



Sixth
Annual

4.17.12

GREAT Day

Geneseo Recognizing Excellence, Achievement & Talent

Welcome to SUNY Geneseo's Sixth 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 GREAT Day Faculty Advisory Council:

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Patrice Case, Department of Studio Art
Graham Drake, Department of English

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Tammy Hill, Campus Scheduling and Special Events
Tracy Paradis, Milne Library
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Thank You to those who have made this day possible:

Staff: Brian Bennett, Robert Goeckel, Sue Chichester, Betsy Colon, Laura Cook, Joe Dolce, Karie Frisiras, Jennifer Glieco, Becky Glass, Paul Jackson, Nancy Johncox, Minh Bui, Enrico Johnson, Laura Kenyon, Sue Mallaber, Chip Matthews, Sean McGrath, Traci Phillips, Mark Scott, Helen Thomas, Julie Rao, Katie Tierney and the SA Tech Services.

Student volunteers: Jackie Bowen, Molly Bowen, Colleen Bradley, Kasey Cole, Deven Coulter, Margaret Craft, Diandra Douglas, Lena Freed, Samantha Freid, Jackie Jenson, Sarah Kucharski, Nicole Larabee, Erica Lasnicki, Yanying Lin, Kristie Lovino, Mellisa Marris, Rebecca Medrano, Tom Naber, Katie Pfisterer, Leanne Rosen, Laura Serpe, Lauren Slezak, Rebecca Smarcz, Taylor Solano, Alyssa Stefanese, Jenna Stenclik, Morgan Wilson, Courtney Yonce, Landon Hurley, Adam Reinemann

Special Thank You:

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

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

Dr. Fredrik Heibert for delivering the Keynote address.

Tom Fisher for the online submission form and web program design.

Erin Pipe for organizing the Chamber Music Festival.

Justin Shapiro for serving as liaison to the Student Association.

The Student Association for sponsoring the Luncheon.

Campus Auxiliary Services for partially sponsoring the Reception.

Milne Library Staff for overseeing the proceedings.

Anne Baldwin, Andrea Klein, and Tammy Hill for their special expertise and many hours devoted to planning this event.

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

http://www.geneseo.edu/great_day

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Cover design by **MAYUKO KUBO**

For more information on the GREAT Day Program Cover design project, see back cover.

Publish your paper or poster!

Did you know that a publication is released every year containing a selection of the papers and posters presented at GREAT Day? To have your GREAT Day presentation or poster considered for the 2012 GREAT Day Proceedings, contact Sue Ann Brainard at Milne Library, brainard@geneseo.edu, x5062.

SCHEDULE

8:30 – 9:30 AM

Welcome College Union Ballroom
 Remarks – Carol Long, Provost
 Alma Mater – Devon Borowski
Poster Presentations College Union Ballroom & 3rd Floor Balcony
Artwork Exhibits
 College Union Kinetic Gallery & Milne Library Gallery

9:40 – 10:55 AM

Concurrent Presentations • Session 1
 Milne Library, Newton, Welles, South, Sturges, Brodie

10:00 – 1:30 PM

Chamber Music Festival Part 1 College Union Fireside Lounge

11:05 – 12:20 PM

Concurrent Presentations • Session 2
 Milne Library, Newton, Welles, South, Sturges, Brodie

12:30 – 1:30 PM

Poster Presentations College Union Ballroom & 3rd Floor Balcony
Buffet Luncheon College Union Lobby
 Sponsored by the Geneseo Student Association

Artwork Exhibits

College Union Kinetic Gallery & Milne Library Gallery

Dance Performance 1:20 pm College Union Ballroom Stage
 Bhangra

1:45 – 2:45 PM

The Jack '76 and Carol '76 Kramer Endowed Lectureship
 Dr. Fredrik Hiebert, Fellow of the National Geographic Society
 Wadsworth Auditorium

2:55 – 4:10 PM

Concurrent Presentations • Session 3
 Milne Library, Newton, Welles, South, Sturges, College Union

3:00 – 4:20 PM

Chamber Music Festival Part 2 College Union Fireside Lounge

4:20 – 5:30 PM

Concurrent Presentations • Session 4
 Milne Library, Newton, Welles, South, Sturges, Wadsworth

5:30 – 6:30 PM

Closing Remarks College Union Ballroom
 Christopher Dahl, President

Poster Presentations & Reception

Sponsored in part by Campus Auxiliary Services
 College Union Ballroom & 3rd Floor Balcony

Artwork Exhibits

College Union Kinetic Gallery & Milne Library Gallery

ARTWORK EXHIBITS

SPECIAL THANKS TO THE FOLLOWING STUDENTS FOR PREPARING THE EXHIBITS: **CLAIRE LITTLEFIELD, RACHAEL MT. PLEASANT, ANNE BEINETTI, PAUL ROMANO, KATHERINE PETERSON, CHRISTINE BAE, KATIE FINNERTY, GRACE HUBERT, GILLIAN HOPKINS**

MACVITTIE COLLEGE UNION KINETIC GALLERY

CLAIRE LITTLEFIELD

FACULTY SPONSOR: PATRICE CASE, ART

Dogfood

It was Weenie's turn to make dinner.

