global trends similar to L-V. Our model, CAge, was used to introduce different spatial scenarios in an effort to observe the effects of these local interactions on the overall stability of a predator-prey system. In particular, we investigated the concept of “the tragedy of the commons,” through the removal of a certain percentage of a species from different areas of the CAge model. Our findings show that, due to the periodic nature of the populations, there is an optimal time in the cycle to introduce removal, as well as an optimal proportion of the population to remove. In this way, we can ensure long-term stability of the system as a whole. These values are severely dependent on critical levels we found for each population.

### **Modeling the Combined Effects of Ebola Vaccination and Reduced Bushmeat Hunting on the Western Lowland Gorilla Population**

**Colleen Grodotzke, Sara Lewandowski, Katie Liljeberg and Lindsay Meyer**

*Faculty Sponsors: Gregg Hartvigsen, Biology and Christopher Leary, Mathematics*

Ebola is an often-fatal disease caused by Ebolavirus, which infects human and non-human primates. In the past four years, over 5000 Western Lowland Gorillas (*Gorilla gorilla gorilla*) have died from Ebola. Ebola is believed to be contracted by gorillas from a natural reservoir and is transmitted between gorillas through exchange of bodily fluids. An estimated 1 in 1500 gorillas are infected with Ebola. The gorilla population also is threatened by bushmeat hunting. Approximately 6000 gorillas are killed annually for bushmeat. The gorilla population is critically endangered and may be facing a hastened extinction due to the combined effects of Ebola and bushmeat hunting. We use an SIR model to predict future gorilla populations under various scenarios involving a potential Ebola vaccine and a reduction in hunting. Based on our model, the gorilla population is likely to go extinct within 500 years. Vaccinating 75% of the gorillas against Ebola would delay extinction by about 200 years, but would not prevent extinction if bushmeat hunting continued at the current rate. In order to preserve the gorilla population, bushmeat hunting must decrease. A 33.7% decrease in bushmeat hunting without a vaccine or a 23.2% decrease with 75% vaccination would preserve the gorilla population.

## **Session 2-D • Chemistry Honors Chemistry Research - II**

**Newton 204**

*Faculty Sponsor: Jeffrey Peterson, Chemistry*

*Session Chair: David Geiger, Chemistry*

### **Zinc (II) salicylaldehyde Complexes and Their Unexpected Luminescence Properties**

**James Bates**

There has been recent interest in luminescent zinc Schiff base compounds. While exploring metal-templated reactions in order to form the Schiff base compounds it was discovered that 3,5-dichlorosalicylaldehyde and simple zinc salts, Zn(OAc)<sub>2</sub> and Zn(NO<sub>3</sub>)<sub>2</sub> precipitate from aqueous/alcohol solutions forming a highly luminescent zinc(II) salicylaldehyde complex. Although similar compounds have been previously reported the luminescent properties have not been reported. This compound is sparingly soluble in most solvents; the notable exceptions are DMSO and DMF. Crystals suitable for single crystal x-ray analysis were obtained by concentrating a saturated solution of DMSO. Various halogen substituted salicylaldehyde zinc compounds have been synthesized and their visible emission properties have been studied. Future directions exploring coordination polymers, using this chemistry to modify metal oxide surfaces, and possible action as a DNA intercalator will be discussed.

### **Development of Xanthene Complex to Use for Quenching Studies of Square-Planar Platinum Complexes**

**Matthew Goodman**

One of the new and exciting potential sources of energy comes from harnessing the power of the sun. Conventional solar cells have progressed in effectiveness, but there still exist many problems with them. Another approach to solar power is to mimic photosynthesis by constructing a supramolecule composed of three different components: a chromophore to absorb the light, a linker to transfer the charge, and a molecule to store the energy in the form of a chemical bond. An interesting property tied to this is that when two platinum square-planar complexes are kept a small but fixed distance from each other, they begin to quench each other. This has the potential to allow one to tune the supramolecule to absorb light at different wavelengths. The goal of this research is to develop a xanthene derivative into a scaffold capable of holding two square-planar platinum complexes a fixed distance apart. The quenching properties of these complexes will then be studied, to determine their ability to absorb light at different wavelengths.

### **Studying the Photoluminescent Properties of Square Planar Pt(II) Complexes and Their Application in Organic Light Emitting Devices (OLEDs)**

**Michelle McGoorty**

Platinum(II) complexes have recently attracted growing interest due to their unique intermolecular interactions and photoluminescent properties which make them particularly well suited as potential dopants in organic light emitting devices (OLEDs). Our research is focused on preparing Pt(II) complexes with high quantum yields, tunable emission wavelengths, and long excited state lifetimes. Of specific interest is Pt(4,6-dfppy)(acac), [dfppy=2-(2,4-difluorophenyl)pyridine, acac=acetylacetonate], a cyclometallated complex containing a covalent metal-carbon bond. Interactions between aqueous molecules will be studied by trapping Pt(II) complexes in novel self-assembling molecular cages and the effects of these intermolecular forces on the complexes' subsequent photophysical properties will be detailed. Investigating this relationship will provide further insight into design of molecules best suited for OLED applications.

## **Session 2-E • Edgar Fellows Capstone III**

**Welles 121**

*Faculty Sponsor and Session Chair: Olympia Nicodemi, Mathematics*

### **Judeo-Christian Sin and its Impact on the Advancement of Knowledge in the Western World**

**Kevin Fan**

Sin has been broadly understood as one's intentional departure from the will or law of God. Sin has been a pivotal notion within the Judeo-Christian world. It has largely regulated the behavior of individuals towards themselves, others, and God in this life, and, according to the devout believer, it is also the litmus test for the life ever after and the level of closeness one will achieve with God. One particular area that has been greatly influenced by the impact of sin is man's quest for knowledge. Although sin might have had a positive, albeit minor, role in the development of some human sciences (e.g. psychology, sociology, law), it has had a major negative impact on man's overall quest for knowledge, particularly in the natural sciences (e.g., physics, chemistry, biology). Common methods by which sin has impeded the intellectual advancement of man throughout history include the suppression of man's motivation for self-advancement by quelling both individual pride and pride in humanity, the redirection of intellectual energies and efforts from discovering truths about the world we live in to achieving closeness with the divine, and the subjugation of reason and scientific truth to faith in revealed truth. We can see the extent of the impact of sin on the human quest of knowledge when we consider the intellectual and cultural environment within which the concept of sin originated and flourished. *Mentor: Elias Savellos &#8195;*

### **A Study of Catholic Liturgical Music in and Around Rochester, New York**

**John Magee**

Even in a relatively small geographic area, there is a diverse array of music being sung at Catholic masses in 2010. Through a semester-long visit to ten different churches in Rochester, New York and surrounding suburbs, I have collected over a hundred samples of various styles of liturgical music being sung every Sunday. "Sing to the Lord," a 2007 document written by the United States Conference of Catholic Bishops, outlines guidelines for liturgical music; during my visits, I took notes about how the music at each church adheres to these guidelines. I have taken a "journalistic" type approach to this project and have written about my experience at each church. I have also written about life as a Church music director, as inferred through

interviews; how they use different resources for compiling song selections, deal with various challenges to please both parishioners and priests, etc. *Mentor:* James Kimball

## **The Friction**

### **Nick Ponterio**

Conflict plays a critical role in communication within and between communities. While normally assumed to be negative or undesirable, conflict can drive critical, productive discussions of difference and diversity. The Friction Forum Theater is an interactive, performance-based method of engaging difficult discussion. It is based in the theories of the late Augusto Boal's Theatre of the Oppressed. This presentation examines a year's implementation of the Forum within the student body and offers suggestions for application of the Forum to the wider SUNY Geneseo community. *Mentor:* Melanie Blood

## **Session 2-F • Edgar Fellows Capstone III**

**Welles 123**

*Faculty Sponsor and Session Chair: Olympia Nicodemi, Mathematics*

### **Asaba, Pull!: A Construction from an African Fence**

#### **Rachel Svenson**

This is a tour of a construction project: the assembly of a 250-meter chain link fence in Penjem, Gambia by me, a young American woman, along with seven inexperienced U.S. volunteers and four Gambian men. It's also a tour of the construction of a trans-continental story. In this project I examine not only what happened at the fence but also how the travel experience transformed, and why this evolution matters in an American woman's project of culture shock and reflection. The result, Asaba, Pull!, explores the power as well as the limits of a story as translation and representation of a person and culture, and how those inherent fences help to map out the volcanic processes of travel, leaving and returning. *Mentor:* Beth McCoy

## **Rewriting History: The story of textbooks and culture in American Society**

### **Adam Kroopnick**

The paper traces the recent debate over how Texas history textbook standards are being written, and how that will affect the national market. It sources the problems in Texas' approach and the reasons for why textbooks are re-written back to problems with the industry, and issues of societal control dating back to the reconstruction south. The paper seeks to understand what education is really about, and how Textbooks reflect either our desire to create a cohesive society, or produce critically thinking individuals.

## **Improvisation and Performance in the Works of Zora Neale Hurston**

### **Caitlin Klein**

My paper focuses on the oral tradition of folklore as performative in nature. In a society that is dominated by the written word, the oral traditions of various cultures are undervalued and underappreciated. Using various works by Zora Neale Hurston, primarily her short stories, I argue that the folklore that Hurston both collected and incorporated in her work constitute a complex performance that is unable to be replicated in the written language. Utilizing the triangular connections between performer, performance, and audience, the conversation and connections between these three elements are unique to an oral tradition, and employ the intricacies of improvisation.

## **Session 2-G • English**

**Welles 131**

### **Funked Up Families: A Prose Reading**

*Faculty Sponsor and Session Chair: Rachel Hall, English*

#### **Silences**

#### **Leanne Deragon**

I will be reading a thirteen page, creative non-fiction piece called "Silences." In "Silences," the eighteen-year-old protagonist has two brothers. The protagonist believes her brothers are full-blooded, biological siblings. A crazy, swearing- and texting-obsessed aunt reveals that the narrator's oldest brother is her half-sibling. The narrator neurotically worries that her brother does not love her the same way, thinks about confronting her mother about not telling her, but does not confront her mother about not telling her, and notes how unfair it is to hear all of this from an inappropriate aunt. "Silences" explores withholding the truth and messed up families with a light-hearted, humorous twist.

#### **Brown Bear**

#### **Caitlin Nelson**

I will be reading a Fiction piece entitled Brown Bear that is 15 pages in length. This story follows a family after the death of an infant boy because of a respiratory virus. The piece focuses on how the family interacts after the loss and how each character experiences the mourning process differently. Mainly, the piece involves the teenage sister of the boy and her inability to cope with the death while struggling to hold the family together. Her own grief is placed second to the responsibilities the family unknowingly places on her. The story culminates with the beginning of the family to heal, giving the protagonist the chance to understand the loss for herself.

## **Beauty in Negative Spaces**

### **Chantal Greis**

Beauty is not easy. If you are one of those lucky few who stand over five foot eight, have hair that naturally bounces with volume, and not an ounce of body fat, well kudos to you because you're practically a goddess. The rest of us mortals have to battle acne, oily skin, limp hair, and hold out a crucifix in front of us whenever a doughnut passes us by—. You poke your

eyeball with that mascara wand and smudge your now not-so-perfect eyeliner. And hair! Oh God the damned fly-aways that won't give you a moment's peace! You tug and pull, comb and curl, but they flip you the middle finger and force you to go on your date, while you know those stray strands are there mocking you behind your head. A beauty routine is a hassle, and sometimes damned painful—don't get me started on waxing. Sometimes I wonder if it is all necessary. Is there something missing from the equation? Can makeup, clothes and perfect hair really be the only things that make up the word "beauty"? In my fiction piece "Beauty in Negative Spaces" I shall attempt to tackle this question.

## **Session 2-H • English**

**Welles 132**

### **How the Dead Live in Medieval British Literature**

*Faculty Sponsor: Graham Drake, English*

*Session Chair: Matthew Cordella*

#### **The Passion of Christ in British Literature**

**Kristin McAvoy**

The crucifixion of Jesus Christ as described in the Bible is referenced and alluded to multiple times throughout the course of British literature. "The Dream of the Rood," an Old English poem from the tenth century, uses rich figurative language to tell the story of Christ's crucifixion. "The Vision of Piers Plowman," by William Langland, uses a commoner to signify Christ and while using figurative language such as personification, it centers more on the actual event from the Bible. "The York Play of the Crucifixion," written around 1425, is focused more around realism and portrays the intentions of the soldiers who crucified Christ. This paper explores the different interpretations of the crucifixion and displays the importance of the Bible to British literature.

*Student Commentator: Matthew Cordella*

#### **Þæt Wæs God Cyning: The Resonance of Scyld Scefing in Beowulf**

**Cassandra Lange**

Beowulf opens not with a description of the beginnings of the eponymous hero, but with an account of Scyld Scefing, a mythical figure who arrived mysteriously from the sea to lead the Danish people in a time of crisis. These fifty-two lines are referred to as the "Scyld Episode," and serve not just to frame the narrative, but have a significance that resonates throughout the poem. Scyld Scefing is a figure with historical importance not only to the Danes, but to Britain: despite Scyld's potentially having never existed, his name has been implicated in the lineage of King Alfred by the approval of the king himself. The mention of Scyld may thus be interpreted as political, and may have been the poet's attempt to unify the Anglo-Saxon people's Germanic past and English present. This motivation, if accepted as fact, would be a clue to scholars as to when the poem, about which little is known, may have been composed. In a literary sense, the Scyld episode establishes the themes of the poem and our expectations for Beowulf, underscoring the transience of life and what it means to be a "god cyning;" a good king.

*Student Commentator: Matthew Cordella*

## **Session 2-I • English**

**Welles 133**

### **Sleepless in HUM I: We Need a Little (Epic) Romance**

*Faculty Sponsor: Julia Walker, English*

*Session Chair: Jeffrey Lovitz*

Through a variety of media and papers these students will make the argument that Ariosto's epic romance, Orlando furioso, should be required for Humanities I.

#### **That Whole Woman Thing**

**Cristina Bisono, Carol Hamilton, Megan Herbold, Joanna Attardo, Rebecca Smarcz, Brianne Lynch, and Heather Birdsall**

#### **Interrogating Agency: Race, Class, Religion, Story/Narrative**

**James Qi, Jeffrey Lovitz, Matthew Cordella, and Phil VanHarken,**

#### **Video Games, Skywalker, Pirates of the Caribbean: 21st-century Manifestations of the Epic Romance**

**Caitlin Larry, Jeffrey Nichols, Angela Nguyen, and Melissa Schaffer**

## **Session 2-J • Foreign Languages and Literatures**

**Welles 115**

### **Early Romance Literature**

*Faculty Sponsors: Beverly Evans and Lori Bernard, Foreign Languages and Literatures*

*Session Chair: Kristine Szalkowski*

#### **Iconographie et écriture au Moyen Age**

**Julia McDaniel**

Explores representations of characters and scenes from the Song of Roland in sculpture, stained glass, and other artistic media.

## **Evolution du rôle de la femme dans la littérature médiévale**

**Cassandra Hoffman**

Traces how women are represented in medieval French prose and verse. Makes comparisons with modern works written in the medieval tradition.

## **Ressemblance entre la musique des troubadours et des trouvères et la musique country**

**Amanda Moon**

Shows that the language of love developed by medieval French poet-composers remains at the heart of modern country music. Recordings of musical examples will be played.

## **The Preservation and Transformation of Don Juan as Presented in Spanish Drama**

**Kaitlin McCalley**

This paper presentation follows the traditional Spanish character, Don Juan, from Medieval Spanish theater to modern day theater. Today, Don Juan is a well-known character, representing a proud, careless, womanizing male. My research begins with El Burlador de Sevilla, and continues as I explore the various Spanish dramas that also employ Don Juan as a character, discovering both why his character is constantly reappearing in literature, as well as how and why his character has evolved with the passage of time and changes in Spanish culture.

## **Session 2-K • Geography**

**Welles 24**

*Session Chair: David Robertson, Geography*

### **Permaculture and Creative Ecology: Examples from Ecovillage Experience, Kibbutz Lotan, Israel**

**Arielle Aronoff**

*Faculty Sponsor: David Robertson, Geography*

Permaculture is an ecological design system for sustainability in all aspects of human endeavor. Permaculture design mimics nature; no resources are wasted and all resources stay within the design system. A focus is placed on three overarching ethics—earth care, people care, and fair share. Permaculture principles and design techniques uphold these ethics to produce systems that tread lightly on the natural ecology of place. Permaculture is a form of creative ecology. By respecting landscape and using local resources and recycled materials, sustainable gardens, homes, communities and even entire cities can be designed to work harmoniously with nature. This presentation defines permaculture and the ethics and principles that guide it. These ideas are developed through two Permaculture design proposals drafted by the author while participating in a study abroad program on Ecovillage Kibbutz, Lotan, Israel. These include a transformation of the goat milking facilities on the Kibbutz and a conceptualized Permaculture café and ceramic studio for New York State. Through these projects, this presentation shows how permaculture can be applied to a variety of designs and settings.

### **The Dragon Courts the Lion: Chinese Geostrategy Towards Africa**

**Robert C. Rasmussen**

*Faculty Sponsor: Darrell Norris, Geography*

Africa is a continent that is largely left alone in international politics. It would be ignored completely if it were not for the natural resources that are extracted from it, as well as the occasional humanitarian crisis that the international community intervenes in. However in recent years, the People's Republic of China has taken a much deeper interest in that continent than others have in the past. The Chinese see massive potential in this continent and this realization has led to very active trade relationships occurring in places that Americans can barely pronounce. This paper and presentation will focus on examining the geopolitical realities of Africa, how the People's Republic of China is managing its trade, development, and security with Africa, as well as outlining the possible effects of Chinese geostrategy towards Africa.

### **The Upstate-Downstate Divide: New York State Vernacular Regions**

**Kathryn Tubbs**

*Faculty Sponsor: David Robertson, Geography and Ren Vasiliev, Geography*

New York state residents hold different and contentious views regarding the divide between "Upstate" and "Downstate" New York. Last semester I collected over two hundred surveys from SUNY Geneseo students and employees asking them to mark their hometown on a map of New York, and then classify their hometown area as Upstate or Downstate. Participants were had the option to classify their hometown area by other regional designations such as "Western New York," "Northern New York," and "Southern Tier." The data that emerged not only identified the contested "location" of the Upstate/Downstate divide, it also identifies other vernacular regions of the state, many of which serve, according to respondents, as more useful regional identifiers.

## **Session 2-L • History**

**Welles 138**

### **History Honors on Black Freedom Struggle**

*Faculty Sponsor: Emilye Crosby, History*

*Session Chair: Jade Johnson*

### **Community Organizing, Politics, and the Arts: Women in the Atlanta Civil Rights Movement**

**Shanna Reulbach**

The paper examines the ways black women's grassroots organizing in the Vine City district of Atlanta, their contributions to the Black Arts Movement through feminist theory, literature, and the visual arts, and their involvement with formal politics, allowed

them to make great strides toward economic, racial, and gender equality between 1965 and 1980. These three spheres were strongly linked, and women's experiences in one sector often drew them into the other two. Because of these connections, black women were also able to use their skills to support what was occurring in the other spheres. It was this unique dynamic that helped them improve conditions in the African American community.

### **Boston's School Desegregation Movement: An Analysis of Activists' Alternative Approaches to Ending Educational Inequities**

Alexis Everson

People tend to assume that school segregation was a problem faced only by the Southern states in the United States, which is due to the fact that most historical scholarship on this topic has focused on segregation conflicts in Southern cities. Consequently, people are often unaware that school desegregation movements occurred in the late 1950s and 1960s in many Northern cities such as Los Angeles, New York and even Boston. The main focus of my honors thesis is the school desegregation movement in Boston, particularly the alternative approaches developed by African American activists to combat the educational inequities faced by minority students. Scholarship on this topic has centered on the white resistance to desegregation efforts and forced busing. Historians neglect to concentrate on the movement from the perspective of African Americans and their efforts to obtain equal educational opportunities for their children. My thesis explores the alternative approaches activists took and the relative success of these approaches. Specifically, my paper looks at the Metropolitan Council Educational Opportunity, often called METCO, which was a program developed to bus inner city black students to schools in the suburbs and African American freedom schools, such as the Highland Park Free School.

### **In search of quality education for Rochester city students after Brown**

Brian Hartle

The 1954 Brown decision did not automatically spell the end of segregated schools in the US – South or North. Indeed, during the 1960s steady white flight in the majority of northern settings actually increased segregation. The rapid emergence of two separate and unequal spheres encouraged seemingly benevolent whites in and outside of Rochester to act. In the Spring of 1964, a community activist group in Brighton from its School Number 1 reached out to Rochester School 19 in hope that they might want to participate in its summer school program. This program continued for several years despite the fact that funds were not always easy to obtain and support from both communities wavered. Importantly, black community activists sounded caution if not hostility towards related programs since their inception, as the best and brightest of their students were taken out of their own community and transplanted elsewhere. This brain drain, they believed, would not solve the problem of inferior city schools. In fact, it would probably hasten their demise. In many ways, the cons of busing programs that afforded only a small per cent of the black population the quality education their neighboring peers assumed outweighed the pros.

### **The Reality of Enfranchisement: The History of African American Disfranchisement, Voter Discrimination, and Unequal Political Opportunity 1982-Present**

Ryne Kitzrow

This presentation will cover a segment of my larger thesis project which includes research from WWII to the present. In my presentation I will examine how, since the early 1980s, African Americans have continuously been discriminated against in the electoral process and, consequently, why continue to lack equal political opportunity. In this discussion I will specifically address current methods of racially motivated voter discrimination, such as "ballot security" campaigns and the malapportionment of election materials, as well as explain how and why those methods of discrimination became used, emphasizing the political polarization of the 1980s, increasing political participation of African Americans, and limitations of Voting Rights Act legislation.

### **Session 2-M • History**

**Welles 140**

#### **Baron Shibusawa's Visit to Rochester: An Examination of the Japanese Commercial Expedition's Visit to Rochester in 1909**

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

#### **Baron Shibusawa's visit to Rochester: An Examination of the Japanese Commercial Expedition's visit to Rochester in 1909**

Eric Dostal

In October of 1909 Baron Shibusawa and roughly 40 other delegates from the Empire of Japan visited the city of Rochester. In less than 24 hours the commercial commission visited everything Rochester had to offer from manufacturing centers, to schools, to banking institutions and even a local nursery. By focusing on newspaper articles from 1909, found in the archives of the Rochester Public Library, I will illustrate the significance of this visit in terms of both its local and global ramifications.

### **Session 2-N • History**

**Welles 26**

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

#### **The Evolution of Music and its Purpose Before and During the Chinese Communist Regime”**

Adele Costa, Audrey Watkins and Katie Staulters

In this presentation we will examine the character of traditional Chinese Music popular during the Qing dynasty and discuss its purpose. We will then give a short synopsis of the Communist Revolution in China in order to contextualize our next objective, which will be to examine the changing musical tastes of China and the character of the music that became popular during the Communist regime. We aim to show that in traditional China music was valued for its individualistic enjoyment and complexity, while in Communist china, music was valued for its ability to be understood and participated in by the masses,

and was often used as a tool of propaganda to perpetuate Maoist thought and ideology. The presentation will include musical clips and visuals.

## **Two Steps Forward, Two Steps Backward: Gains and Losses for Women's Rights During China's New Culture Movement**

**Ryan Broser and Katie Choiniere**

The New Culture Movement from 1915 to 1923 was one of the most significant cultural revolutions in China. On the heels of the 1911 Revolution that ended the imperial system, it was dedicated to the rejection of traditional culture and the construction of a new cultural identity for a society that had been under the stranglehold of Confucianism for centuries. Scholars such as Chen Duxiu, Cai Yuanpei, Li Dazhao, Lu Xun, and Hu Shi were at the forefront of this movement. One of the most important goals of the New Culture Movement was ending the patriarchal social system justified by Confucianism and promoting women's rights. Under Confucianism, women were subordinate to their fathers, husbands, and sons, and the New Culture Movement sought to change this and liberate and empower women. Progress was made, but the efforts were not entirely successful. While women obtained the ability to divorce their husbands and retain property, they also became trapped in fixed roles deemed by the government essential to economic and political progress. Thus, the evolution of Chinese feminism experienced both advances and setbacks during this time.

## **Session 2-O • Mathematics**

**Newton 201**

### **History of Mathematics II**

*Faculty Sponsor and Session Chair: Jeff Johannes, Mathematics*

#### **A Deeper Look at the Riemann Integral**

**Tim Gieselman**

Anyone who has learned about integration in a first-year calculus course may be interested to find out that there are in fact many different types of integration (Cauchy, Riemann, Lebesgue, to name a few), each with its own interpretation of the result. However, Riemann integrals are almost exclusively taught in first-year calculus, with no mention of the others. Why is this? And what are we missing out on? We will answer these questions by first viewing the historical backdrop of integration and Riemann's life and then taking a close look at the Riemann integral itself. Lastly, we will glance at some of the other more prominent types of integral and see how they compare to Riemann's in both theory and application.

#### **Cramer's Rule before Cramer**

**Ethan Estabrooks**

Cramer's rule is a theorem for solving a system of linear equations with as many equations as unknowns. The theorem relies on taking the determinants of the coefficient matrix and of the matrices that are created by replacing one column with the vector on the right side of the equation. This rule is named after a Swiss mathematician Gabriel Cramer. However, solving linear systems this way can be dated all the way back to ancient mathematics. The Chinese were the first to develop the process of using matrices for solving linear equations. The first mathematician that published Cramer's rule in the form that we are familiar with today is Colin Maclaurin. Maclaurin had knowledge and even taught Cramer's rule to his students well before Gabriel Cramer is given credit for its discovery.

#### **A Brief History of Permutations**

**Janelle Quinta**

Even in Medieval France, people were playing with the idea of permutation in poems. It wasn't until 1770 that permutations were given a formal name. Then people such as Cauchy and Cayley investigated more properties of these permutations. Their theories and other proofs will be discussed.

#### **Permutation Groups: A Historical Perspective**

**Douglas Weber**

The theory of permutation groups is essential the theory for symmetry of mathematical and physical systems. Formalized as an area of study in Camille Jordan's, *Traité des substitutions et des équations algébriques* (1870), permutation groups remain one of the oldest branches of study in abstract algebra. With few exceptions, permutation groups were largely ignored for the first half of the twentieth century. Interest was rejuvenated in the 1950s with the work of Eugene Wigner and Helmut Wielandt. Today, permutation groups have a major impact in diverse areas of chemistry, physics, and mathematics. With the advent of new technology, we continue to have a more powerful and deeper understanding of permutation group theory and the questions it raises.

## **Session 2-P • Mathematics**

**Newton 214**

*Session Chair: Caroline Haddad, Mathematics*

### **Who Are You? Image Identification Using Wavelet Packet Analysis**

**Katy Nowak and Kevin Palmowski**

*Faculty Sponsor: Caroline Haddad, Mathematics*

In the last fifty years, face recognition has become one of the most active research areas in pattern identification. It plays an integral role in various applications including human-computer interaction, authentication, and surveillance. However, large variations in the human face caused by pose, illumination, facial hair, and expression, make this problem very complex. Wavelets have been successfully employed in many areas of image processing. Their ability to capture the spatial and frequency information for an image inspired us to use them for feature extraction. For our project, we chose to modify a face-based algorithm proposed by C. Garcia, G. Zikos, and G. Tziritas in a paper called "Wavelet Packet Analysis for Face

Recognition." Our algorithm uses statistical analysis performed on a level-two wavelet packet decomposition as its classifying criterion. We coded our algorithm with MATLAB and were able to successfully identify each of our 25 sample images.

## **Linear Algebra in the Harvesting of Animal Populations**

**Kaitlyn Gayvert**

*Faculty Sponsor: Caroline Haddad, Mathematics*

From fish hatcheries to farms, the Leslie matrix is employed to model sustainable harvesting policies for age-structured animal populations. Several models will be presented representing different harvesting strategies, and an optimal sustainable harvest policy will be derived. We will investigate which techniques are utilized at the Caledonia Fish Hatchery, and the extent to which they are effective.

## **Applied Mathematics: Detecting Handwriting Forgeries Using the Haar Wavelet Transform**

**Michael Couche**

*Faculty Sponsor: Caroline Haddad, Mathematics*

Using the Haar Wavelet Transform, Linear Algebra, and Statistics, we will examine how one can identify handwriting forgeries. The form, line quality, and arrangement of lettering are statistically linked to each individual's personal handwriting style, and we can obtain this statistical data by applying the Haar Wavelet Transform to each sample when scanned into a computer. By comparing a control sample to other forged samples, we can run simple t-tests to test significance and thus determine which sample is a forgery of the original!

## **Session 2-Q • Political Science and International Relations Participation, Protests and Democratic Practices**

**Welles 134**

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

### **Obstacles to Democratic Consolidation in South Korea**

**Kristina Nikiforova**

South Korea is often viewed as an East Asian miracle for its startling economic growth from the 1960s to the present and the advent of democratic-capitalism in 1987 under Roh Tae Woo. As a relatively new democracy, however, South Korea has struggled to imbed democratic institutions. Focusing on the period from the past administration of Roh Moo-hyun (2003-2008) to the current administration of Lee Myung-Bak, this study analyzes the obstacles to furthering democratic consolidation in South Korea, specifically the difficulty of deepening democratic institutions in the current environment. These obstacles are as such: the prevalence of corruption in conjunction with elite cartels, crony capitalism and government interaction, regionalism in electoral politics, the interaction of government and media, and human rights abuses by the government. While these obstacles are not new in South Korean society, their combination during the past two administrations has led to a renewed delegitimization of the government. Future implications for furthering democratic consolidation rest on the ability of South Korean political institutions to become more transparent in order to become more legitimate in the eyes of its citizens.

### **Populism, Indigenismo, and Democracy In Latin America**

**Ellyn Jameson**

In recent years, there have been two notable and widespread trends across Latin America: the formation of political parties centered on indigenous identity, and the rise of populist leaders. This paper examines the interaction of these forces by comparing several case studies including Bolivia, Ecuador, Peru, and Venezuela; identifies the causes and effects of this correlation; and analyzes whether it is deepening democracy. Latin American countries tend to have heavily presidential systems and weak political parties, so while organizing around ethnic identity can be an incredibly useful tool to broaden democratic participation on a local level, this paper focuses instead on how these parties have attempted to gain power, particularly executive power, on the national level. I hypothesize that while indigenous political parties have usually benefited democracy locally, when translated to the national level they generally become tied with populist leaders, which does in fact represent a threat to the consolidation of democracy.

### **The Democratic Viability of Islamic Opposition in Egypt: A Comparative and Theoretical Perspective**

**John Morrissey**

In response to the increasingly authoritarian government of Hosni Mubarak, Egypt's Muslim Brotherhood has emerged as the only meaningful opposition party—even though the Brotherhood has been illegal for the last 50 years. Despite its often violent and murky past, in the last 25 years the Brotherhood has preached a platform based on moderate and peaceful Islamic activism as well as the compatibility of democracy and Islam. However, there are still elements of the Muslim Brotherhood that suggest certain democratic values would be abandoned should the Brotherhood achieve power, as well as critics who contend that the recent changes in the Brotherhood are a ploy to achieve political power. A comparison to Bharatiya Janata Party, an Indian Hindu-nationalist party, as well as a vein of democratic theory known as moderation theory, are both useful tools to address these concerns. Both analytical tools suggest that the Muslim Brotherhood would likely positively contribute to a democratic system of governance in Egypt should it be legalized and the appropriate political reforms take place.

## **Post-Conflict Statebuilding: Rwanda's Illiberal Democracy**

**Alexander Berberich**

In a post-civil war setting, those in power often argue there is a choice between liberal democracy and stability. Does this trade-off actually exist? Should democratic elections be the priority for a state recovering from a civil war, or does running elections carry the risk of revived political violence? If liberalization takes a back seat to stability, how long can a ruling party continue to maintain a closed system before outsiders become radicalized, once again putting stability at risk? Should development organizations view elections as the primary feature of democracy, or is there a broader notion of democracy that must be taken into account? Is there a right sequence to building a liberal democracy? This thesis will apply these questions to Rwanda, which many analysts have hailed as an example of successful post-conflict reconstruction. However, a deeper look reveals an illiberal democracy effectively dominated by one-party rule. It engages in foreign entanglements and suffers a continuing refugee crisis. International aid groups continue to praise Rwanda, seemingly ignoring the political situation and perhaps abetting authoritarianism. Applying post-conflict theory to Rwanda will reveal answers to the above questions while also generating policy recommendations for lawmakers in Kigali.

## **Session 2-R • Psychology**

**Milne 104**

### **Sleep, Anxiety, and Coping with Stress: Determinants and Outcomes Among College Students**

*Faculty Sponsor and Session Chair: Michael Lynch, Psychology*

#### **Correlates of Anxiety and Their Impact on Performance**

**Honor Eaton**

The purpose of this study is to examine the correlates of anxiety that may undermine performance. Participants entered the lab where a trained research assistant administered a series of assessments. Working memory and attention abilities were measured first. Next, participants completed a questionnaire assessing anxiety and other related constructs. After that, three tasks of cognitive performance were administered, including math, verbal, and deductive reasoning. Finally, two short surveys were completed. Anxiety has been linked to cognitive executive functioning, as well as differences in behavior and emotion regulation. It is likely that the presence of some level of anxiety may be beneficial to performance. It also is likely that an excessive amount of anxiety will be detrimental to performance. Our focus is on performance of tasks and skills often required of college students. By examining processes related to anxiety we have investigated the overall functioning of participants to see if better regulation and coping help to deal with anxiety in a college setting. Findings from this research may shed light on ways to regulate anxiety without undermining performance.

#### **Correlates of Cardiovascular Regulation in Response to a Cognitive Challenge**

**Daniel Tylee**

The purpose of the present study was to examine individual differences in physiological, cognitive, and behavioral coping processes and to determine how these factors relate to health, emotional well-being, academic success, and substance abuse. Heart rate data was recorded across standardized resting and challenge conditions in order to examine changes in 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 assessment of attentional bias toward 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. Based on our previous work, we hypothesize that specific configurations of physiological, cognitive, and behavioral responses will be associated with stress vulnerability, while other configurations may convey adaptation under stress.

#### **Psychosocial Predictors of Sleep Quality among Students**

**Andrew Tisser**

Transitioning from High School to College The transition from high school to college is a unique developmental milestone during which young adults develop greater autonomy for lifestyle and health behavior decision-making. In the college student population, sleep behavior is one domain has not received much empirical attention. Preliminary evidence reveals that many college students experience insufficient sleep, which is associated with poor physical and mental health and academic performance. Unfortunately, no prior research has examined the psychosocial determinants of sleep behaviors during the college transition period. Therefore, this prospective study examined the extent to which psychosocial factors, including perceived stress, coping strategies, personality, and health behaviors, influence sleep quality among students making the transition from high school to the first semester at Geneseo. Volunteers completed online questionnaires in the summer prior to their first semester, and then repeated this process midway through their first semester. We expected that students with increased negative affect, maladaptive coping styles, specific personality traits, and deleterious health behaviors would experience poor sleep quality during the college transition. An increased understanding of modifiable factors associated with this important behavior would facilitate the development of preventive interventions designed to promote improved sleep quality during the first semester and beyond.