The Horniest

Strap on horns? They've got 'em!

A Slight Case of the Munchies

In only a few short moments, Ralph's lifeline will be snipped by a handful of irate Flesh-eating Goobers.

RACHAEL MT. PLEASANT

FACULTY SPONSOR: PATRICE CASE, ART

Gravity

This piece demonstrates an experiment with the relationship between text and paint. I used movement and text phrases to show how a memory withstands time amidst the chaos of life, long after it was created.

ANNE BEINETTI

FACULTY SPONSOR: PATRICE CASE, ART

Maps of the World

Acrylic on Canvas

PAUL ROMANO

FACULTY SPONSOR: PATRICE CASE, ART

Guitar Bat

I transformed a wooden bat into a playable guitar.

KATHERINE PETERSON

FACULTY SPONSOR: PATRICE CASE, ART

Hard at Work

"Hard at Work" is a 22"x30" watercolor and pastel depicting two young girls hard at play in the summer.

Kokopelli Ring

This ring is sterling silver, hollow, and roughly 2"x4" in a stylized Kokopelli form.

CHRISTINE BAE

FACULTY SPONSOR: PATRICE CASE, ART

Untitled Woodcut 1**Untitled Woodcut 2**

MAYUKO KUBO

FACULTY SPONSOR: THOMAS MACPHERSON, ART

Staten Island

12"x15", Silk screen printing with acrylic ink. Staten Island, going mellow.

Psychedelic Kirin

15"x12" Silkscreen printing with acrylic ink. One dizzying giraffe.

NATE SMITH

FACULTY SPONSOR: CARL SHANNAHAN, ART

Chess set

The pieces were built on the wheel while the board was created with slabs of clay.

RAY FERREIRA

FACULTY SPONSOR: DAN DEZARN, ART

Baptism

Sugar, Wood, Steel, Projector, Human Body

GRACE HUBERT

FACULTY SPONSOR: PATRICE CASE, ART

Jaundice

A portrait in yellow done in watercolor and colored pencil.

Communist Walsh

Portrait of a figure in a hat, done in watercolor and colored pencil

KATIE FINNERTY

FACULTY SPONSOR: PATRICE CASE, ART

Railroad

This image captured my attention while I was driving to Geneseo on some back roads, and after flying past it I took a 10 minute detour to see it again, and preserve it in a photograph. It serves to display how sometimes nature and manmade structures come together and create a beautiful landscape.

Pathway

This photograph was taken while walking through the rainforest in the Yucatan Peninsula of Mexico. It is striking that over time a manmade structure can melt into nature and become a nonintrusive part of the scenery.

Blue Boat

This photograph was taken in Cuba, Mexico. It again illustrates the interaction between the manmade boat and the nature surrounding it to create a cohesive image.

BRIANNE ROSA

FACULTY SPONSOR: MELANIE BLOOD, ENGLISH

A Mind in Progress

A creative autobiography; a 6'x 6' painting of a butterfly (a metaphor pulled out of Nabokov's autobiography, *Invitation of a Memory*) with numbers along the tips of the wings. The wing patterns are map-like, and each number represents a year of my life. An accompanying autobiographical interactive multimedia art piece, developed in PowerPoint, serves as the "destination" for the painting/map. The cover screen shares the picture of the butterfly, and the numbers can be clicked to take the onlooker to a loop of slides that incorporate creative writing, music, and other artworks that best represent that year of my life.

MILNE LIBRARY GALLERY – FIRST FLOOR**GRETCHEN MICHELLE GUZMAN**

FACULTY SPONSOR: LESLIE STROZ, ART

Pondering Opportunity: A Self Portrait

This is a self portrait that turned into a self discovery painting. Just myself lost in thought; simple yet complex. This is a painting that Elisabeth Louise Vigée Le Brun titled "The Artist's Daughter" and it was through the process of painting this girl with her strange expression that I developed a lot of the artistic painting style I now have. Though most artists would consider it an embarrassment to display a work they copied, I consider it a tribute to the process in which I have painted my other works. To not display this copy would take away from my journey as an aspiring artist.