#### **Psychosocial Correlates of Perceived Sleep Quality among College Students**

**Noelle Jankowiak**

Little is known about sleep habits and psychosocial concomitants of sleep quality among college students. Given that adult health-behavior patterns are often established during the developmental transition period from childhood to adulthood and the potential impact of poor sleep on well-being and academic performance, additional research with this population is warranted. We examined putative associations between sleep quality and several psychosocial variables, including mood, quality of life, and health behaviors with a sample of Geneseo undergraduates (N = 154). We expected students experiencing poor sleep

quality would report increased levels of stress and negative mood, as well as decreased levels of positive moods. Similarly, we expected students experiencing poor sleep quality would report poorer QOL. Thirdly, we posited that students experiencing poor sleep quality would engage in significantly less moderate and vigorous physical activity, practice maladaptive sleep hygiene, consume more caffeinated beverages, and be more nicotine dependent. Participants wore an accelerometer for seven consecutive days and then completed a battery of psychosocial questionnaires. Results showed that most participants experienced poor sleep quality during the past month. These individuals were more likely to experience a range of negative psychosocial characteristics and were less likely to engage in other salutary health behaviors.

## **Session 2-S • School of Business**

**South Hall 338**

### **Making A Connection Between Business Classes and the Real-World of Market Research: Year Two**

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

#### **Livingston County Outflow Study: Will Greater Local Spending Lead to Local Job Creation?**

**Lauren Zinter and Nicolas Cryns**

Mr. Cryns and Ms. Zinter worked as Dr. Scipione's Student Research Supervisors on a grant awarded to Dr. Scipione from the Livingston County Planning Department. Their study looks analyzes: (1) how much LivCo residents spent inside vs. outside the county; (2) how many PT and/or FT jobs local employers might add if LivCo residents spend more of their dollars inside the county; and (3) an estimate of the actual impact on LivCo employment that could occur under four different revenue growth scenarios. The findings from the study will be used by Dr. Mary Mohan and her Communications students to develop a public relations campaign that will help persuade LivCo residents to spend more of their dollars locally. Dr. Scipione's research (funded by federal stimulus funds) is a cutting-edge project, the first-ever that assesses the connection between local spending and local jobs. Dr. Scipione and his students have already been invited by BLS and BEA to make presentations to federal economists in Washington DC.

*Student Commentator: Ana Powell*

#### **Wyoming County Economic Development Study: Application of the Gravity Model in a Rural County**

**Tobias Scott-Killian**

Mr. Scott-Killian, a Geography major and Business minor, has been working with Dr. Scipione on a research grant funded by the Wyoming County Government, Wyoming County Business Center and the Wyoming County Chamber of Commerce. The goals of the study are: (1) to assess whether Wyoming County has too many or too few businesses (by NAICS category) to serve the needs of the 45,000 residents of the county; (2) identification of Type i businesses that could be launched within the county -- i.e. businesses that do not depend on the local population; and (c) development of a sophisticated Gravity Model to study the actual places where WyCo residents shop (from a General Public Survey directed by Dr. Scipione) and the realistic trading areas for the four largest market centers of WyCo -- Warsaw, Perry, Attica and Arcade. The findings are being used by Wyoming County officials for their largest ever efforts to attract new businesses to the county.

*Student Commentator: Nicolas Cryns*

#### **Establishing an Arts & Artisans Center in Mt Morris: A Community Case Study**

**Ana Powell**

Ms. Powell and Dr. Scipione have been working on a grant from SUNY Geneseo alum Mr. Greg O'Connell on a study to assess the market viability of a new centers for artists and artisans that the O'Connell Organization has already been developing in Mt. Morris. Dr. Scipione and his students scanned the country and identified more than 100 similar artisans centers. They then gleaned lists of "do's" and "don'ts" that would be applicable to the new artists community in Mt. Morris. These findings have implications for communities nationwide that hope to establish centers where artists, artisans and potential purchasers of their work can come together.

*Student Commentator: Lauren Zinter*

## **Session 2-T • School of Business**

**South Hall 340**

*Session Chair: Avan Jassawalla, School of Business*

### **Motivation in the Work Place: Its Effectiveness in Groups Versus Individuals Through Incentives and Rewards.**

**Anna Vaccaro, Lauren Lorow, Eric Cerretani and Joshua Hoffman**

*Faculty Sponsor: Avan Jassawalla, School of Business*

Our topic is important in today's business world and can often be overlooked by management. Not realizing correct motivational tools could hinder the organization's potential in the future as opposed to aiding them in success. Managers must grasp what drives their individual employees and how to efficiently motivate them based on the use of specific incentives. It is vital that leaders differentiate between employees that are motivated intrinsically through self-fulfillment and extrinsically through the approval of others. Being aware of the different types of work that better suit individuals versus teams can also help employers be more efficient in assigning responsibilities. Delegating unachievable goals to groups or individuals will be counterproductive to the company's overall objectives. There are various types of rewards that management can utilize, including financial and non-financial which are becoming more effective in today's economy. Understanding these aspects and how they apply to your company will help management motivate employees by utilizing their strengths, making them more effective within the organization. It is important to understand individual personalities and group dynamics when placing employees in teams. Having the correct combination of employees can help the organization to achieve synergy and produce higher quality results.

## **Team Incentives**

**Kelly Murphy, Christine West, Steven Teed, Sheila Brito,**

*Faculty Sponsor: Avan Jassawalla, Business*

This presentation will look at team incentives and their importance to Human Resource (HR) managers. Incentives, or pay for performance, are multi-faceted systems that need to be carefully developed to ensure employee motivation and high performance. In the past, incentives were provided to individual employees. With the growing use of teams in the workplace, companies and their HR managers need to consider implementing team incentives. We conducted a literature review and found four recurring themes on this topic. In the presentation, we will explain each of these themes and link them to our recommendations for HR managers and enhancing team performance.

## **CEOs in Unstructured Companies: An Exploratory Study**

**Vu Le**

*Faculty Sponsor: Farooq Sheikh, Business*

In today's business world, a great leadership from top management means everything for the organization. Especially, the job of a CEO is tough. However, a boss of a structured company will face a different set of challenges from what a boss of an unstructured company will face. Cases of unstructured companies mostly include innovative companies, such as Apple, Pixar, Disney, etc. What is the trend of these CEOs' traits and skills? How do they treat their employees and partners? I recently completed an analysis of top CEOs in the most successful unstructured companies. The study incorporates data on Apple, Pixar, Disney, Proctor & Gamble, Unilever, and JWT.

## **Session 2-U • Sociology**

**Milne 105**

### **Sociological Studies of Well Being**

*Faculty Sponsor and Session Chair: Steve Derne, Sociology*

#### **Team...Work? The effects of structured leisure time on well being**

**Brooke Adams**

College athletes fail to mention exercise as a source of well being while individuals that participate in lone activity recognize a connection between well being and physical activity. Gordon Matthews says excellence in something results in well being. Sports at the college level in America are organized institutions involving vigorous training and cut-throat competition. The high level of organization and competition of college sports results in a structuring of activity that more closely relates to work rather than leisure. Work as Matthews acknowledges is defined by sociologist Niwano as an "insufficient or even dangerous" form of Ikigai [well being] in Japanese culture. Examining individuals' responses on perceptions of well being in correlation with their self-identified affiliation with or without a collegiate sport team, I conclude that structured leisure time becomes work to the individual despite their "gifts" and results in athletes not recognizing a physical aspect of well being. By analyzing whether or not an individual is involved in an organized team sport in comparison with their given definition of well being, this study shows that exercise is not a source of well being for college athletes while it is a source of well being for non athletes.

#### **An Interesting Mix: The Possibility That Well-Being and a Lack of Well-Being Can Be Experienced Simultaneously**

**Karin Sperber**

Many sociological scholars (e.g. Derne) report that well-being consists of an enduring sense of life satisfaction. This definition neglects the possibility that a person can experience well-being and a lack of well-being simultaneously, allowing for well-being to be more mixed. Fifteen students at SUNY Geneseo conducted two qualitative in-depth interviews each, discussing well-being and people's experiences of well-being. After analysis of the data, I found that the simultaneous experience of well-being and a lack of well-being is possible.

#### **Walk Down Memory Lane: Reflexivity as a Component of Well-Being**

**Rachel Greenberg**

This study focuses on the concept of reflexivity as a main component of well-being that has lacked mention in previous studies. Gordon Mathews in *\*What Makes Life Worth Living\** states that all well-being is derived from goals for the future, clearly neglecting the significance of reflexivity. Reflexivity refers to an individual's ability to examine either a current situation or past situation and develop emotions or conclusions from this evaluation. Students in the senior seminar each conducted two interviews asking questions about well being and strictly following ethical protocol. Using a compilation of the transcripts from these interviews, several examples help to determine that despite the literature's disregard of reflexivity, a positive conceptualization of what is occurring or what has happened in the past can also lead to a sense of well-being.

#### **Well-Being and the Sensory Construction of Happiness**

**Patrick Maney**

Well-being is a topic that is expanding within the field of sociology and as such, it is a topic that has not been fully explored. My research investigated how and if physical sensations cause well-being in American culture. I received my findings by conducting interviews with fifteen different people and compiling those on top of thirty interviews done last semester. I have found by doing the interviews that while not everyone says that physical sensations give them well-being, there is a significant amount of people who do find well-being from sensations, both from the pure sensation and from reflections to the past that sensations bring.

## **Session 2-V • School of the Arts-Theater Scenes from Shakespeare and Beckett**

**Alice Austin Theatre**

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

### **Shakespeare Scenes**

Twelfth Night

Performers: Michelle Geisler as Olivia and Meaghan Elicks as Viola

Much Ado About Nothing

Performers: Britt Faulkner as Beatrice and Jake Roa as Benedick

The Tempest

Performer: Devon Borowski as Prospero and Rebecca Hoffman as Ariel

### **Shakespeare Monologues**

Henry IV pt 1

Performer: Michael Radi as Prince Hal

As You Like It

Performer: Kathryn Tubbs as Phebe

### **Beckett Scenes**

Happy Days

Performers: Michelle Geisler as Winnie and Brian Clemente as Willie

Endgame

Performers: Angelis Duarte as Hamm and Michael Radi as Clov

Endgame

Performers: Sean Lessard as Nagg and Allison McArdle as Nell

Endgame

Performers: Meaghan Elicks as Hamm and Britt Faulkner as Clov

## **Session 2-W • Women's Studies**

**Welles 117**

### **Women's Studies Senior Project Presentations (Panel 1 of 2)**

*Faculty Sponsor: Melanie Blood, Women's Studies*

*Session Chair: Jenny Katz, Women's Studies*

#### **Intimacy Narratives of Heterosexual Experience**

##### **Isobel Connors**

Contemporary feminism offers alternative sexual scripts in hopes of subverting the dominant “rape culture.” In doing so, however, feminists are placed in a difficult position: how can we work to dismantle rape culture when we exist inside of it?

This struggle is particularly complex for feminists who engage in heterosexual sex acts because, unlike homosexual sex, hetero-sex has a distinct, and powerfully pervasive, normative script. Interviewing female and male Geneseo students who identify as feminist, I examine how feminists, like myself, navigate between their feminist sexual values and desires, and the sexual expectations of the dominant culture. To analyze my data, I utilize my feminist-informed understanding of narrative to bring the personal into the sphere of the political.

#### **Left Behind: African American Mother's Daily Struggle in Society**

##### **Nabila Aikawa**

Many people view Single African American mothers in a negative way. The numbers of single African American mothers are increasing within urban areas. My research paper focuses on the struggle of their everyday life. I analyzed the history, culture, economic status, and society outlook on Single African American mothers; to see why society has this point of view. This paper is part of a growing body of research on single African American mothers. In using journal articles, books, the history of slavery and interviews with single African American mothers this research paper will contribute to future research on similar topics

#### **Where Are All the Bisexual Men? - The relationship Between Bisexuality and Feminist Identification**

##### **Angela Dallara**

This paper examines the extreme dichotomy between female and male bisexual self-identification, suggesting that the politics that often accompanies bisexual women is virtually non-existent for men. Because men are less likely to participate in or have substantial knowledge about movements towards feminism and gender equality, they are more invested in traditional gender norms that may perpetuate homophobia and prevent a comfortable acceptance of the notion of bisexuality. The number of true bisexual men is likely comparable to the number of bisexual women, but there seem to be unique factors that affect their experience, some of which this paper attempts to address.

#### **Chances and Changes Internship**

##### **Danielle Van Auken**

Issues of intimate partner abuse stem from mental, physical, emotional, and financial control. Domestic violence is an important public and personal issue that requires the attention and collaboration of service organizations, advocates, legal and medical professionals, and the community. An Internship at Chances & Changes, Inc. includes working closely with clients in the shelter to provide these services. Trained along side of licensed therapists, social workers, and advocates, the complexity of domestic violence issues have been taught, allowing me to answer hotlines and advocate for the rights of our clients.

# 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*

## Helen Epstein

### Trying to Tell the Truth: Researching and Writing Memoir

Helen Epstein is the author of six books of literary non-fiction including the memoirs *Children of the Holocaust* and *Where She Came From: A Daughter's Search for her Mother's History* and *Joe Papp: An American Life* -- New York Times Notable Books of the Year.

Born in Prague in 1947 and brought to the U.S. as a baby immigrant in 1948, Epstein grew up in New York City. She became a journalist while still a college student, caught in the Soviet Invasion of Czechoslovakia in 1968. Her personal account was published in the *Jerusalem Post*, where she subsequently worked as a reporter. Following journalism school at Columbia, she taught writing at New York University, where she became the first tenured woman professor in the journalism department and freelanced for the *Sunday New York Times* and other national publications. She is particularly interested in the arts, psychology, and memoir.



Ms. Epstein lives with her husband in Massachusetts and blogs for [www.theartsfuse.com](http://www.theartsfuse.com). A full list of her publications and activities can be found on her website: [www.helenepstein.com](http://www.helenepstein.com).

**Abstract of Keynote Address:** Memoir has become the most popular literary genre of our time. Why are readers so interested in the truth of other people's lives? What are the problems a writer faces in researching and writing "the truth." Helen Epstein will give her answers to these questions, drawing on her experience of 40 years of life writing.

# CONCURRENT PRESENTATIONS

SESSION 3 • 2:55 - 4:10

## Session 3-A • Anthropology

Welles 119

### The Meanings of Things: Material Culture Studies Part 2

*Faculty Sponsor and Session Chair: James Aimers, Anthropology*

#### Pearls and the Subjugation of Women

Meaghan Martin

Since Karl Marx first publicized his revolutionary ideas regarding economic theory and the role of the consumer in society, many scholars have since delved deep into the psyche of the buyer, attempting to understand the aura of material culture. People typically try to seem better than they are, whether that be in terms of physical appearance or social status, often purchasing items that will assist them in their quest for validation. Women in particular are persuaded to look and act a certain way frequently at the expense of their true sociopolitical position and any power they may possess over their actions. Pearls and other costly jewelry enable individuals to show off their wealth and high position. Women are victims of the never-ending search for personal influence. Studied from a Marxist perspective, pearls not only alienate the working class from the upper and middle classes, they force women into submissive and compliant roles.

### Breakfast at Canal Street: Counterfeit Tiffany Jewelry and Georg Simmel's Fashion

#### Philosophies

Laura Savary

Today, designer sunglasses can easily cost over 200 dollars, luxury bags can be priced for over thousands, and merely two ounces of extravagant perfume can certainly cut one's budget back. Not to mention, lavish jewelry is, and has always been, quite costly. But over on Canal Street in downtown Manhattan, cheap imitations that could easily pass as these brand name items are sold daily for prices that fit most disposable incomes. Though most of the items do not contain the quality that their original counterparts possess, shoppers on Canal Street do not seem to take objects' durability into consideration. Why is it that shoppers will give up an object's qualitative characteristics for an appearance that is cheaper? And if these "knock off" designer articles are priced at much lower fees, and many are willing to settle for cheap, less durable versions of the luxury, why do others bother to purchase the original items? In this presentation, I will answer the stated questions by referencing sociologist Georg Simmel's his philosophies regarding fashion, emulation, and social class, and by citing my own personal experience as an owner of Tiffany jewelry and also as an owner of a counterfeit Tiffany & Co. bracelet.

#### Barbie World

Kathryn Steffan

She is a businesswoman, a gymnast and a stay at home mom; she is a doctor, a professional soccer player and a teacher. Who is this wonder woman? She is Barbie, and even though she does not look a day over twenty, 2009 welcomes Barbie's 50th anniversary. In this paper I employ what Woodward identifies as 'Cultural Theory' to evaluate my childhood collection of Barbie dolls (Woodward 2007:85). First I will look at the transformation the collection has undergone. I will discuss my relationship with the dolls, as well as the social life of the collection. Ultimately, I will analyze cultural critiques of Barbie as a cultural icon.

## Session 3-B • Anthropology

Welles 128

### Anatomy of a Disaster: Haiti Earthquake of January 12, 2010

*Faculty Sponsor and Session Chair: Rose-Marie Chierici, Anthropology*

#### Multinational Organizations and Grassroots NGOs: A Collaborative Model

Ryan Levy

From the onset of the Haitian earthquake on January 12th, numerous reports suggest that relief efforts are bottlenecked, adding to further degradation on the ground. Some of these bottlenecks are being blamed on the inefficient distribution of aid by major organizations involved in the relief effort. While large, multinational and governmental organizations such as the UN, the Red Cross, or USAID have the capability to collect and manage large amounts of funds/aid, they may not be best at handling distribution of aid at the local level. Smaller organizations with ties to local groups can work more collaboratively with community members and usually have a better grasp of community dynamics. Based on an evaluation of the allocation of relief resources and an investigation of recent events on the ground, we propose a model which encourages closer collaboration between large international organizations and smaller, grassroots NGOs to promote more effective distribution of aid. The situation in Haiti demonstrates how imperative such an alliance could be during natural disaster/crisis situations.

### Haiti's Earthquake: The Importance of Information Dissemination In Relief Efforts

Carolyn Smith

The effective dissemination of information is an important tool in any society. Citizens must be aware of social, educational, and economic issues in order to make informed decisions. In Haiti, information dissemination of printed materials can be problematic due to low literacy rates. According to UNICEF, the adult literacy rate in 2008 was 62% and only 50% of Haitian children attended primary school. As a result, other forms of mass communication, such as radio and cellular technologies, have become a more effective means of information dissemination. Radios remain the most accessible means of communication in Haiti and cell phones have become much more common since the introduction of low cost GSM phones in 2006. A comprehensive system of information dissemination is needed to coordinate relief efforts and effectively distribute resources in times of crises. In a situation of extreme disaster, reestablishing a functional communication system is the first step in

rebuilding. Our research will focus on the previous dissemination system that existed in Haiti, the rebuilding of the system post-earthquake, and how the current state of the system is affecting relief and rebuilding efforts.

### **Shifting Realities: The Cultural Context of Emotional Trauma**

**Isobel Connors**

In times of crisis, medical relief efforts often prioritize treatment of physical injuries over that of mental/emotional trauma. However, it is just as imperative to address these mental health issues with an equal sense of immediacy. Emotional trauma affects the victims of natural disasters in distinct ways across several dimensions, including the individual, family, community, and national psyche. Our research will address how the January 12 earthquake in Haiti has affected individual and group mental health. Our primary concern in this research is to understand how we can mediate between our Western conceptualizations of, and treatments for, emotional trauma, and those existing within Haitian culture. We will address this issue by incorporating knowledge about the role of Vodou and Catholicism in Haitian emotional healing processes, as well as what anthropologists and psychologists suggest for the treatment of emotional trauma. Lastly, we will investigate several international and local relief efforts currently working in Haiti.

### **Session 3-C • Biology**

**Newton 203**

*Session Chair: Elisabeth Cox, Biology*

#### **TMD-1/Tropomodulin Regulates Intestinal Shape and Volume During Development in *C. elegans***

**Elegans**

**Vincent Cannataro**

*Faculty Sponsor: Elisabeth Cox, Biology*

*Caenorhabditis elegans* is a small transparent nematode that is a great model system for studying the development of endothelial tubes, which exist 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 diameter of the lumen (fluid-filled space) is expanded. 3D image analysis of these areas shows that the intestine is actually flattened – so that it is wider in one axis, but narrower in the perpendicular axis (changing from an oval to a pancake shape). Furthermore, measurements using the VOLUMEST plugin for ImageJ, indicate that intestinal volume is decreased in *tmd-1* mutants by 51%, in comparison to wild-type controls. We are currently investigating the molecular mechanisms by which TMD-1 regulates the shape / volume of the intestine. Interestingly, TMD-1 localizes to a dense actin network that underlies the apical intestinal membrane (that borders the lumen). Experiments in which actomyosin contractility is decreased with RNAi suggest that *tmd-1* may regulate intestinal lumen shape, at least in part, by promoting actomyosin contractility of the intestinal apical actin network.

#### **TMD-1/Tropomodulin Regulates Intestinal Morphology, Growth Rate and Extension of the Excretory Cell in *C. elegans***

**Matt McIntosh**

*Faculty Sponsor: Elisabeth Cox, Biology*

Epithelial tubes are important architectural features in the development many human tissues, including the lungs, kidneys and capillaries. Despite the importance of these tubes in development (and disease), how they are constructed remains poorly understood. The nematode *Caenorhabditis elegans* provides an excellent model system for examining epithelial tube formation due to their simple 20-cell intestine. The role of TMD-1, an actin capping protein, in intestinal morphogenesis over the life course was examined. It was found that *tmd-1* loss-of-function mutants have intestinal lumen expansions that form during embryogenesis and persist into adulthood. As a possible consequence of abnormal intestinal structure, the growth rate of these mutants is reduced 30%. During this project it was noted that *tmd-1* mutants also have excretory cell abnormalities. *C. elegans* has a single H-shaped excretory cell which serves both as the renal and excretory system. The arms of the excretory cell run the length of the organism, in the anterior/posterior axis, and contain fluid-filled intracellular canals. Our recent work demonstrates that TMD-1 regulates the extension of these canals. Current research is aimed at determining whether the shortened canals are due to failed extension of the excretory cell arms, or failed extension of the canals within the cytoplasm.

#### **Understanding the Role of p63 in the Dexamethasone-Induced Epithelial to Mesenchymal Transition of A431 Vulvar Carcinoma Cells**

**Catherine Burke and Ian Perry**

*Faculty Sponsor: Jani Lewis, Biology*

Epithelial-cadherin (E-cadherin) is a prominent marker in determining the stage of cancer in tumor biopsies. Loss of E-cadherin is often associated with a more aggressive cancer phenotype. The vulvar cell line, A431 expresses E-cadherin and shows a typical epithelial morphology. However, when A431 cells are treated with the glucocorticoid, dexamethasone (dex), E-cadherin expression is turned off and the cells lose other epithelial characteristics. This transformation in cell appearance and behavior is known as the epithelial to mesenchymal transition (EMT). We have recently identified another gene, p63, which is also decreased with dex treatment. Current literature suggests that loss of p63 is associated with carcinogenesis. The p63 gene codes for a number of different proteins by RNA splicing, and these discrete proteins may have differing roles in the development of cancer. We are examining two of the p63 proteins, TAp63alpha and deltaNp63alpha, to better understand their role in the EMT seen in dex treated A431 cells. Preliminary results suggest that loss of TAp63alpha is not directly responsible for the loss of E-cadherin seen with dex treatment in A431 cells. We also plan to discuss the preliminary data for deltaNp63alpha.

## **Session 3-D • Communication**

**Milne 105**

*Session Chair: Joseph Bulsys, Communication*

### **Charisma: Its nature and role in persuasive leadership**

Julia Passik, Justin Wilmott and Yosuke Kusada

*Faculty Sponsor: Joseph Bulsys, Communication*

In this presentation three students, having conducted research in Comn 213, Persuasion and Social Influence, will give a panel presentation answering the question: What are the elements that make someone charismatic? Although the persuasive impact of "charisma" is widely recognized, defining what makes someone charismatic is far less understood. By identifying the elements of charisma, the panel will suggest how it is associated with persuasive leadership.

## **Communication between U.S. Professors and International Students in American Colleges**

Yosuke Kusada

*Faculty Sponsor: Meredith Harrigan, Communication*

As the college population becomes more diverse and the number of the international students increases, interactions between faculty and international students are likely to occur more often. Although a great number of studies on intercultural communication have been conducted, few researches have studied intercultural communication between faculty members and international students. This research, grounded in Judee K. Burgoon's expectancy violation theory, approaches the faculty's perspectives on whether or not the communication with international students has been successful. It tries to answer three fundamental questions: (a) what expectations do professors have for the international students, (b) how and why are the expectations violated, and (c) are the violations perceived to be positive or negative. An on-line survey was conducted to ask faculty members about their communication with international students. This research may help individuals understand the importance of faculty-student communication, recognize what faculty members expect from international students or students, and recognize the ways faculty members attempt to support international students.

## **Diamond in the Desert: Al Jazeera and the Democratization of Media in the Middle East**

Rachel Laber

*Faculty Sponsor: Atsushi Tajima, Communication*

Events of recent years have drawn Western attention to the Middle East. There are however, many misconceptions on important facets of Middle Eastern and Arab world culture. One of the greatest mysteries to Westerners is Al Jazeera, the premier provider of network news to Arab people all over the world. Through its innovative journalistic practices, Al Jazeera has broken the mold and revolutionized the media of the Arab world. Al Jazeera also has a strong grasp on Arab culture and reinforces the Arab identity.

## **Session 3-E • Communicative Disorders and Sciences**

**Welles 123**

### **Research in Communicative Disorders**

*Faculty Sponsors and Session Chairs: Doug MacKenzie and Linda Spencer, Communicative Disorders and Sciences*

#### **Exploration of the Hearing Aid Effect with Cochlear Implant Technology**

Marc Johnson

The Hearing Aid Effect is a term that has been used to describe the negative attitudes of causal observers towards those who wear hearing aids. The original study of this effect was conducted by Blood et al in the late 1970s. Observers for this study were college students who viewed photos of models depicted with and without hearing aids. Despite not knowing anything about each model, observers typically rated those with hearing aids more negatively on various dimensions such as intelligence, achievement, personality and appearance. Follow-up studies in this area have investigated perceptions of hearing aid users by other populations including school-age children and other adults. Most have supported the original findings of Blood et al, reinforcing the stigma commonly associated with hearing aid use. With the advent of Cochlear implant technology, the question of whether The Hearing Aid Effect carries over to other forms of amplification is of particular interest to professionals in the fields of Audiology and Speech-Language pathology. This presentation will present preliminary data on a replication of the classic study conducted by Blood et al using cochlear implant devices.

#### **An Outcome Study of the Living Status of Young Adult's with Cochlear Implants**

Eileen Munsch

With the rapid development of cochlear implant (CI) technology, many questions have been raised about the benefits and/or drawbacks of use. This study analyzes data gathered from a longitudinal - study conducted at the University of Iowa between 1987 and 2009. All the participants were prelingually, bilaterally deaf individuals between the ages of seventeen and twenty eight years old. The average length of experience using the CI was fourteen years and seven months. The participants completed a series of surveys answering questions regarding their living status, including highest level of education, job standing, life satisfaction, and level of identity with hearing and/or deaf people. Participants also underwent speech production testing at various times. The purpose of this study was to examine the relationship between experience with CIs speech production skills and the living status and life satisfaction. Variables such as age of implantation and the percent of speech correctly produced were compared with the life satisfaction and living status as reported by the forty-two participants.

#### **Awareness of Risks of Traumatic Brain Injury**

Jessica Cirillo

This aim of the study was to investigate college students' and parents' of elementary aged students, knowledge about Traumatic Brain Injury (TBI). Through surveys information was acquired regarding the use of safety precautions such as

helmets and seatbelts, knowledge of TBI symptoms, risks associated with the injuries, and finally how certain individuals would care for such injuries. The results were then analyzed in order to determine three things: Are parents of young children aware of the risks associated with TBI? Do both young children and college aged students take the precautions necessary to protect themselves from TBI? Finally, the type of care both groups would seek in the event of a TBI? The target sample included 100 parents of elementary students in a rural school district and 100 college students who varied in age and years of education. In order to include a cross section of majors, the survey was given to college students in general education coursework. We hypothesized that the knowledge of the risks associated with TBI will be limited and the prevalence of safety practices used will vary according to the age of the individual, with more compliance in the younger population.

### **Session 3-F • English** **Around the World in 80 Pages: Travel Writing**

**Welles 131**

*Faculty Sponsor and Session Chair: Rachel Hall, English*

#### **Arrivals**

##### **Jillian Capewell**

Arrivals is an essay written as part of a directed study on Travel Writing with Rachel Hall. While studying abroad in the South of France, it was difficult to reconcile the parts of me that wanted to blend into the picturesque landscape with those parts that wanted to continually gawk and take photos of the curious city in which I lived. This essay is an attempt to understand the fleeting experience of living abroad as a student, trying to become a part of a new home while knowing its impermanence.

#### **The Sidhe**

##### **Meghan Pipe**

Immersing one's self into the newness of another culture gets complicated when the other people in a place are also visitors. This essay explores the experience of attending the Yeats International Summer School in Sligo, Ireland, a Mecca of sorts for the worldwide scholars of W.B. Yeats. Leprechauns and pots o' gold are absent here, but Celtic faeries and the Fiddler of Dooney are ever-present in the town of Yeats' childhood. While trying to navigate Western Ireland both on the page and off, an encounter with a Sligo native inspires reflection on the idea of place and the way it is reflected and carried by the people who call it home.

#### **Continents**

##### **Rachel Svenson**

In travel, the shock of the returning home is often no less surprising and visceral than that of entering a new culture, as with distance and perspective the traveler watches her norms become suddenly unfamiliar. This is a story of relearning the language of home after two months spent building a fence in the small village of Penyem, the Gambia, and of bridging the uncomfortable distance between the U.S. and Africa in an attempt to preserve love and the memories of a place. The things that surface in that bridging – the inadequacies, necessity and beautiful spaces of language difference and translation, the loneliness of distance, and the power of human connection – are the products of a rough but invaluable resettling.

### **Session 3-G • English** **Advice from Ancient Sources: Thucydides, Plato, and Boethius**

**Welles 132**

*Faculty Sponsor: Graham Drake, English*

*Session Chair: Nicholas Becht*

#### **Analysis of Leaders from the Peloponnesian War**

##### **Luke Klein**

Leaders have needed a variety of traits to succeed in most societies: eloquence, openness to criticism and opposing opinions, understanding the short term and long term benefits for the people of their decisions, and the ability to set an example for their subjects to follow are some examples of traits a leader should have. Thucydides, in his History of the Peloponnesian War, depicts three major leaders during the war—Archidamus of Sparta, Pericles of Athens, and Alcibiades of Athens—and their contributions to their respective sides. The analysis of these leaders utilized Thucydides' text to evaluate their skills as leaders based on the mentioned criterion and how impressive and effective they were for their respective people. The conclusion drawn was that, though Pericles was the most impressive of the leaders, Archidamus was the most effective of the three.

*Student Commentator: Nicholas Becht*

#### **Fit For a Guardian: How My Academic Schedule Fulfills Plato's Requirements**

##### **Alicia Schaumberg**

Plato uses The Republic as a vehicle to communicate the appropriate education that a guardian of the kallipolis, a completely just city, should receive. His mouthpiece is his teacher, Socrates, who conceives the idea of this good city with his companions by utilizing the Socratic method of reasoning. The goal is for the guardians to be educated and trained in a way that makes them capable of being only courageous, hard-working, and just. This ideal combination of character traits will produce the most suitable guardian, who will be unbiased and fair during his rule. Plato believes this good city has the ability to succeed as long as its guardians have mastered their education in subjects such as mathematics, the arts, and philosophical dialectics. The especially rigorous education structure illustrates Plato's belief that intellect is the most important thing for a guardian ruler to have along with the power to rule fairly and honestly. Based upon Plato's requirements and on the objectives of my individual courses at Geneseo, my academic schedule would qualify as a proper education for the guardians.

*Student Commentator: Nicholas Becht*

## **Faith and Reason in The Consolation of Philosophy**

**Kelsey Milner**

This essay is a look on the way modern conflicts can be related to ones present within ancient texts. Particularly this paper focuses on the growing rejection of the evolution theory in Turkey as more and more citizens see it as incompatible with creationism and intelligent design. This conflict, which is essentially broken down into one between religion and science, is then related to Boethius' *The Consolation of Philosophy*. This work is an intriguing mixture of Christianity and traditional Greco-Roman logic. Throughout the work Boethius is mentored by a figure named "Philosophy" which is built around Greek philosophical tradition and religious ideas. He also uses logic to prove God's existence, proving too that these modes of thought are not necessarily irreconcilable. In this sense, Boethius' text suggests that ideological ideas—such as evolution and intelligent design—are not necessarily antithetical.

*Student Commentator:* Nicholas Becht

## **Session 3-H • English**

**Welles 26**

### **Perspectives in Modern American Drama**

*Session Chair: Tom Greenfield, English*

#### **Williams in Kushner: The Role of A Streetcar Named Desire in Angels in America**

**Caitlin Nelson**

*Faculty Sponsor: Tom Greenfield, English*

Tennessee Williams' play *A Streetcar Named Desire* (1947) provided Tony Kushner with much of the inspiration for his heralded play *Angels in America* (1991). From Kushner's intertextual reprise of Streetcar's signature "kindness of strangers" line, to parallel plotlines in the two works, to the shared theme of social displacement due to "otherness," Kushner's masterpiece stands as a validation of Streetcar's legacy. The two playwrights have a similar role in the history of American theater in that they both have challenged the boundaries of sexuality and helped to place homosexual characters on the American stage. When Streetcar opened homosexuality was a highly controversial subject and was widely deemed unsuitable for mainstream Broadway theater. Even so, Williams included homosexual themes in his play, though he was forced to disguise his true intentions by "coding" homoerotic messages and having characters speak and act metaphorically about their sexuality. Nearly fifty years later, Kushner's *Angels* became the first gay-centered play to receive a Pulitzer Prize. Examining Streetcar as a source and inspiration for *Angels in America* helps illuminate the full significance of Kushner's play and sheds light on the history of homosexuality in American theater.

#### **Damn It, Mamet!**

**Mary Hanrahan**

*Faculty Sponsor: Thomas Greenfield, English*

Playwright David Mamet notoriously has a penchant for vulgar linguistics; his profanity-heavy dialogue has shocked critics and audiences alike for years, driving them out of their comfort zones and forcing them to reevaluate their stance on the sensitive subjects he breaches in his plays. In *Speed-the-Plow*, *American Buffalo*, and *Glengarry Glen Ross*, Mamet meticulously works to create a dialogue that is based in realism but ultimately transcends ordinary language in meaning, heightening the dramatic action of each plot. Mamet's words are not merely words; they are raw emotion, character, and action all at once. Mamet's language has a hyper-masculine quality that is incredibly evident in each of the plays, which also lends much to the plays' conflicts. Though often profane, the cadence Mamet constructs between his male characters helps establish both relationships and power dynamics, and the breaking of that rhythm often signals the breakdown from order into chaos or a shift in dramatic action. This paper will explore how Mamet employs obscene language in his dialogue for rhythmic purposes, as well as to enhance the emotions and situations he creates; it will also explore language in post-modern terms, considering the shift from Ibsen and Miller's "polite" dramas to the obliteration of niceties in drama after 1960.