Hush Little Baby Don't Say a Word

This is my sister's friend's baby. When I saw this picture I couldn't take my eyes off it and was instantly inspired. Everyone I know these days seems to be having babies or is pregnant (even my sister!). For me this sleeping baby symbolizes all the new little one's coming into the world and the beginning of life for myself as an adult.

RACHEL WALKER

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Hand

18" x 24" charcoal drawing of hand

Landscape Drawing

18" x 24" charcoal drawing of landscape

Still Life Drawing

18" x 24" charcoal drawing of a still life from Drawing I class

VICKI BAUM

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Portrait

18" x 24" charcoal portrait

EMILEI CANTRELL

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Portrait

18" x 24" charcoal portrait

Landscape Drawing

18" x 24" charcoal drawing of landscape

BRAD KWARTA

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Portrait

18" x 24" charcoal portrait

AMANDA HIMMELMAN

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Hand

18" x 24" charcoal drawing of hand

Charcoal Portrait

18" x 24" charcoal portrait

Still Life Drawing

18" x 24" charcoal drawing of still life from Drawing I class

MOHAMMED HOSSAIN

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Portrait

18" x 24" charcoal portrait

MAKAIA PAPASERGI

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Portrait

18" x 24" charcoal portrait

KATHERINE TUSKES

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Portrait

18" x 24" charcoal portrait

JESSICA KIM

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Hand

18" x 24" charcoal drawing of hand

NATHAN SMITH

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Hand

18" x 24" charcoal drawing of hand

LAUREN CORRADO

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Hand

18" x 24" charcoal drawing of hand from Drawing I

LUCAS MARTIN

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Hand

18" x 24" charcoal drawing of hand from Drawing I

TED BEEBE

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Hand

18" x 24" charcoal drawing of hand from Drawing I

HANNAH GLASER

FACULTY SPONSOR: LESLIE STROZ, ART

Charcoal Portrait

18" x 24" charcoal drawing of portrait from Drawing I

Monochromatic Copy of Master Painter

16" x 20" oil painting

MOLLY KING

FACULTY SPONSOR: LESLIE STROZ, ART

Monochromatic Copy of Master Painter

16" x 20" oil painting

JODI BENTIVEGNA

FACULTY SPONSOR: LESLIE STROZ, ART

Monochromatic Copy of Master Painter

16" x 20" oil painting

CASEY GILBERT

FACULTY SPONSOR: LESLIE STROZ, ART

Monochromatic Copy of Master Painter

16" x 20" oil painting

ANNE BEINETTI

FACULTY SPONSOR: LESLIE STROZ, ART

Copy of Master Painter

16" x 20" oil painting (from Oil Painting 3)

RACHAEL MT. PLEASANT

FACULTY SPONSOR: LESLIE STROZ, ART

Copy of Master Painter

16" x 20" oil painting (Oil Painting 3)

GILLIAN HOPKINS

FACULTY SPONSOR: LESLIE STROZ, ART

Copy of Master Painter

16" x 20" oil painting (Oil Painting 3)

CORTNEY DODGE

FACULTY SPONSOR: LESLIE STROZ, ART

4-Line Design Project

24" x 30" artwork, india ink (2-D Design class)

Imagine

Artist's Book

KOEUN RO

FACULTY SPONSOR: LESLIE STROZ, ART

4-Line Design Project

24" x 30" design in india ink

Problems of the World

Artist's Book

REBECCA DE LEON

FACULTY SPONSOR: LESLIE STROZ, ART

4-Line Design Project

24" x 30" design in india ink (from 2-D Design)

Family

Artist's Book

ANNE KELLY

FACULTY SPONSOR: LESLIE STROZ, ART

4-Line Design Project

24" x 30" design in india ink

Unrequited

Artist's Book

SHANNON CAMPBELL

FACULTY SPONSOR: LESLIE STROZ, ART

4-Line Design in India Ink

24" x 30" india ink painting

NICHOLAS LITTLE

FACULTY SPONSOR: LESLIE STROZ, ART

4-Line Design in India Ink

24" x 30" india ink painting

CHAMBER MUSIC FESTIVAL

Fireside Lounge, MacVittie College Union

10:00-10:30: Trombone Choir:

Sibelius Finlandia

Bach Air

Eric Ewazen Myths and Legends, Movement 1

CHRIS BOND, DANIEL GOLE, LEXI ATHENS, ANDY PATT, COLLEEN GAVIN, PETER O'CONNELL, STEVE BARRON

10:30-10:50 Mozart Flute Quartet in G Major, K285

Flute: JESSICA CHAMBERLAND

Violin: KRISTEN HADLEY

Viola: EMILY CIRINCIONE

Cello: LAURA DUCLOS

10:50-11:10 Flute Choir: Rodgers and Hammerstein

Sound of Music Medley

JAMIE JAQUAY, SAMANTHA YELLE, ASHLEY HOLMES, CHLOE FERNANDEZ, DEVIN GRAU, KADY ROMIG, KELLY BRUNSCHEEN, ANGIE KLINCZAR, BRYNA TORRE, ALEXIS MAZZEO

11:10-11:40 The Iris String Quartet: Dvorak "American"

Movements 1, 2, 3

Violin: HANNAH GARFIELD

Violin: MARIE KALET

Viola: ALYSON BITTNER

Cello: ERIN PIPE

11:40-12:00 Saxophone Quartet

CHRISTOPHER MARTIN, NICK ELLSWORTH, TRAVIS O'SULLIVAN, JOE DITURSI

12:00-12:20 Samuel Zyman Suite for Two Cellos

Cello: SARA WIGDERSON

Cello: KELSEY WOOD

12:20-12:50 Geneseo String Band: Selection of

American and Irish Tunes

STEPHEN KOWALEWSKI, KRISTEN HADLEY, RACHEL HOWARD, DAN LYNCH, RACHEL MCGEE, TOM ROBINSON, NATHAN THAYER, MAX WHEELER, ANNA WILSON, PATRICK WORTNER, CAITLYNN ZEPHRO, ROB WOJCIKIEWICZ, LILY WHEELER, CHARLES TURNER, JOANNA SIMONE, NICOLE RAHN, RAYCE MALONE, MARIE KALET, ZACHARY HENTZE

12:50-1:30 Vivaldi Gloria in D Major Movements. 1, 2, 4, 5, 7, 11, 12

Student conductors: HANNAH GARFIELD

ADAM LASALLE, DEVON BOROWSKI, KATELYN HEARFIELD, ALI MARSHALL

Violin: MARIE KALET

Violin: KRISTEN HADLEY

Viola: ALYSON BITTNER

Cello: ERIN PIPE

Soprano sax: CHRISTOPHER MARTIN

Continuo: LOUIS LOHRASEB

1:45-2:45 Break for Keynote Address

3:00-3:45 Thursday Night Jazz Ensemble

Outside in

TOM GARLING

Passado

DAVE HANSON

The girl from ipanema

ANTONIOS CARLOS JOBIM

North shore morning

MATT HARRIS

Ru chicken

KRIS BERG, composer

Ascending

FRED STURM, composer

Well alright, okay, you win

E. HEYMAN, composer

Louisiana hot sauce

GEORGE SHUTACK, composer

Alto saxophones: DAN OSGOOD, ALLI CROPEY, NICK ELLSWORTH

Tenor saxophones: ADAM ZACZEK, DANIEL FABER-MANNING

Baritone saxophone: CRYSTAL ZOODSMA

Trumpets: MATT COON, BRIAN TILLMAN, BEN LINCHUCK, GREG

CASTO, DEREK D'ARCY

Trombones: MEG LINDON, DAVID DUHAMEL, AMY SCHMITT, KEITH OSGOOD

Piano: ROSE MANDEL

Guitar: ROBERT LEON

Bass: KARL DIENER

Drums: AVI STARK

3:50-4:10 Exit 8 A Cappella

KRISTIN ECKERT, AMELIA MILLAR, SHELLY MASSACHI, LEAH RANDAZZO, CASEY SEARS, JULIA MASOTTI, ALI NIEMIEC, MARY RAGUS, ELYSSA RAMIREZ, NICK COTRUPI, PATRICK DANIELS, ZACHARY DUBOIS, RUSSELL ALLEN, BENNETT MARANO, JONATHAN MUSHOCK, JEFFREY ZEITLER

4:10-4:30 Hips 'n Harmony A Cappella

EMILY CIRINCIONE, ALI NIEMIEC, EMILY RITTENHOUSE, THERESA JOHNSON, AMADI BELLEH, NICOLE SIMONS, SEOJUNG CHUNG, SKYLAR JAMESON, KATELYN HEARFIELD

DANCE PERFORMANCE

1:20 pm Union Ballroom Stage

Geneseo Bhangra

PERFORMERS: ASAD KHAN, ARIELLE HERBERGER, IRIS HUANG, HAMZA MURTAZA, RESHMA NAIR, NAVNEETH NARAYANAN, ALI REHMAN
FACULTY SPONSOR: RANDY KAPLAN, THEATRE/DANCE

Geneseo Bhangra is a competitive Indian dance team on campus. This genre of dance comes from the Punjabi culture from Pakistan and India. It is a high-energy dance that was originally a celebration of harvest and is now commonly performed at weddings and competitions.