## **Session 3-I • Foreign Languages and Literatures**

**Welles 115**

### **Grad Bag: Miscellaneous, Trend-setting Research Conducted by Graduate Students in the Department of Foreign Languages and Literatures**

*Faculty Sponsor and Session Chair: Rose McEwen, Foreign Languages and Literatures*

#### **Characterization in *Beloved* by Morrison and *No Longer at Ease* by Achebe**

**Souleymane Ba**

All representation is formation, Barthes claims, or rather "deformation," Said corrects. No matter whom we side with, the study of characterization reveals at its best the power of representation. Toni Morrison and Chinua Achebe, as critics, have both studied the representation of the black personae in the Western (White) tradition. But, as novelists--authors of *Beloved* and *No Longer at Ease*, respectively--they have represented, with similarities and differences, race, gender and class in those two novels. These three categories have something in common: a binary opposition: race (Black/White), gender (female/male), and class can be (abusively) reduced to the opposition upper/lower class. This dichotomous structure informs highly on, or, to some extent, strongly determines the life and experience of the characters, and the way their identities are constructed. In order to analyze those identities and the narrative strategies that are employed to recreate a dichotomous world, a study of the construction of characters is necessary. In our comparative study, we will try to deconstruct the de/formation of the identity of the characters in both *Beloved* and *No Longer at Ease*.

#### **The Importance of Culture in the Foreign Language Classroom**

**Kerry Maggie Morris and Ashley Westerbeck**

Throughout our educational experiences as both students and teachers we have come to appreciate and understand the value of expanding the scope of learning in the foreign language classroom beyond simple grammar rules and vocabulary lists. We

believe that a curriculum with a greater emphasis on cultural aspects enhances the students' foreign language learning experience. Unfortunately, in many middle and high schools, there is a lack of cultural education while greater emphasis is placed on achieving high scores on grammar-based standardized tests. Through our research (which has included observations, surveys and interviews with students and teachers in area schools) we have gathered first-hand information that supports our belief that teaching culture in the foreign language classroom is fundamental to second language acquisition. This presentation will summarize our findings.

### **An Investigation of the Metacognitive strategies Used by Students Studying Chinese as a Foreign Language at the College Level**

**Ya-Ching Chang**

Metacognitive strategies are practices taken by learners to plan, monitor, evaluate, and adapt effective approaches in order to meet their learning goals. The primary objective of this study is to understand the metacognitive strategies used by students with different degrees of prior learning experience studying Chinese, with heritage and non-heritage language backgrounds, and with higher and lower learning goals. The research is to help language instructors gain a better understanding of students' learning processes. The implication for future research is to help learners enhance learning capacity and develop higher learning efficacy when studying a foreign language.

### **The Role of Society in The War In Colombia: The Effectiveness of Civil Society Peace-Building Efforts.**

**Mateo Bonilla**

The proposed presentation will disseminate the findings conducted to disseminate, nationally as well as internationally, what has been identified as a novel transformation in the resolution of Colombia's violence: the social (and civil) response to the thus-far-failed military efforts dealing with this violence. I will present the content of my paper during the GREAT DAY presentation, in English. My proposed study will employ qualitative research methods such as interviews with human rights experts (Human Rights Watch), Latin American scholars (Dr. Marc Chernick, in the Latin American Studies program at George Washington University), and US Latin American Foreign Policy experts (at the Washington Office of Latin America, WOLA) based in Washington D.C. to elicit information indispensable to set the path in the studies emerging around the role of civil society as the motor of sustainable peace in Colombia.

### **Session 3-J • History**

**Welles 138**

#### **Civil Rights and Slavery**

*Faculty Sponsor: Emilye Crosby, History*

*Session Chair: Lacey Hamilton*

#### **The Lowndes County Freedom Organization and the Historiography of the Civil Rights Movement**

**David O'Donnell**

The Lowndes County Freedom Organization and the Historiography of the Civil Rights Movement, uses the LCFO and the events that occurred in Lowndes County, Alabama, to discuss how different secondary works present the Civil Rights Movement. For example, a broad overview or top-down scholarship focused on Martin Luther King, Jr. will usually not present the LCFO the same way a local study which does. Additionally, the paper discusses the implication of how readers view the movement when different perspectives are used. Local studies and scholarship focused on the perspective of grassroots activism tackles the reality of nonviolence in favor of self-defence and focuses on the process of community organizing as the central activity of the movement. On the other hand, the normative interpretation, which usually doesn't spend very much time discussing the LCFO or similar activity, will focus on the philosophy of nonviolence almost universally associated with King. This scholarship also tends to leave out valuable discussions of self-defense, women's involvement in the movement, and the reality behind the development and ideology of Black Power. Black Power, which was a critical idea behind the LCFO, is shown as reverse-racism or inherently violent.

#### **Interpretations of Nonviolence in the Civil Rights Movement**

**Daniel Bailey**

The Civil Rights Movement is often taught in schools and viewed in popular culture as a struggle rooted in the philosophy of nonviolence. However, the use of self-defense was prevalent during the movement, especially in the Deep South. While nonviolence was often a very successful tactic for integration, it was occasionally impractical and hardly useful for achieving other civil rights goals, such as increased voter registration or fair housing. The notion that integration through nonviolent direct action was the movement's central objective implies that the Civil Rights Act of 1964 should have been the struggle's final victory, leading to confusion when evaluating the continuing disillusionment of many blacks and the creation of the Black Power movement. This paper is divided into five main parts - the source of nonviolence in America, the strategies of Martin Luther King Jr. and the degree to which they were successful, the allegedly emasculating nature of the philosophy of nonviolence, widespread armed resistance in the Deep South, and the rise of Black Power. By acknowledging the often overlooked realities about the role of nonviolence in the Civil Rights Movement, one gains a better perspective on the racial issues that continue to plague this country today.

#### **Black Slave Gender Roles: How They Were Changed by Emancipation**

**Caile Morris**

Slavery created a unique situation for those who were bound under it; the lives of African Americans were vastly different from those of their white counterparts. This situation created the opportunity for slave women to be equal if not superior in status to slave men. While all slaves worked in the fields during the day, women were also held to certain domestic responsibilities by

night which gave them a wider base of experience than the men possessed. This idea that the slave community on Southern plantations may have been either gender neutral or matriarchal is very intriguing and points to a mostly unexplored area of women's studies. Clearly after the Civil War, slavery was no longer there to provide a foundation that necessitated these gender roles, so what changed? After emancipation, African American women no longer held the same positions of status as they had during slavery, and while the gender roles did not shift to those known by white society, the freedmen were now the ones who held more power.

## **Session 3-K • History**

**Welles 24**

### **History Honors and Senior Thesis Students 2010**

*Faculty Sponsor and Session Chair: Catherine Adams, History*

#### **Colonial Toys and Games**

**Amy Breimaier**

Toys and games of the late 18th century were used to acculturate children into their society. Young boys and girls learned their proper gender roles through the toys that they were given and created themselves. Many of these toys we would recognize today, including dolls, marbles, and tops. Along with toys, games also taught kids their proper roles. While boys were encouraged to play outside, girls were largely kept indoors, to learn domestic tasks. Children also turned everyday tasks into play, taking pride in their accomplishments, such as sewing samplers. The end of the 18th century was a time of change for children's toys and games. Enlightenment thoughts became more widespread, early consumerism developed, and Republican ideals started to take shape. All of these helped to produce new toys and games for kids, as parents started to value them as important educational objects, and not just objects for mere amusement.

#### **The Civil Rights Movement in Literature for Children**

**Leann Staines**

In America, Martin Luther King Jr. is presented as foremost leader in the American Civil Rights struggle. He is one of the only men in American history to have a national holiday in his honor and he is the first black American that any school age child hears about. Children are taught, throughout grade school, that Dr. King led the Civil Rights Movement and that he wanted blacks and whites to live in peace and love one another. In most of these books, Dr. King is presented as Christ like, infallible man and the only man completely responsible for movement. Children's books leave out the many other people who were responsible for the Civil Rights Movement. There are almost no books available for children of any age about Ella Baker, A. Phillip Randolph, Stokely Carmichael or James Farmer and certainly none on Diane Nash or John Lewis or even Emmet Till and Linda Brown. If organizations like the Council on Racial Equality (CORE) or the Student Non-Violent Coordinating Committee (SNCC) are mentioned in children's books, Dr. King is connected to the organizations, even though the ties between Dr. King and these organizations were never very strong. Events like the student sit-ins and Freedom Rides may be mentioned in these children books but always in the context of Dr. King's involvement. Freedom Summer, and voting rights drives are almost never mentioned at all because Dr. King cannot be linked to them. Even the murders of James Cheney, Andrew Goodman and Michael Schwerner are glossed over. The children's books put most of the emphasis on the Montgomery Movement, Rosa Parks, the Birmingham Movement, Dr. King's Nobel Peace Prize as well as the March on Washington and the of course, Dr. King's assassination. Children's books rarely if ever, mention Dr. King's failures within the movement perpetuating the myth that he was flawless and the Civil Rights Movement was always successful. The Albany movement is glossed over and the voter registration drives that SCLC tried to conduct are never mentioned. Children's book stress the savior complex, that one man, Dr. King had the power to lead his people out of segregation. They do not stress what actually occurred that ordinary people from ordinary sectors of society rose up against deep in ground oppression. Children are taught to wait for a leader like Dr. King rather than to take the action themselves for change.

#### **Neglected founder - Gouverneur Morris**

**Elijah Summersell**

In the dark of night on January 31, 1752, at 1:30 in the morning, Lewis and Sarah Morris welcomed their third child together into the world, and named him Gouverneur. Just twenty three years before the first shots of the Revolutionary War were fired at Lexington and Concord, Gouverneur Morris was born into a prominent family whom had extensive political dealings in both the colonies of New York and New Jersey. The privilege and stature that Gouverneur was born into allowed him the ability to attain a first rate education and maximize the potential and ability that everyone recognized in him. The young, intelligent and social Morris eventually chose a career as a lawyer, first practicing in New York City. This provided him the legal foundation on which Morris built his career as a public servant. From this steady and constant rise to prominence, Morris eventually made himself a man known throughout the colonies. A friend of George Washington, and a politician on the national scale, Morris made contributions to the patriot cause throughout the Revolutionary War and into the infant nation's first years following the war. Although ultimately he did not claim as large a piece of the historical fame that men such as Washington, Franklin, Adams and Jefferson attained, Morris' contributions to the fledgling nation were no less crucial. An ardent believer in the rights of man, and a true patriot of the United States, Morris dedicated a great portion of his life to establish the United States as a bastion of freedom for men of all backgrounds. Adding to his legacy, Morris achieved his accomplishments in a way that was distinct. He possessed a great deal of charisma and energy, and was never afraid to commit his talents to a cause. However, as a New York delegate once wrote Morris' lifelong friend, Robert Livingston, "You know, he is like the elephant in war... more destructive to his friends than to his antagonists." Throughout his life as a public figure, Morris was incredibly successful at garnering attention for whatever issue he championed; however, he found it much more of a struggle to guarantee that the attention was positive. Although Morris was never afraid of confrontation, and though he did make several mistakes in judgment concerning American public policy and how best to further our interests throughout his public career, Morris counts several accomplishments as primarily his own work dedicated to establishing the United States as a nation powerful enough to stand with the powers of Europe. Morris' greatest accomplishments included: his contributions to the New York Constitution following the Declaration of Independence, his work as a member of the Continental Congress, his contribution to the

Constitutional Convention of 1787, and his dedication to furthering America's interests as a diplomat in Europe. All of these acts solidified his place as an asset who helped the United States gain its liberty and begin its climb to becoming a world power.

### **Session 3-L • History**

**Welles 134**

*Session Chair: Tze-Ki Hon, History*

#### **A Comparative Look on the Political Influence on Films in Modern China**

Ashley Johnson, Kelly Healy, Anthony Laird, Kirk Johnson,

*Faculty Sponsor: Tze-Ki Hon, History*

This presentation will analyze the differences between movies from Hong Kong (such as Bruce Li and Jet Li) and mainland China (Zhang Yi Mo). This will help illustrate differences between what is under Chinese Communist Party (CCP) control and those under Western influence. From this we will be able to address the political influence on films in Modern China and assess what degree these two institutions (the CCP and the West) have affected pop culture, and everyday life by association, in China. The presentation will require a projector as we will need to play clips from certain Chinese films in these areas.

#### **Buffoon or Stalwart? An Analysis of Soviet Foreign Policy under Nikita Khrushchev**

Katherine Deierlein

*Faculty Sponsor: Meg Stolee, History*

Former Soviet leader Nikita Khrushchev has been criticized by many as a "bull in a china shop," and "buffoon," and his foreign policy characterized by "harebrained" and "manic ambivalence." What has not been considered, though, is the role that such personality traits and accusations have had on the outcome of Soviet foreign policy under his tutelage. An analysis is conducted through a case-by-case method in order to fully understand the thought-process, mentality, and shortcomings of policies on the Suez Crisis, the Hungarian Revolution, the Berlin Crises, and denuclearization. A thoughtful breakdown of the case studies into personal characteristics, namely the permanent campaign, personal diplomacy, vacillation in decision-making, and over-optimism, indicates the proactive versus reactive diplomatic approach utilized by Khrushchev. Furthermore, the stereotype of Khrushchev as a philistine is removed from unsuccessful outcomes in foreign policy and is challenged by his calculated approach to several policies.

#### **The Green Leap Backwards: Environmental Degradation in Mao-Era and Post-Mao China**

Garrett Burger, Kimberly Boland and Phara Souffrant

*Faculty Sponsor: Tze-Ki Hon, History*

One of the most indelible images in Chinese history is Mao Zedong's 1966 swim in the Yangtze River. Mao intended it was an affirmation of his good health, but if he were to attempt a similar stunt today, it would only threaten his health. The Yangtze River is so badly polluted that its waters are now being described as "cancerous." This environmental tragedy and the numerous others currently facing China have been attributed to the nation's rush to industrialize and the resulting swift economic growth. While this is true, there are also deeper causes of environmental degradation in China that have their roots in the policies of Mao Zedong. Both the policies of Chairman Mao and those of his successors have caused differing, but inexorably connected forms of environmental degradation. As this presentation makes clear, the Great Leap Forwards was the beginning of a Green Leap Backwards with which China continues to struggle.

#### **The Reality of Enfranchisement: The History of African American disfranchisement, voter discrimination, and unequal political opportunity since WWII**

Ryne Kitzrow

*Faculty Sponsor: Emily Crosby, History*

This presentation is a compilation of selected material taken from my senior History thesis of the same name. It will describe the progression and development of disfranchisement, voter discrimination, and unequal political opportunity experienced by African Americans since World War II. For this presentation, a special emphasis will be placed on recent voter discrimination, patterns of activity documented from the early 1980s to the present, which I will place in context of recent political developments and the 2008 Presidential election.

### **Session 3-M • Mathematics**

**Newton 204**

#### **Math Miscellany I**

*Faculty Sponsor and Session Chair: Olympia Nicodemi, Mathematics*

#### **Information Security and You**

Erik Baranowski and Andrew Pratt

The Goldwasser-Micali encryption scheme is a modern technique for encrypting messages to be transferred via the internet. It is based on the simple fact that it is currently difficult to factor large numbers into their prime factors, even for the most advanced supercomputers. The Goldwasser-Micali scheme uses algorithms to convert the message into an encrypted message unreadable by anyone who does not have the secret key needed to decrypt the message. In our talk, we will discuss information security and basic encryption, followed by the mathematics behind the Goldwasser-Micali scheme.

#### **Winning Baseball through Sabermetrics**

Kyle Antonaitis and Kristen Carroza

What classifies a baseball player as a great pitcher or hitter? Older baseball statistics measured players by batting average, home runs and RBI's for hitters and earned run average, strikeouts and wins for pitchers. Sabermetrics questions those older baseball statistics and looks at baseball statistics from a different perspective. In this presentation we will show how a team can use sabermetrics in order to increase its chance of winning by creating the most effective offense and defense.

## **Fun and Games: An Introduction to Game Theory**

**Patrick Cronin and Carla Pennello**

In this session we will introduce the idea of game theory and related topics such as zero sum games and pure vs. mixed strategy total conflict games. We will start with basic examples such as tic-tac-toe and eventually build up to related concepts in economics. Some economic principles that we will discuss will relate to you, such as opportunity costs, optimal strategic decision making, Nash Equilibrium, and the Prisoner's Dilemma.

## **Session 3-N • Mathematics**

**Newton 201**

### **History of Mathematics III**

*Faculty Sponsor and Session Chair: Jeff Johannes, Mathematics*

#### **A Comparison between Quaternions and Vectors in Euclidean Space**

**Sonali Haupage**

This paper will look in depth at the backgrounds of quaternions and vectors and give a thorough description of their similarities and differences. Quaternions were invented with the intent of discovering an algebra in which commutativity did not hold. With more analysis, vectors were introduced and the concept possessing quaternions was rejected. It will be shown how and why vector spaces were accepted and are still in use today.

#### **The Historical Background of Numerical Partitions**

**Erin Moll**

My presentation will be on the history of the partition of numbers, which is a branch of number theory. A partition of a positive number,  $n$ , is a way that  $n$  can be split into smaller positive numbers that sum to  $n$ . I will be explaining the creation of this branch of mathematics. I will present who was involved and the math that was used in building this topic as well as the discoveries that have come from it.

#### **A Stroll through Konigsberg: Leonhard Euler and the Birth of Graph Theory**

**Geoff Henderson**

In the town of Konigsberg, two branches of the Pregel River come together - forming an island that was connected to the surrounding lands by seven bridges. Inhabitants speculated whether they could find a route around the city that would cross each of the seven bridges just once. In 1736, the mathematician Leonhard Euler definitively answered that question - and, in the process, he gave birth to a new field of mathematics, which is today known as graph theory.

#### **History and Math of the Gauss-Seidel Iterative Method**

**Nathan Benz**

There are a number of ways to solve a small system of linear equations, but what if you have a larger system? Iterative methods, such as the Gauss-Seidel iterative method, become very efficient when it comes to computing these larger systems, especially if there are a high number of zero entries throughout the system. This presentation will look at both the history and connection between Gauss, and Seidel and their uses for this iterative method as well as an overview of the math behind the Gauss-Seidel iterative method. We will also look at conditions that guarantee convergence using the Gauss-Seidel method, and comparing different methods and convergence rates.