The Jack '76 and Carol '76 Kramer Endowed Lectureship

KEYNOTE ADDRESS

Wadsworth Auditorium • 1:45 – 2:45 PM

Introduction by Christopher Dahl, President

Dr. Fredrik Hiebert **“Afghanistan — Then and Now”**

About Dr. Hiebert: National Geographic Explorer and NG’s first Archaeology Fellow, Fredrik Hiebert has studied ancient trade across Asia for more than twenty-five years. Though awarded a citation as a “Future Scientist” in 1972, his interests shifted and he attended Interlochen Arts Academy with a focus on graphic arts. He became involved in archaeology while studying art in Paris, and joined a French expedition investigating ancient seafaring between Mesopotamia and India. He completed his doctoral dissertation at Harvard University in 1992, documenting a 4000-year old civilization in the sands of Central Asia. He served as the Dyson Assistant Professor of Anthropology at the University of Pennsylvania before joining the National Geographic Society as Archaeology Fellow in 2003. He is married to archaeologist Katherine Moore and lives in Havertown, Pennsylvania.

Pursuing his fascination with ancient overland cultural connections, he led a 10-year long research project at the famous site of Anau Depe in Turkmenistan. This site spans the period from the earliest villages north of the Kopet Dag mountain range to the medieval cities of the great Khanates of Central Asia. More recently, he has collaborated with engineer Albert Lin on using satellite images to find ancient sites without disturbing the ground surface in Mongolia.

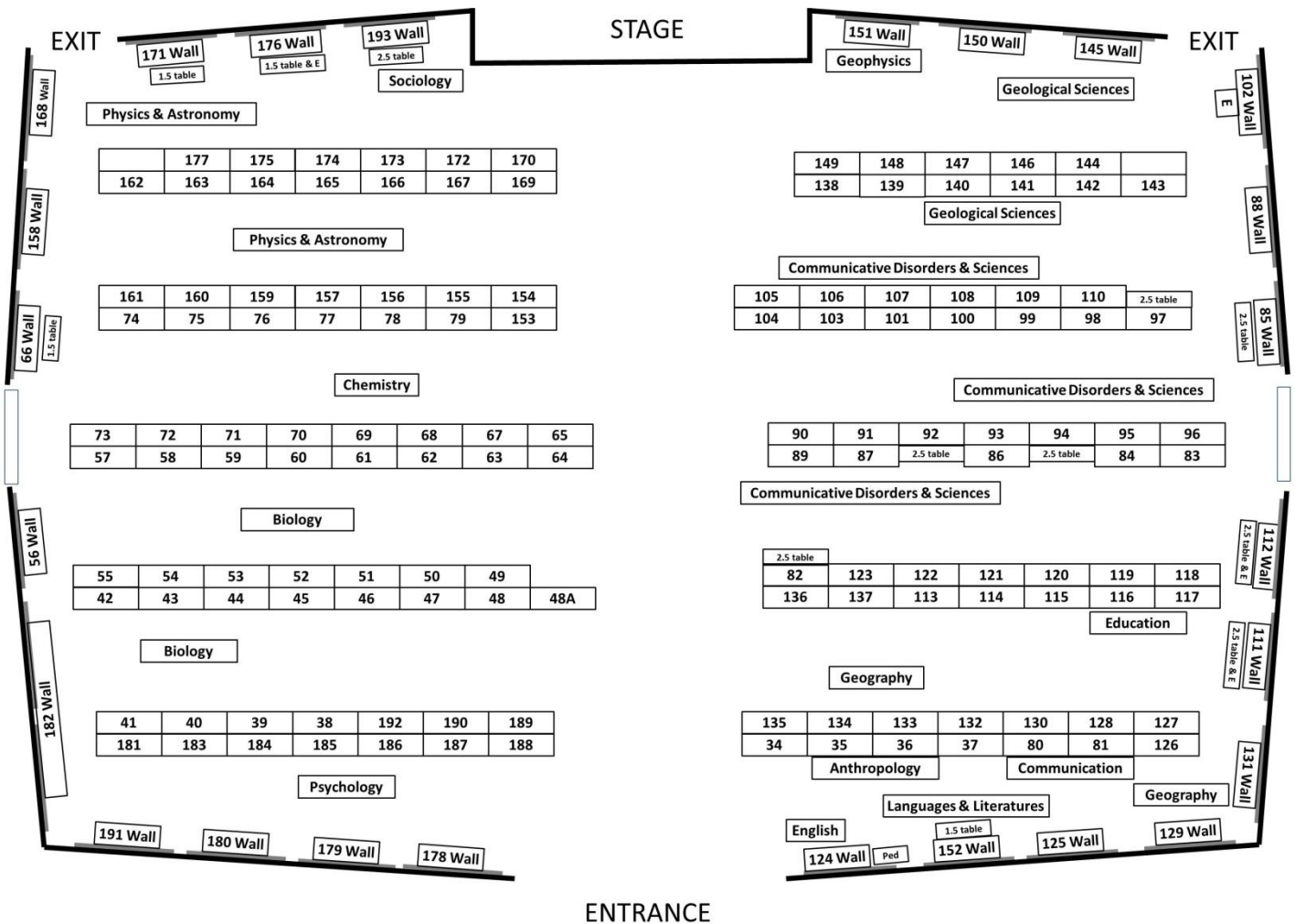
In 1994, Fred founded the Black Sea Trade Project, the first archaeological expedition to combine both land and deep-water archaeology in a single research plan. He is the chief archaeologist on Robert Ballard’s projects in the Black Sea. Seven seasons of land explorations along the Black Sea coast at Sinop have identified more than 170 ancient archaeological sites on land, documenting the importance of the sea trade in the Black Sea. Discoveries of archaeological remains underwater on the flooded shelf near Sinop have led to a re-evaluation of Biblical flood stories and a new understanding of life around the Black Sea some 7000 years ago. Since that time, he has applied sonar technologies to archaeological settings in Lake Titicaca, Bolivia, and Lake Issykul, Kazakhstan.