## **Session 3-O • Mathematics**

**Newton 214**

### **Number Theory**

*Faculty Sponsor and Session Chair: Patrick Rault, Mathematics*

#### **p-Adic Analysis and Analogies to Real Analysis**

**John Reynolds**

We will reveal the wonderful world of p-adic numbers. To begin, we will discuss the construction of the field of p-adic numbers and discuss ways in which we can envision the p-adic numbers. We will compare this with the construction of the real numbers from the set of rational numbers. We will then move to consider analysis in the field of p-adic numbers. In particular, we will examine how Cauchy sequences are characterized in the p-adic numbers and results concerning infinite sequences of p-adic numbers.

#### **The Prime Number Theorem**

**Stefan Kell**

We will discuss the prime number theorem and what it says about the distribution of prime numbers, explicitly showing how it can be used to approximate values of the prime counting function. We will give a rough sketch of a proof of the prime number theorem. In order to do this we will define the Riemann zeta function for real part greater than 1 and briefly explain the analytic continuation of the function to a larger domain. We will show that the Riemann zeta function is used in the proof of the prime number theorem.

#### **A Topological Proof of the Infinitude of Primes**

**Dennis Ruppe**

In 1955, Harry Furstenberg published a short little proof of the infinitude of primes. This was hardly news; this fact was known by the ancient Greek mathematician Euclid, who presented a proof that students of mathematics today still see in one form or another. However, Furstenberg's proof is particularly noteworthy because it uses topology, a branch of mathematics that studies shapes and their properties that are invariant under deformations like stretching. We provide some results and

definitions from both number theory and topology to develop a suitable background. We then present Furstenberg's topological proof.

### **Invariants of Quadratic Forms**

**Brendan Murphy**

We will discuss quadratic forms and their invariants under a change of variable; in particular, the discriminant and the resultant. We will discuss bases for invariants of quadratic forms, and the First Fundamental Theorem of Invariants, which says that all invariants can be written as a polynomial in the basis invariants. We will show how to represent quadratic forms as vectors, and how the theory of vector invariants provides a possible route to demonstrating a complete basis for binary quadratic forms.

### **Session 3-P • Music, Physics, and ASC Sign Language Newton 209**

*Session Chair: Anne-Marie Reynolds, School of the Arts-Music*

#### **ASC Sign Language Song Performance**

**Abigail Boateng, Heather Ford, Theona Hudson and Dalia Calix**

*Faculty Sponsor: Eric Helms, Chemistry*

We are a religious organization and we will be signing to Christian song. In doing this we will be able to reach out to the students on campus about our group.

### **Build Your Own Tone... Literally! An Introduction to Do-It-Yourself Guitar Effects**

**Kevin Palmowski**

*Faculty Sponsor: George Marcus, Physics*

Many guitarists use effects to manipulate their guitar's audio signal and produce amazing sounds. As the guitar effect market has expanded, numerous companies, including BOSS, DigiTech, Dunlop / MXR, and Electro-Harmonix, have become very successful by selling quality guitar effect units. There is, however, a slight catch: it can be hard to find an effect unit that has all of the options you desire and is within your budget. Fortunately, there is a solution: adopt a Do-It-Yourself (DIY) approach and build your own guitar effects! In this presentation, I will discuss the basics of electric guitar effects and the DIY approach, and then walk through my builds of the Marshall Guv'nor distortion, MXR Phase 90 phaser, and BOSS CE-2 chorus. Time permitting, a brief audio demonstration will be given. Some knowledge of electronics and electric guitar terminology would be helpful, but should not be required to enjoy the presentation.

### **The Defiant Requiem: Verdi at Terezín Concentration Camp**

**Devon Borowski**

*Faculty Sponsor: Anne-Marie Reynolds, School of the Arts-Music*

Set against the backdrop of Nazi occupied Europe, artists in the Terezín concentration camp, just outside of Prague, banded together and vowed to keep their art alive throughout their imprisonment. In this desolate location, one man, Rafael Schaechter, assembled a group of prisoners to perform Giuseppe Verdi's *Messa da Requiem*, the composer's monumental work for chorus, orchestra, and solo voices. Through this piece, the performers were able to "sing to the Nazis, what they could not say to them." The piece was performed fifteen times, the last with Adolf Eichmann in attendance. Sadly, this great endeavor ended for most of the chorus, including Schaechter, in Auschwitz. This past summer, over seventy years since those performances, world-renowned conductor Murray Sidlin brought the piece back to Terezín and provided long overdue closure to the prisoners and their families. This piece is presented from the standpoint of one of Sidlin's choristers and Geneseo student, Devon Borowski.

### **Session 3-Q • Philosophy**

**Welles 140**

#### **Kant on Religion**

*Faculty Sponsor: Larry Blackman, Philosophy*

*Session Chair: Steven Bennett*

#### **Immanuel Kant, John Hick, and the 'Soul Making' Theodicy**

**Gian Martinelli**

In his "Lectures on the Philosophical Doctrine of Religion," Immanuel Kant considers and attempts to solve the problem of evil by combining several of the traditional theodicies. He focuses particularly on adherence to the moral law in order to work toward being worthy of happiness. For Kant, the fact that happiness becomes a labor toward peacefulness becomes a sort of indicator of God's goodness. This strongly resembles John Hick's "soul-making" theodicy. Hick claims that humans must deal with evil in this world in order to become stronger and more suitable for a union with God in the afterlife. In both cases, the problem of evil is apparently solved by emphasizing God's goodness in encouraging the endurance of moral choices in humans through the burdens of the world. In this paper, I will not only identify problems with the general "soul-making" theodicy, but also the inconsistency of Kant's formulation with the rest of his philosophy. This inconsistency rests primarily on Kant's tendency to blur his distinction between theoretical and practical reason.

*Student Commentator: Adam Gottschalk*

## **Practical Reason and Pragmatism**

**Joseph Diaz**

German philosopher Immanuel Kant (1724-1804) was concerned with the abilities and limits of the human mind. Writing in the tradition of Descartes and Hume, he sought to understand how the human mind orders experiences. This inquiry led Kant to investigate the limits of our rational thought. In his major works, Kant attempted to clearly and precisely map out the kinds of thoughts we are justified in having and believing; he stressed the imperatives of empirical evidence and logical consistency. Kant's attempt to find the rules for belief required that he discuss one of the most pressing issues of his time: religion. Kant seemed to take a less critical approach discussing religion than in his major works. He deemed some religious beliefs justifiable through consideration of the consequences of holding such beliefs. This method of thinking is very similar to that of the school of American Pragmatism, which was formulated in the works of William James and others over 150 years after Kant's death. In my paper, "Practical Reason and Pragmatism," I compare Kant's approach to religion with American Pragmatism. I use a 1910 article by A.C. McGiffert, who also noticed the similarities between some of Kant's thought and pragmatism, to aid in my discussion.

*Student Commentator:* Benjamin Ampel

## **Kant on Prayer**

**George Fricke**

After establishing an ethical religion of his own, Kant explores the functions of different aspects of traditional or "historical" religions. Since the moral religion takes priority over any other historical religion, dogmatic beliefs and practices could possibly undermine Kant's true ethical aim of religion. Prayer and other similar rituals, not a part of "true religion," represent mankind's feebleness in seeking our moral conceptions. Although Kant claims prayer can serve as a useful element in his greater theology, I argue that his analysis offers little to pure religion and only accounts for the prevalence of prayer historically. The psychological phenomenon Kant deems a weakness in man requires some worldly manifestation in order to actualize moral duty. Ritualistic practices fulfill this requirement yet also have the ability to mislead one away from their true moral obligations. One must tread lightly when performing such rituals and not lose focus on moral growth. So, all of the traditional practices of religion such as scriptural interpretation and intercessory prayer must only act as a means toward the actualization of moral imperatives. I conduct an analysis of these means to conclude that they are unnecessary in Kant's pure, self-evident, religion. Further, I critique Stephen R. Palmquist's argument for the apparent usefulness of prayer as a way of becoming worthy of God's goodness.

*Student Commentator:* Benjamin Nagel

## **Session 3-R • Political Science and International Relations**

**Welles 121**

### **Honors Theses in International Relations**

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

#### **Non-Governmental Organizations in Russia: Autonomous Representatives of Civil Society or Components of Managed Democracy?**

**Mark Simeone**

In democratic theory, non-governmental organizations (NGOs) should facilitate the functioning civil society that bridges the gap between the state and the individual. In Russia, the Soviet legacy of using intermediate organizations as transmission belts has made it difficult for NGOs to engage the public and perform this effective civil society role. Institutional changes created by President Putin, including the 2004 Public Chamber and the 2006 law regulating NGOs, were intended to promote dialogue between society and the state. Despite the government's position that both of these actions were intended to foster civil society in Russia, the Public Chamber and NGO law have proven to be a source for legitimating the regime and increasing government control of NGOs. Although President Medvedev has called for reform of the system, little has been accomplished to date, and Russian NGOs must rely on their own initiative and determination to relay the interests of society. In the context of these institutional changes, I plan to address 2 resounding questions: Are these NGOs autonomous representatives of civil society, or instruments of state legitimization? Can this change in leadership result in greater influence of NGOs or is it an exercise of symbolic politics?

#### **Ecotourism and its Impact on the Developing World**

**Max Schulte**

Ecotourism has become a large draw of foreign visitors and investment in the developing world. Through the use of a comparative case study of Costa Rica and Thailand, this paper will analyze the factors that have given rise to the ecotourism industry in those countries. These various factors, including economics, government and natural resources will be used to understand how ecotourism affects national and local public policy. The sustainability and benefits of the ecotourism industry will also be evaluated based on current trends.

#### **Politics of Land Reform in Brazil**

**Laura Clay**

Brazil has a long history of high income inequality. In many countries, land reform has been proven to alleviate inequality and increase sustainable long-term economic growth. In a political climate like Brazil's, [where ... describe a bit more??] grassroots movements are often more effective in combating such social ills than a top down approach. The Movimento Sem Terras (MST) is a massive grassroots organization that employs various tactics (mainly land occupations) to further the rights of the landless. The MST draws its main legal justification from Constitution provisions that declare land must be used for the benefit of society. Politically, the MST is working to bring over a million people out of poverty. However, success is limited by the landed elite and their private militias who wish to preserve the status quo. MST also faces the problem of a political elite (including the President) who profess sympathy with their aims, but do actively work against the MST in the legislative process.

## **The 1936 Berlin Olympics: Mixing Sports and Politics**

**Deanna Richards**

*Faculty Sponsor: Edward Drachman, Political Science*

It is long held within the international community that one should avoid mixing the fields of sport and politics. The 1936 Berlin Olympics exemplify a time when there were opposing views on the subject and both sides acted upon their own viewpoint on the subject. Through examination of the politics and circumstances surrounding the Berlin Games, one can determine that while one may choose not to participate in mixing sports and politics, it is inevitable in the current world system. How one reacts to these situations and limits their participation, therefore, becomes more important than the question of whether or not the two fields should be mixed. In the end, states and political entities must limit their involvement to the extent that it is beneficial to the world community and stop when mixing sports and politics becomes the method for personal gain.

## **Session 3-S • Psychology**

**Milne 104**

### **Admissions Criteria and Students' Graduation Rates at SUNY Geneseo**

*Session Chair: Monica Schneider, Psychology*

#### **Admission of Students to College: A Comparative Analysis of the Empirical Research and the Selection Criteria used at SUNY Geneseo**

*Faculty Sponsor: Monica Schneider, Psychology*

**Maegan Plumeri**

One of the main challenges that admissions departments at colleges and universities face is the selection of qualified students who are most likely to succeed at their institutions. Specifically, colleges must select a battery of assessment criteria that have been shown to have high predictive validity but that takes the characteristics of the institution into account. Controversies have emerged from the decisions that institutions have made regarding this balance. The purpose of this project is to examine the empirical literature regarding various selection criteria. Topics discussed include the predictive validity of methods including interviews (structured, unstructured, multi-mini), standardized test scores (SAT, GRE), grade point average and selection ratio. The multiple-hurdle is compared to a single-step process, while potential consequences are evaluated such as self-selection and stereotype threat. This empirical research will be compared to the specific selection criteria implemented at SUNY Geneseo. Implications of the decisions being made at SUNY Geneseo, in addition to recommendations that emerge based on this analysis, will be addressed.

### **Understanding the Racial/Ethnic and Gender Disparity in Graduation Rates at SUNY Geneseo**

**Shannon Nagel, Craig Brinkman, Samantha MacDonald, Benjamin Perry and Alex Fadel**

*Faculty Sponsors: Monica Schneider, Psychology and Edward Drachman, Political Science and International Relations*

At a large number of institutions such as SUNY Geneseo, there is a substantial racial/ethnic disparity in graduation rates that is accentuated by a gender gap favoring female students. Although past research has identified certain important demographic and institutional predictors of retention, there are very few studies that have systematically compared the unique contributions of these variables at both the personal and institutional levels. The current study was designed to examine both individual/personal variables and high school institutional variables as predictors of students' graduation rates and academic success in college. Individual/personal data from student cohorts entering SUNY Geneseo from 2000-2003 were merged with data sets providing corresponding institutional information regarding students' high schools. We examined models that assess the individual unique contributions of each variable as well as the combined effects of these variables for the whole sample. In addition, we examined gender and ethnic group differences in how these variables were related to graduation rates.

## **Session 3-T • School of Business**

**South Hall 340**

### **The US Economy: A Year of Recovery**

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

**Zubair Dawood, Samuel Loeb, Rufus Burgess, Kyle Menz, Matthew McGann, Matthew Winters, Matthew Podsiadly, Matthew Motyka, John Beittner, Bianca Femia and Taylor Newell**

Members of the Fed Challenge team present the current conditions in the US and world economies, as well as taking a closer look at the short-term path of GDP and labor market growth. We will summarize the chain of events that led to the recent contraction in the economy, describe the actions and roles taken by central banks and governments of the World, and challenges for future economic policymaking.

## **Session 3-U • School of Business**

**Welles 133**

*Session Chair: Avan Jassawalla, School of Business*

### **Mentoring Programs from a Human Resources Perspective: Advantages, Disadvantages, and Dynamic Monitoring**

**Kimberly Quartier, Amanda Blair and TJ Knauf**

*Faculty Sponsor: Avan Jassawalla, School of Business*

Mentoring involves a relationship between two employees in which the mentor helps the protégé develop, both personally and professionally. This presentation will discuss findings from our research on corporate mentoring programs which attempt to match a mentor with a protégé, often times a new hire. This match will hopefully allow the protégé to develop their personal and professional self through listening, understanding, sharing experiences, asking questions, and receiving constructive feedback. Our research has shown that there are several advantages to implementing a mentoring program. However, there

are also some disadvantages that can result if a program is not created or implemented in an effective manner. A mentoring program must be designed with an organization's goals, values, and culture in mind and should be carefully evaluated in terms of relationships, satisfaction, and performance to maximize effectiveness.

### **How does leadership influence the level of effectiveness in virtual teams?**

**Seonuk Hwang, Courtney Baymack, Ashley Illuzzi and Lucas Machado,**

*Faculty Sponsor: Avan Jassawalla, School of Business*

Background In recent years, globalization, competitive pressures, increased joint ventures and partnerships, and advances in technology have led to more virtual team work. Virtual teams are defined as teams whose members operate across space, time, and organizational boundaries and are linked through information technologies to achieve organizational tasks (McShane & Von Glinow, 2009). Although today's communication technologies drastically reduce the need for face-to-face contact, the geographical distance and lack of richness in virtual communication present challenges to virtual teams in achieving greater effectiveness. Therefore, leaders of virtual teams must identify potential challenges of virtual teamwork and think of innovative ways to facilitate effective communication and create a sense of trust, shared reality and cohesiveness in their virtual teams. Research Questions This presentation addresses the following questions: 1) What are the factors that prevent virtual teams from achieving a high level of performance compared to face-to-face teams? 2) How can a virtual team leader compensate for the lack of richness in communication? 3) How can a virtual team leader raise the level of trust and motivation? 4) How else can a virtual team leader raise the team effectiveness?

### **Telecommuting and its Impact on Human Resource Management**

**Julie Skowronek, Alexandra Farnsworth and Lauren Aman**

*Faculty Sponsor: Avan Jassawalla, School of Business*

Telecommuting is defined as the use of communication technology to do work at home. Advanced technology has made it possible for traditional offices to become mobile, permitting employees to complete their work from any location. Research suggests that virtual leadership is worth considering for any organization that would like to expand and grow. Human Resource managers have to learn how to evaluate and monitor employee productivity while ensuring compliance with legal issues in business practices. In our research we found five themes: low cost, increased productivity, flexibility, managing off-site virtual teams, and legal issues regarding recruitment. In terms of cost, we found that telecommuting cuts global travel and facility costs, as well as the costs associated with recruiting. Furthermore, we found that working at home increases productivity by decreasing both stress and distraction, which increases motivation to work. Our research also demonstrates that flexibility is considered a benefit of telecommuting because it gives employees more autonomy to structure their day. To implement a successful telecommuting program, managers need to communicate company goals, track employee work hours, set the employee up with the proper technology and networking systems, and keep the employee in the loop about what is happening within the company.

### **Session 3-V • School of the Arts-Theater Directing Musicals and Plays**

**Alice Austin Theatre**

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

#### **The PICk Process: Putting Together An Original Musical**

**Michael Radi**

Over two semester Michael Radi has written the book, music and lyrics for an original musical, then orchestrated the music and staged his show. He will present scenes from PICk Love and discuss his process. This work is in fulfillment of Honors in the Theatre Major.

*Performers:* Sean Lessard as Marshall Cutting, Michelle Geisler as Orchestrator, Russell Allen as Adil, Katelyn Hearfield as Sati, Adam LaSalle as George, Amelia Millar as Rose, Alex Szezepanski as Demetri, Carly Martiniano as Sheila, Josh Horowitz as Jason, Alexandra Mendes as Jeanette, Jake Roa as Jude, Julia Masotti as Carla and Lexi Schuessler as Victoria.