In 2003, Fred began a project in Afghanistan for National Geographic that has become famous around the world. Working with museum curators at the Kabul National Museum in Afghanistan, he led the team that conducted an inventory of the newly-discovered treasures of the museum: art objects and archaeological finds which had been hidden for their protection during a tumultuous decade of civil war. After years of study and archival work, a selection of the objects has appeared as a special National Geographic exhibition around the United States and Europe. Fred curated this exhibition in addition to working to secure the cultural heritage of Afghanistan through advocacy, training, development of museum resources. In addition, he has been active in working with U.S. armed forces on developing a program of cultural heritage awareness for service members.

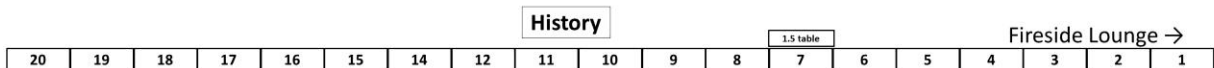
In 2011, National Geographic and Fredrik Hiebert debuted a new traveling exhibition in collaboration with Lucas Films: “Indiana Jones and the Adventure of Archaeology”, which links objects and images from the famous films with real treasures and real stories from the world’s great archaeology museums. This show finally convinced his two sons, now 20 and 14, that their father really is an archaeologist.

In addition to other honors, Fredrik Hiebert received the chairman’s award from the National Geographic Committee on Research and Exploration in 1998 for his work on the Black Sea flood and its Biblical connections.

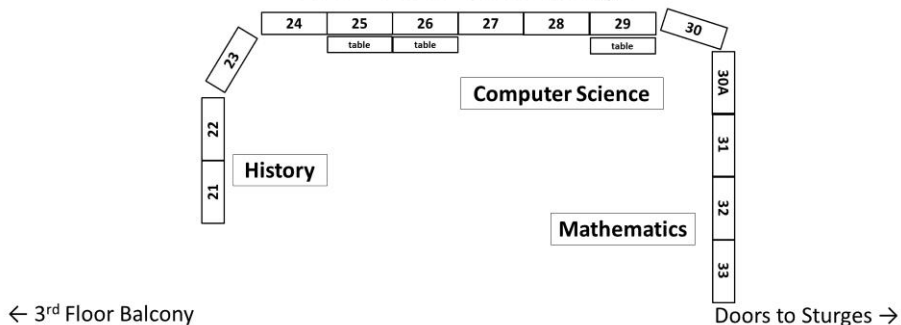
GREAT Day 2012 Poster Locations – College Union Ballroom



CU 3rd Floor Balcony



CU 3rd Floor East Lounge



POSTER ABSTRACTS

COLLEGE UNION BALCONY

HISTORY

1 • Portrayals of Black Women in the Media

LACEE HAMILTON, CANDACE HAIRSTON

FACULTY SPONSOR: CATHERINE ADAMS, HISTORY

For this presentation we want to look at how black women are portrayed in the media. We are going to look at such archetypes like the jezebel, sapphire and the mamie. With this presentation we hope to figure out why black women are portrayed so harshly in the media.