#### **Spelling Bee: We Grew Up Undeniably**

**Chantel Helbig**

Chantel Helbig directed 25th Annual Putnam County Spelling Bee as a VegSOUP in February. She will present on the production process and the cast will perform scenes.

*Performers:* Brandon DeFilippis, Amelia Millar, Nick Cotrupi, Jonathan Mushock, Shannon McDermott, Allison McArdle, Josh Horowitz, Katelyn Hearfield, and Greg Maddock

## **Directing Godot as a Site Specific Theatre Piece**

**John Gasper**

John Gasper is directing Waiting for Godot in two different off campus location, chosen to enhance Beckett's thematic material. He will discuss the process and present scenes.

*Performers:* Jack Frederick as Estragon, John Gasper as Vladimir, Nick Ponterio as Pozzo, Sean Fortune as Lucky and Russell Allen as Boy

## **Session 3-W • Women's Studies**

**Welles 117**

### **Women's Studies Senior Project Presentations (Panel 2 of 2)**

*Faculty Sponsor and Session Chair: Melanie Blood, Women's Studies*

#### **She Said. She Said: What "Experts" Have to Say About Relational Aggression.**

**Alex Barone**

Alex Barone will present her work with fifth grade girls to change the aggressive social behavior often present in girls of that age.

#### **"You're Only Making This Harder On Yourself": Examining the Effect That Domestic Violence in the Music Industry Has on Young Girls**

**Kristi Kern**

Kristi will present her research findings on the effect of girls' consumption of popular music, particularly focusing on images containing violence.

#### **Sports and Their Effect on Female Athletes; Research and Practicum in Coaching**

**Tracy Wangelin**

Tracy Wangelin will present her project working with the Women's basketball team and the research that she has done on the effect of involvement in sports as girls mature.

#### **Power Dynamics in Education: Beneficial Scholarship with Feminist Pedagogy**

**Lindsey Wiltse**

Lindsey Wiltse will present her work with residence life that implements feminist pedagogy into the student experience of residence on Geneseo's campus.

## **EXTENDED SESSION**

**2:55 - 5:35**

## **School of Business**

**South Hall 338**

### **Klainer Center Business Plan Competition: Final Presentations**

*Faculty Sponsor and Session Chair: Mary Ellen Zuckerman, School of Business*

This session will feature five students teams making their final oral presentations for the Klainer Center Business plan competition. This competition, run for eight weeks in spring 2010, focuses this year on a marketing project. All teams will submit written reports. Judges will select the top five teams from these written reports. Judges from the business community will evaluate the oral presentations of the top five teams, who are competing for cash awards and the honor of being the top team. These presentations are open to the public. Names of students presenting will be available a week before Great Day.

#### **Presentation Schedule:**

**3:00 pm *Tertulia Partners:*** Tim Ryan, Ian Szalinski, Hayley Wilson

**3:30 pm *The Merchants:*** Katie Crawford, Sarah Vollo, Chris Brown

**4:00 pm *Team Jags:*** Jordan A. Daniel, Ryun J. Hasenauer, Raymond G. Lord III, Elizabeth R.

Lanni, Sarah E. A. Miller

**Judges:** Pamela Klainer, Connie Kenneally, Harry Howe, Rick Gifford, Rebecca Povio, Mary Ellen Zuckerman and the Klainer Center Coordinators students: Rebecca Schwartz and Lauren Karp.

## **CONCURRENT PRESENTATIONS**

**SESSION 4 • 4:20 - 5:35**

## **Session 4-A • Anthropology**

**Welles 119**

### **Anthropology and Modern Issues**

*Session Chair: Paul Pacheco, Anthropology*

#### **Development and the Doña: A Theoretical Analysis of Micro-Economic Models**

**Ryan Levy**

*Faculty Sponsors: Rose-Marie Chierici, Anthropology, and Dr. Ellen Kintz, Anthropology (Emeritus)*

As seen in many areas throughout the developing world, women seem to be the catalysts for positive progressive change. Their selfless considerations and the level of power, control and responsibility they assume are truly astounding. Contemporary Maya women are exemplars of this conception. Micro-loaning is a recently-developed practice in which small loans are given to "micro-entrepreneurs" for the purpose of developing grassroots enterprise. Women have been seen to have

much better loan repayment rates than men (Whitaker 2005). Women as harbingers of traditional culture and poverty alleviators make them an integral consideration in any development concern. After fieldwork completed in January 2010, investigations were made considering methods by which micro-economic development models could be applied successfully in the small traditional village of Cobá, Q.R., Mexico. This paper will attempt to broadly evaluate the applicability of micro-economic development initiatives. Cobá will be used as a case study in this analysis. It will include an examination of the extent to which each individual community presents unique criteria and also ways in which parallels can be used to create models for successful sustainable development. A focus will be placed on the importance of considerations of gender in the formulation of grassroots development models.

## **Native Americans and the Environment: From Stereotypes to Renewable Energy**

**Jonathan Hoose**

*Faculty Sponsor: Paul Pacheco, Anthropology*

I have looked at stereotypes regarding Native Americans and the environment and how those stereotypes can prove detrimental to Native Americans. One of the main reasons for this is because it removes the focus from many of the serious environmental problems that Native Americans have dealt with and continue to deal with in the United States and Canada. I have focused my research on environmental problems that many Native American communities have dealt with and are dealing with, such as uranium mining and pollution concerns. I have also researched green and renewable energy creation projects that are occurring on Native American lands. I believe that many Native American communities could benefit from the development of renewable energy production facilities on their lands. These facilities represent ways in which Native Americans can implement more control over their energy use as well as become energy providers for surrounding non-Indian communities. There is also the opportunity for better relationships to develop between Native and non-Native Governments. Education will also be key, and relatively safe and healthy jobs can be provided for Native Americans.

## **Robbing the Cradle of Civilization: The Effects of Warfare on Iraqi Archaeology**

**Carmedy West**

*Faculty Sponsor: Paul Pacheco, Anthropology*

In 2003, United States forces invaded Iraq, adding further complications to an already troubled archaeological scene. However, studies in Iraq have been significantly under fire since the Gulf War in 1990 and the frequency at which sites are destroyed or looted makes progress and preservation difficult. Given the extreme cultural importance of Iraqi archaeology to its own nation and to world society, how does this affect our own histories and what should we do to protect it? By studying the effects of war and looting on the National Museum of Baghdad as well as important sites such as Ur, Eridu, and Nineveh, we will attempt to determine what has been lost, what the significance of these missing sites and artifacts is to our own society, and where our responsibility lies in cultural preservation.

## **The Effects of Interlanguage and Style on the Acquisition of German by American Students**

**David Bliss**

*Faculty Sponsor: Zhiming Zhao, Anthropology*

The goal of this paper is to examine style shifting and interlanguage theories as they relate to phonemic substitution of the velar fricative among native English speaking students of German. The data discussed in the paper was gathered from one-on-one interviews with undergraduates enrolled in beginning and advanced level German classes at SUNY Geneseo. Students read from two lists and carried out a conversation to represent three levels of formality. The number of phonemic substitutions made by the participants was analyzed by examining the number of substitutions made at each level of formality, and by comparing the number of substitutions made by the beginning students of German against those made by the advanced students. The data that was gathered did follow predicted patterns. The advanced students of German did demonstrate interlanguage that followed phonological rules closer to German and thus made fewer mistakes than the beginning German students. The data also demonstrated that the most formal style of elicitation produces the fewest phonemic substitutions. The paper will go more in depth into interlanguage and style shifting theories, and the implications for second language pedagogy.

## **Session 4-B • Anthropology**

**Welles 121**

### **Anthropology in Action**

*Session Chair: Barbara Welker, Anthropology*

#### **I “?!?” Female Orgasm**

**Michael Apton**

*Faculty Sponsor: Barbara Welker, Anthropology*

Female orgasm is a big deal at Geneseo. One year after "I <3 Female Orgasm" took the campus by storm, students still proudly declare via t-shirt just how much they love it. This is symptomatic of a new social movement – a new generation of women and men coming of age with unprecedented awareness of female sexuality. Loving female orgasm is trendy. But there is one problem: no one knows what, exactly, the female orgasm is. We've been handed the keys to an amazing alien spaceship, but we don't understand how or why it soars through the heavens. In this talk, I will present the most cutting-edge scientific research concerning female orgasm. I contend that, if one wants to understand human nature, the female orgasm is more important than you may think.

## **Roots and Shoots: A Case study on Isla Ometepe, Nicaragua**

**Kaitlyn Rovnyak**

*Faculty Sponsor: Barbara Welker, Anthropology*

This project reports on my involvement in a pilot 'Roots and Shoots' program conducted on Isla Ometepe, Nicaragua during Intersession 09/10. The project was modeled on Jane Goodall's program to increase African children's awareness of and

involvement in conservation. Forty-one children were involved, ranging in age from 3 to 12. They attended classes for 15 days wherein a combination of activities were used to bring about knowledge of their Island, including learning about animals, volcanoes and how to sustain a clean environment were completed. The lesson plans focused on conservation management, and how to improve their ecosystem on Isla Ometepe. An overview and analysis of the project will be presented, along with future projections on what a program like this can accomplish.

### **Happiness is a Warm Gun: Homicide and Self Help Retribution in Traditional Societies**

**Ben Stokes**

*Faculty Sponsor: Barbara Welker, Anthropology*

The desire for vengeance and retaliation after being wronged accompany the emotionality of being human. The individual feeling of justice served can be warming. Prior to the establishment of “law” as we know it—courts, cops, judges, juries—a different method of maintaining social order was prevalent. ‘Self help’ is a means of enforcing cultural customs and morals without an executive authority intervening. Self help is characterized by violent retaliation and victim vengeance. In reaction to an act of homicide, self help is frequently employed by traditional societies for immediate retribution. Traditional societies, specifically groups being tied by lineages and kinships, have very specific procedures for retaliation rooted around a sense of “collective liability”. Methods of ‘self help’ involving homicide will be explored and compared between different cultures, along with various strategies for reprisal.

### **The Pottery of the ancient Maya site of Tipu in relation to other Maya sites**

**Sheila Maher**

*Faculty Sponsor: James Aimers, Anthropology*

My paper presents the results of a study of ancient Maya pottery from the site of Tipu, Belize stored in the archaeology lab at SUNY Geneseo. My research addresses the following questions: The use of type-variety classification in addressing questions about the ancient Maya. I'll discuss how type-variety approaches the style and technology of artifacts and organizes large samples into meaningful categories. The use of type-variety to evaluate which sites Tipu was interacting with. I believe that some sherds did come from different regions of the ancient Maya world. What does this suggest about the people at Tipu and their relationship with surrounding Maya sites? Some of these sites are in Northern Belize, the east Coast of the Yucatan peninsula, and the central Peten region of Guatemala. Larger implications for studies of the interaction of various parts of the Maya world. I will discuss issues of trade, travel, and immigration across the Maya area.

## **Session 4-C • Biology and Chemistry**

### **Newton 214**

*Session Chair: Kevin Militello, Biology*

#### **Relative Abundance of FliC in Wild-type and dcm Knockout Escherichia coli: A Possible Mechanism for Increased Motility**

**Stacy Hennick**

*Faculty Sponsor: Kevin Militello, Biology*

A DNA microarray between a strain of wild-type Escherichia coli and a DNA cytosine methyltransferase (dcm) gene knockout revealed that genes relating to the flagella were up-regulated in the dcm knockout. Quantitative PCR was used to validate the microarray. Two control genes (gapA and mdh) were used to normalize the microarray data and four experimental genes (flhC, flhD, fliC, and vsr) were tested. All genes tested supported the results seen in the microarray. A motility assay was also performed with the wild-type and dcm knockout strains and the dcm knockout strain was more motile. We hypothesize that the increase in motility is due to hyperflagellation. In order to test this hypothesis, western blots are currently being used to determine if the flagellin protein (FliC) is more abundant in the dcm knockout as the corresponding RNA was shown to be more abundant in the dcm knockout. In the future, we aim to determine the mechanism of increased motility in the dcm knockout strain.

### **Luminescent Organometallic Platinum 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 diode (OLED) technology. Although contrary to the first word, “organic”, OLEDs work more efficiently when small amounts of highly luminescent inorganic compounds (mainly from the 3rd row of transition metals) are doped into an organic matrix. The high spin-orbit coupling of these elements allows triplet as well as singlet electron/hole pairs to recombine radiatively (generating light). 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 tetradentate ligands of interest for the square planar organometallic complex are salen derivatives, with variations in the primary backbone and different substituents at the 3 and 5 positions on the salicylaldehyde rings. Several of these platinum compounds have been synthesized and characterized by X-ray diffraction, elemental analysis, UV-Vis spectroscopy, and fluorimetry.

## Session 4-D • English

Welles 131

### The Poetry of Loss and Desire

Faculty Sponsor: Graham Drake, English

Session Chair: Bridget Hardiman

#### Allusion, Language, and the Mutability of the Nymph

Brian Wenzler

This essay explores the classical, religious, and contemporary allusions, language, and themes of mutability and destruction in Andrew Marvell's poem "The Nymph Complaining for the Death of her Fawn." The many allusions made by the Nymph reflect the strife Britain faced in the aftermath of the English Civil Wars, while her language speaks to the themes of the destruction of innocence caused by war. The nymph also uses clever wordplay that reveals interesting ambiguities of whether or not the nymph understands her own use of language. Ultimately, Marvell's poem is an exceedingly complex work with interpretations so varied and conflicting, a testament to his elusive and powerful writing style.

Student Commentator: Bridget Hardiman

#### The Development and Exposure of Homosexuality as a Subject in Thom Gunn's Poetry

Gregory Guth

Thom Gunn's (British expatriate turned American poet) work explores the homosexual psyche and culture. Through the 1950s to 1980s when many of Gunn's best known works were published, homosexuality was objectionable and difficult to make understandable. Nonetheless, Gunn writes about it elegantly, with modest but increasingly frank verse, communicating and illuminating the inherently unclear. Critics argue that homosexual themes are absent from Gunn's early works. These themes are in fact quite present, but expressed through purposefully unclear language. Simply, in the 1950s and 1960s, it would have been difficult for openly gay poetry to be published or achieve any readership. Gunn came from an English background at Trinity College, Cambridge. After publishing his first book of poems, "Fighting Terms," he emigrated California to teach at Stanford University. In the United States, Gunn developed his voice and level of comfort concerning homosexual themes, particularly evident in later works such as "The Man with Night Sweats." Gunn's poetry is exemplary in terms of expressing sexual direction without forcing it upon his readers.

Student Commentator: Bridget Hardiman

## Session 4-E • English

Welles 132

### Cultural Connections in Some British Novels of the 1940s

Faculty Sponsor: Bill Harrison, English

Session Chair: Caitlin Hesketh

#### Environmental Alteration and the Psychological State of Green's, Greene's and Ambler's

Protagonists

Caitlin Hesketh

During the 1950s, the decade subsequent to the publishing of Eric Ambler's *Journey into Fear*, Graham Greene's, *The Ministry of Fear*, and Henry Green's, *Back*, a new subfield of Psychology was established: Environmental Psychology. This subfield "studies the relationship between environments and human behavior and how they affect one another" (Conaway). The experiences of these novels' protagonists parallel the research in this field. These characters' actions, thoughts, and beliefs undergo alteration due to the physical or emotional setting that they are in. In *Journey*, Graham's ability to take action increases only after he transfers from the novel's dominant boat setting to the minor setting on land. Through his movement from a London flat to a rural mental facility, *Ministry's* Arthur Rowe finds both his psychology and ability for romantic engagement altered. Conversely, Charley, *Back's* returning World War II veteran, remains in a single setting. He physically returns to the home that he knew before the war, only to find it uniquely altered by his lover's absence. Research in the field of environmental psychology and critical analysis of these characters reveals that all three of these men experience a subconscious reaction to their differing environments.

#### Appeasement and *Black Bethlehem*

Andrew Poggiloi

Lettice Cooper's *Black Bethlehem* is an anti-appeasement work criticizing and warning against the kind of appeasement and blind optimism that led to WWII. In the novel, Featherstone's reaction to Clay's scheming parallels the Munich appeasement between Chamberlain and Hitler. The horrible consequences of this historic appeasement are demonstrated in the novel through both Lucy's description of the London Blitz and Marta's story. Appeasers, Cooper suggests, are often optimists who naively expect that others around them will also live up to their standards, and thus are hurt and confused when this does not happen. Featherstone's betrayal by Clay and Lucy's by Marta and Piers exemplify the connections between appeasement, optimism, and naivete. So Lucy and Featherstone can be likened not only to Chamberlain but to all of the people who favored appeasing Hitler rather than stopping him. Cooper also presents the character Ann, who a different perspective, as she wants to confront Clay. Lucy's respect for Ann leads her to understand that her former unwavering optimism and trust were unrealistic and unsuited to the world, war or not. Cooper condemns appeasement and over-zealous optimism, claiming that there is never an appropriate time for them.

## **Infidelity in *Brideshead Revisited* and *Journey Into Fear***

**Ashley Phillips**

This presentation explores the theme of adultery and betrayal in two 1940s novels: Evelyn Waugh's *Brideshead Revisited* and Eric Ambler's *Journey Into Fear*. With the aid of research on marriage and relationships during the two world wars, it is concluded that the lovers in both novels committed adultery or were unfaithful to their partners for reasons were dependent on the time period of the novel's plot in relation to World War II. In a pre-war episode within *Brideshead Revisited*, Charles and Julia commit adultery order to realize a deeper meaning in their lives, while Graham betrays his wife in order to escape the perils of the world war in *Journey Into Fear*. Without the immediate dangers of WWII, the characters of *Brideshead Revisited* find themselves longing for excitement and fulfillment and therefore seek out extramarital affairs. In contrast, the protagonist of *Journey Into Fear* pursues exotic dancer Josette to distract himself from the perils of the war.