2 • Marshall McLuhan: The Medium is the Message

VINCENT NICOLosi

FACULTY SPONSOR: CATHERINE ADAMS, HISTORY

Marshall McLuhan was a popular media scholar of the 1960s. He was famous for his critiques of technology and modern media. One of his most famous aphorisms, 'the medium is the message,' claimed that the medium of any given technology is at the very least just as important as the message the said medium carries. For example, the content on television is not as important as the fact that the television has had a dramatic social impact on our society. In the twenty-first century McLuhan's theories have come back to life because of the rise of social media and ever growing presence of technology. This poster is an extension of my Honors Thesis and is an attempt to reexamine McLuhan's theories by applying them to modern technologies.

3 • Current Balloting Methods Worse than Nineteenth Century Voting?

ALEXIS SKILL

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

This poster will be able to display the issues and ideas behind balloting and voting machines. The differences between voting in the 1800's and current voting tactics will be explained. It will also be discussed on which balloting technique is best for current politics. We will discuss how this system of voting was corrupted which caused, and still may cause, many issues with-in states in the nineteenth century. We will also look into the idea that balloting and voting tactics today are still possibly corrupted. If they are, who is responsible for this? How does it happen with the government and laws the country has? This poster will show in detail, how voting machines have changed from the nineteenth century and whether or not the change is for the better. Many different sources from books to web articles will be used in the research of this topic.

4 • Student Voting: How Politicians Have Attempted to Dissuade Students from Being Active in Politics

CAILEIGH COLLINS

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

I will be completing my poster on specific occurrences of politicians passing specific legislation which aim to

prevent students from voting. The poster will also explain the goals of these politicians, and why it would help their political career. My goal is to see if there are any patterns of what states' examples of this prevention are happening in, and which political parties are more involved.

5 • No Party for Black America

CASEY HOWARD

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

It is becoming evident that in America, blacks are living under foreign policy. Foreign insofar as the government does not meet the demands or concerns of her citizens. The Democratic Party, largely supported by Black America, does not actually support black beliefs. Instead it offers the lesser of two evils when compared to the Republican Party, therefore offering blacks in America little support. Regarding issues ranging from same-sex marriage to support of trade unions, blacks are not being represented by the Democratic Party but continue to blindly support it. It is the presenter's goal to illuminate the level to which black Americans fail to be supported by any political party, especially the party to which most of them belong.

6 • The Legacy of the Civil Rights Movement in Contemporary Politics

CODY PRUGH

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

Out of all the topic ideas that were given or offered as topics to my GREAT Day Poster Presentation for my History 288 class, I decided to select: The Legacy of the Civil Rights Movement in Contemporary Politics; and would focus more on what value or meaning this has on Modern Times in the United States and why this is an important subject that should be subject in schools and communities than it is currently. A brief description of my poster presentation and what it would cover is a brief overview of the history of the Civil Rights movement, and then to explain how its legacy is still seen today in modern times in the United States and what impact it has had on recent civil rights issues and events that have occurred recently in our nation.

7 • Racial Gerrymandering in the Contemporary United States

COLE DECLERCK, STEPHEN LANE

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

The political art of gerrymandering, or when political parties manipulate district lines for their own advantage, is a problematic issue that occurs every decade when new census surveys are recorded and voting areas are redistricted. Gerrymandering is not only a conflict that affects elected officials' campaigns, but also one for racial minority groups who may reside in a gerrymandered district. To complete this poster, research will be conducted that sheds light on recent examples of gerrymandering restricting the voice of minority groups in the United States, and it will answer the question of why the practice still occurs. To demonstrate how the political

voice of minority groups are suppressed, various states such as California will be examined to illustrate how the practice still exists and affects minorities to this day. In this examination, a diverse group of sources will be used to research the contemporary art of gerrymandering which includes academic journal articles, articles from reputable news organizations, and credible web sources. Gerrymandering is a practice that has played an extensive role in the political voice of the nation's minority, and continually changes and challenges the meaning of these citizen's votes.

8 • Gerrymandering and Redistricting: The Past and Present

DIANA JOSEPH, TAYLOR NAUGLE

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

The idea that the past is connected to the future has been said by many people. During the nineteenth century the tactic of Gerrymandering and Redistricting was used to prevent African Americans from voting. The idea of Gerrymandering and Redistricting are changing the boundary lines of where one lives. This tactic was used as a way to stop the large African American population from voting or having their votes count for less if they did choose to vote. The same idea that prevented a large population to lose their voting rights may occur in present day Rochester, NY. The present day issue brings one to think how the past issues of gerrymandering and redistricting have an impact today. Through the uses of graphs, census report, and documents of the past will show how the different races of Rochester would be affected. The larger implication of this research is to show the negative consequences of gerrymandering and redistricting and provide evidence to display affects it will have on the minorities in Rochester, NY.