## **Session 4-F • English**

**Welles 133**

*Session Chair: Gillian Paku, English*

### **The Lessons of History: The Mistakes of the Powerful and the Power of Morality**

**Heather Bristol**

*Faculty Sponsor: Gillian Paku, English*

There are countless historical examples of once-powerful political figures who ultimately fell from power. This presentation will begin with a discussion of the fatal mistakes which enable the downfall of such powerful figures, as well as a consideration of why it is those in power who are most prone to making these fatal errors. Through the lenses of classical literature, and historical and contemporary political institutions, this presentation will define the human tendency to rationalize, juxtaposed with human rationality. It will examine the unfortunate, self-destructive powers of human rationalizations, as well as their role in enabling the mistakes of the powerful. Furthermore, this presentation will discuss the power of morality, and, through an examination of both contemporary and historical examples, will illustrate the fact that leaders who subscribe to ethical relativism ultimately fall victim to the greater power of morality. Then, based on the conception of religion as a source of moral codes, this presentation will illustrate that the timeless influence and dominance of religious institutions attest to the power of morality. Finally, this presentation will analyze contemporary American political and religious institutions within the framework of the lessons of history.

### **How Quickly We Forget**

**Nicholas Kaasik**

*Faculty Sponsor: Gillian Paku, English*

How quickly we forget the lessons of history. In this paper, the case is made that we, as a human race, have trouble learning from the mistakes and successes of the past. These omissions of memory, whether from Thucydides or health care indicators but a few years old, harm us as a society and as a species. This paper argues that of particular importance is the reintroduction of Plato's dialectic in our modern political discourse.

### **In the Birds' Stead and Other Poems**

**J.T. Andrews**

*Faculty Sponsor: Rachel Hall, English*

From the illustrious beauty of nature to exposing the savage underbelly of college life on a Friday night, J.T. Andrews applies personal experience to the power of language to create his poetry, reflecting changing moods, settings, and times. Poems: In the Birds' Stead Bad Bombing Cup of Memories and 2-3 others depending on the time

## **Session 4-G • History**

**Welles 24**

### **Women and Social Movements**

*Faculty Sponsor and Session Chair: Catherine Adams, History*

**Michelle Santoro, Patricia Bandy, Danielle Van Auken, John Tomilso, Nabila Aikawa, Kristelle Cedeno and Jeffrey Digironimo**

Our presentation will be a reenactment of an antislavery/woman suffrage convention. Students will dramatize a meeting ca. 1850. We will hear from Elizabeth Cady Stanton, Sojourner Truth, William Lloyd Garrison and others. Audience members are encouraged to participate.

## **Session 4-H • History**

**Welles 26**

### **Issues in Agriculture & the Environment in the Twentieth-Century U.S.**

*Faculty Sponsor and Session Chair: Jordan Kleiman, History*

#### **The Dirty Truth: Public Health and Environmental Consequences of New York State's Ineffective CAFO Policy**

**Michelle Fevola**

This paper focuses on New York State's weak policy on CAFOs from the 1970s to the present. It is divided into three parts: one section on New York State's ineffective agricultural legislation on CAFO regulations, one section on the New York State Department of Environmental Conservation's lax restrictions on CAFO pollution, and one section on several court cases filed by local residents and grassroots organizations in response to pollution violations from CAFO operators. I concluded that New York State's weak legislation and enforcement of CAFO regulations since the 1970s allowed industrial farms to pollute the communities surrounding them, endangering the health and environment of local residents. The emergence of several court

cases filed by local residents in response to CAFO pollution from the 1990s through the present indicated the ineffectiveness of New York State's CAFO policy.

## **Genuine Change or More of the Same: The Klamath Water Project and the Evolution of the Bureau of Reclamation**

**Ben Wickizer**

My presentation will analyze the changes that the Bureau of Reclamation has made, in its philosophy and operations, after 1970. It will utilize the Klamath Water Project as a case study for observing these changes, or lack thereof. In 2001, the Bureau of Reclamation withheld water deliveries to farmers on the Klamath Project. Based on this action, it appears that the Bureau has significantly altered its philosophy and operations, and is committed to serving a variety of groups and interests beyond its traditional constituents. However, when observed more closely, it is questionable whether the Bureau has made large and genuine changes to its philosophy and operations, since 1970.

## **Wes Jackson and the Land Institute: Perennial Polyculture & the USDA-Land Grant System**

**Darren Knapp**

For the past 10,000 years agriculture has allowed the human population to grow, expand, and create civilizations that historians look back upon with awe. However, the recent industrialization of agriculture has had severe effects on nature, our society, and the farmer himself. Wes Jackson and his fellow researchers at the Land Institute in Salina, Kansas have been developing for the past 30 years a form of sustainable agriculture that they hope will revolutionize the way humans produce food. Through the cultivation and harvesting of perennial polycultures, this form of food production allows humans to work with nature as opposed to the industrial method that works against it. Initially, one may come to the conclusion that natural systems agriculture is simply a pipe dream of a former university professor. However, my research reveals that the study of natural systems agriculture at the Land Institute has received substantial monetary support from government funded agencies along with respect and usage of their research throughout the field of sustainable agriculture. Ultimately, it becomes apparent that the work done at the Land Institute has created a whole new field of agricultural research and, along with it, the hope for a more sustainable future.

## **Session 4-I • Mathematics**

**Newton 204**

### **Math Miscellany II**

*Faculty Sponsor and Session Chair: Olympia Nicodemi, Mathematics*

#### **Mathematics of Economics**

**Edward Watts and Jacqueline Lattarulo**

There are many who do not know that economics derives much of its theory from commonly used mathematical principles. In our economics classes we learn about things like supply and demand, marginal revenue, and total cost, along with many other economic principles, but never really touch upon why these things work from the mathematical side of things. In this presentation we will be exploring how mathematics makes economics work.

#### **The Fractal World**

**Elise Kroll and Mallory Marquis**

Have you ever wondered about the complexity of self similar objects in our world? Have you ever looked at a piece of cauliflower and thought, how do I determine the dimension of this delicious vegetable? Our presentation will make you look at certain foods in a whole new way. We invite you to come learn about the nature of fractals and the fractal dimension. We will begin by discussing the formula for the fractal dimension and how to determine the fractal dimension of some common objects, such as your favorite type of bread. We will then discuss fractals in the terms of the Cantor set, the Koch Curve, and the Golden Ratio. Finally, we will make a conjecture on the fractal nature of the universe and whether or not we can determine its fractal dimension.

#### **Medieval Mathematics: Oresme and Infinite Series**

**Matt Reese**

Nicole d'Oresme (1323-1382 CE) was, undeniably, a great mathematician; his influences are still seen throughout all of mathematics today. While Oresme worked in several areas, 'Oresme and Infinite Series' is a brief discussion of how the medieval mathematician broke new ground in the study of the infinite. Oresme's conclusions were so profound that the same proofs for convergence and divergence of certain series are, likely, the same as are still taught in many schools today.

## **Session 4-J • Mathematics**

**Newton 201**

*Session Chair: Jeff Johannes, Mathematics*

### **Bending the Universe**

**Patty Semple**

*Faculty Sponsor: Jeff Johannes, Mathematics*

Math is all about numbers, right? Wrong! Topology is a branch of math that studies the nature of surfaces and spaces. What do a fork and a sphere have in common? Can someone travel on both sides of a surface without walking through it? These are the kinds of questions that topologists study. In this talk, we'll take a look at some simple 2 and 3 dimensional manifolds, including an interesting twist to the Tic-Tac-Toe game. We'll also consider how this knowledge of 2 and 3 dimensional surfaces could describe the behavior of our universe. No math background is necessary - all that you need is an open mind!

## **Black-Scholes Equation: Connection Between Mathematics and Finance**

**Daniel M. Barron and Co Sou**

*Faculty Sponsor: Andrzej Kedzierawski, Mathematics*

Since the 1970's, there has been an increase in the number of applications of mathematics to the area of finance. The Black-Scholes equation is responsible for this trend and has transformed the world's financial markets. Its solution can be used to evaluate the price of American and European-style options (a type of financial instrument). In our presentation we derive the Black-Scholes equation and discuss its solution.

## **Session 4-K • Physics and Astronomy**

**Newton 203**

*Session Chair: Charlie Freeman, Physics*

### **Maintenance and Repair of the SUNY Geneseo Pelletron Accelerator**

**Andrew Lombardo and Gavin Graeper**

*Faculty Sponsor: Charlie Freeman, Physics and Stephen Padalino, Physics*

Beginning in September of 2009, several maintenance projects were undertaken on Geneseo's 1.7 MV tandem pelletron accelerator. The accelerator was unable to reach its full terminal potential and it was leaking sulfur-hexafluoride (SF<sub>6</sub>). There was an unusually large lost charge between the charging current and the column currents. The goal of this work was to identify the source of the problem and correct it. The accelerator was opened, cleaned, and thoroughly tested for possible discharge sites. The source of the problem with lost charge was believed to be a leaking water cooling radiator which caused the SF<sub>6</sub> gas to become contaminated with moisture, thereby losing its insulating properties. The contaminated gas was replaced with dry SF<sub>6</sub> and the water cooling radiator was replaced. The location of the SF<sub>6</sub> leak was identified and the fitting was replaced. The accelerator now can reach its full 1.7 MV potential. Currently, we are working on the RF charge exchange ion source.

### **Calibration of a Thompson Parabola Spectrometer Using SUNY Geneseo's 1.7 MV Pelletron Accelerator**

**Michael Canfield**

*Faculty Sponsor: Charlie Freeman, Physics*

The magnetic component of a Thompson Parabola Spectrometer (TPS) was calibrated using the 1.7 MV Tandem Pelletron Accelerator at SUNY Geneseo. The TPS implements parallel electric and magnetic fields to separate ions of a given mass-to-charge ratio onto the detector plane. The TPS was properly aligned at the rear of the newly built 30R beam-line along the central beam axis. Proton beams of various energy, created by the accelerator, were sent into the TPS and were detected using radiochromic film (RCF) placed in the rear of the TPS apparatus. The RCF was removed and a high resolution scanner along with imaging software was used to measure the linear deflection due to the magnetic field. The deflection distance was plotted versus one over the square root of the proton energy. The integral of the magnetic field through the TPS was extracted from the data. This value was in good agreement with the manufacturer's nominal value. The TPS is currently being used on the multi-terawatt laser chamber at the Laboratory for Laser Energetics in Rochester.

### **Using the SUNY Geneseo Tandem Pelletron Accelerator**

**Gavin Graeper**

*Faculty Sponsor: Stephen Padalino, Physics and Charlie Freeman, Physics*

In 2007 SUNY Geneseo purchased a 1.7MV 5SDH Tandem Pelletron Accelerator. The accelerator is capable of accelerating protons or alpha particles. Hydrogen or helium gas passes through a metering valve into a quartz source bottle. Radio frequency radiation ionizes the gas, and the positive ions are extracted from the quartz bottle using a probe voltage. The positive ions then pass through a charge exchange cell which is filled with rubidium vapor. The rubidium atoms donate one or more electrons to the positive ions forming neutral atoms and a small percentage of negative ions. A positive terminal inside the accelerator tank, charged using a charging chain, can achieve a potential as high as 1.7 MV. The negative ions are attracted to the positive terminal and the particles pass inside the terminal, where they enter the stripper canal, which is filled with low pressure nitrogen gas. Collisions between the accelerated ions and the nitrogen molecules can remove electrons from the ions, changing them back into positive ions. Their own inertia carries the positive ions out of the terminal, where they are accelerated again. After the particle leaves the accelerator it is directed down one of two beamlines using steering and focusing magnets. The particles are directed onto a target, where nuclear reactions can take place.

## **Session 4-L • Political Science and International Relations**

**Welles 138**

### **Apathy to Activism: Invisible Children and the Youth Movement**

*Faculty Sponsor: Jeremy Grace, Political Science and International Relations*

*Session Chair: Caitlin Larry*

#### **Apathy to Activism: Invisible Children and the Youth Movement**

**Caitlin Larry, Nick Sloper, Lauren Carlevaro and Sam Perez**

Invisible Children is a non-governmental organization which focuses on ending the war in northern Uganda and rehabilitating Joseph Kony's child soldiers. Using the power of the media, the movement inspires youth in a new way, teaching them to be global citizens who take an active role in being the change they wish to see in the world. Our presentation tells the story of the civil war in Northern Uganda, the organization of Invisible Children, and the significance they have brought to the modern world of activism.

## **Session 4-M • School of Education**

**Welles 140**

### **Independence Within Ourselves**

**Hannah Brown, Nathan Clough, Justine DeLuca, John Feidner, Andrea Franciosa, Dustin Fredericy, Colton Jackson, Kaleb King, Thomas Ruff, Chris Scheib and Jewley Sparks**

*Faculty Sponsor: Elizabeth Hall, School of Education*

The objective of this presentation is create an understanding and awareness of students in the LIVES Program (Learning Independence, Vocational, and Educational Skills) at Geneseo. Students in the LIVES Program surveyed approximately 88 SUNY Geneseo College students in order to show the similarities and differences between the two groups of students.

### **Daydreams**

**Sarah Parker**

*Faculty Sponsor: Kelly Keegan, Education*

This video presentation focuses on the harnessing and manipulation of raw creative power to create an effective and meaningful composition product. Created for INTD 301, the Daydream project takes a critical look at the creative process as it fits into the English Language Arts Classroom. In today's high-tech society, an educator must learn to touch on the multiple literacies that are part of everyday living, and especially adolescence. Helping students learn to master their own skills and literacies through self-reflection is crucial for their success. "Daydreams" is an audio-visual journey through the wandering mind of the creator. Animation, video, photography, and music are accompanied by self-reflective commentary about the very act of metacognition.

### **The Quality of Miscues**

**Sarah Burke, Amanda Peck, Jessica Barbis, Kaitlyn Provencher, Ryan Larkin and Karalina Zimmerman**

*Faculty Sponsor: Maria Liwanag, School of Education*

Our group will be examining the quality of miscues of selected readers. We will then determine what the miscue patterns tell us about how the reading process works and how the quality of the substitution miscue based on how the substitution affects the meaning of the passage. We will also consider how the text influences the reader's miscue patterns. Through the study of miscue analysis, we will develop a better understanding of the reading process.

## **Session 4-N • Communicative Disorders and Sciences**

**Welles 134**

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

### **Simplifying the Language Sampling Technique**

**Erin Filippini, Marc Johnson, Stephanie Loccisano, Jordan Nieto and Sara Young**

Language sampling is a descriptive technique that analyzes language of both children and adults. Although language sampling gives useful information on an individual's language abilities, it can be a tedious and time consuming technique; this is why it is rarely used in schools. In trying to simplify the process, we collected 180 language samples, consisting of 50 utterances each, from normally developing children aged 36-84 months. In the collection of the samples we discouraged yes/no questions in an attempt to have the children respond with longer utterances. The analysis focused on specific aspects of language that included mean length of utterance, total number of words, words per clause, words per sentence, clauses per sentence, noun phrases per sentence, and elements per noun phrase. In the analysis, which utilizes a computer to calculate values, we found that we could compare children with poor language skills to children's normal progression of language calculated from the samples. After collecting samples from children with known language disorders, we compared them to the normative results and found that the children with language disorders were outside normal measures. An advantage to this analysis is that it can be done in 30 minutes.

## **Session 4-O • School of the Arts-Theater**

**Welles 117**

### **Student Work in Film**

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

#### **Student film "Copyright"**

**Zachary Downing**

Zach Downing will present scenes from his film Copyright, which he has written, shot, and is completing editing now. The film tells of a music student whose work is pirated by a friend and investigates the complex issues around protecting an artist's work in the digital age.

#### **Documentary film research**

**Lucas Groth**

Lucas Groth will present his research on three important documentary filmmakers, using video clips and lecture.

## **Session 4-P • School of the Arts-Studio Art**

**Welles 123**

### **Podcast Presentations on Notable Photographers and Computer Artists**

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

#### **The Digital Photographer Marcello Benfield**

**Darcy Miller**

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

#### **Computer Artist Talk**

**Allison Sass**

A podcast will be presented that highlights both the work of computer artist Sonia Landy Sheridan and demonstrates her place in computer art history, especially with her role generative systems. Additionally, Allison will analyze some of Sheridan's art from the perspective of a computer art student.

#### **Me and Where I Live**

**Claire Britt**

#### **David Baldwin/Photographer Talk**

**Jennifer Greenman**

My podcast will shed light on the night photography of David Baldwin. The podcast focuses on the highlights of both his photography and his place in photographic history, especially with his role as night photography. I have documented, analyzed and then emulated the photography of David Baldwin in order to learn more about his style and method of working with night skies.

## **Session 4-Q • Women's Studies**

**Welles 128**

*Session Chair: Rose-Marie Chierici, Anthropology*

### **Intimacy Narratives of Heterosexual Experience**

**Isobel Connors**

*Faculty Sponsor: Rose-Marie Chierici, Anthropology, and Melanie Blood, Women's Studies*

American feminists face a difficult struggle with regards to sexual behavior. Contemporary dominant American gender roles based on "compulsory heterosexuality" and expectations create power dynamics between men and women that spill over into the bedroom. However, feminist values often clash with these societal expectations. Exploring several manifestations of "intimacy narrative," this study examines how Geneseo students—who identify as feminist—mediate between these feminist values and those of the broader American culture. Additionally, this study will contemplate the anthropological implications of this research in terms of: the role of the individual in (American) culture and (feminist) counter-culture, cultural norms/expectations v. actual behavior, power, ideology, and experience.

## **New Session 4-R • Economics**

**Welles 115**

### **The Great Depression: Causes, Severity, Length and Lessons**

**Rufus Burgess**

*Faculty Sponsor: Christopher Annala, Economics*

The Great Depression marks a pivotal time in modern history and economic thought. What caused the Great Depression? Why was it different from previous depressions? Depressions existed before the 1930's and yet none had such drastic effects on income and employment for such a long period of time. Why was the Great Depression international in scope? What caused nearly the entire industrialized world to fall into depression? Most importantly: What can policy makers learn from the Great Depression and how can they apply their education to modern economic phenomena?

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