9 • What's The Big Deal About Voting? I'm Just A College Student!

DONTE MONSON

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

My poster presentation will look into the significance behind college students being involved in and educated on politics and voting. Particularly looking at the statistics of participating citizens between the ages of 18 and 23 over the last decade, as well as some factors as to why the participation has increased dramatically within the last 5 years.

10 • Racial Language in Presidential Campaigns

GENTARO RAMADHAN, TERRENCE BEVINS, LIAM ENRIGHT

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

This poster proposes to examine the rhetoric and diction used by US presidential candidates during their campaigns. This poster will specifically explore the implications of racially oriented language and its influence on candidate popularity, votes, and the candidates campaign at large. Efforts to appeal to or alienate certain populations based on race seems to be an inevitable occurrence in presidential campaigns given the complicated racial history and

the resulting racial tension in US society. This presentation will explore specific uses of language with racial undertones in presidential campaigns in order to further understand the sentiments of the leaders of the nation. To what extent is the overt use of racial language among candidates a subversive attempt to promote prejudice? Do candidates practice the use of racial language as a progressive attempt to introduce and begin to tackle long-standing issues of racial inequality? This poster presentation will explore these issues by citing the words of US presidential candidates and finding connections between their words and resulting events.

11 • Voter Suppression and Disenfranchisement

JASON CHON

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

This poster proposes to make clearer the problems with contemporary voting practices by examining them through the lens of the past and historical precedents in voter manipulation, voter fraud, biased voting laws and other areas. The poster and its associated research will explore ways in which voters rights have been abridged in the past (Ballot box stuffing, violent intimidation, etc.) and how they continue to be undermined (redistricting, gerrymandering, etc.). The poster will also examine possible reasons for use of these methods of disenfranchisement (partisan politics, etc.). Possible sources for this research include Supreme Court decisions, state voting laws, and works by authorities on the subject of voter disenfranchisement.

12 • Voter Suppression in Recent Elections and South Carolina's Voter ID Law

JULIANA BRESOVSKI

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

This poster intends to analyze the issue of voter suppression in recent elections by specifically concentrating on South Carolina's voter ID law. Analysis of this law will identify those who are affected and targeted, both positively and negatively, by the voter ID law, and who it will keep from being able to vote. South Carolina and other southern states must obtain preclearance from the Justice Department before enforcing a law that affects voting. This occurs because these southern states have a history of racial voter discrimination from Reconstruction up through the Civil Rights Movement. After South Carolina proposed their voter ID law, the Justice Department rejected it in December of 2011. Now the state of South Carolina has decided to fight against the Justice Department's decision. By looking at recent examples of voter suppression this poster will address the following questions. Why does South Carolina deem their voter ID law necessary? And why voter suppression is still occurring in today's local and national elections? In order to help answer these questions, news reports, government documents, and pertinent laws, such as South Carolina's voter ID law and the Voting Rights Act, will be extensively researched.

13 • The Low and High Pitches of Dog-Whistle Politics

KATHERINE MENJIVAR

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

This project examines the term dog-whistle politics (the use of coded, ambiguous language to appeal to the prejudices of certain individuals), its history in certain past presidential elections, and its resurgence in the 2012 presidential race. In political rhetoric, the use of bigoted statements or "dog-whistles," such as "food-stamp president," "uppity," "strapping young buck," grants politicians agency and allows them to hide behind the implicit nature of their words. Through my research, I will explore the reasons why these messages have been used, while attempting to answer the following: Is dog-whistling an effective tool for political gain or does it hold a greater influence in our society? Furthermore, I would like to understand the manipulative nature of dog-whistling politics and its role in the dynamic process of voter-making decisions. To what extent do dog-whistles appeal and/or persuade a politician's audience?

14 • The Fight With No End: Voting Equality in America

KATHRYN HART

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

Ever since the fall of Radical Reconstruction, African Americans have faced intimidation, poll taxes, literacy tests, gerrymandering, and many other tactics used by whites to suppress their right to vote. Finally, in 1965 the Voting Rights Act outlawed many of these tactics. This legislation brought African Americans much closer to equality once they were given a voice. However, the Voting Rights Act of 1965 is being constantly tested. The fight for voting equality has begun to appear as a never ending battle as states are passing legislation to decrease voter eligibility even in the elections of 2012. With the persistence of state governments trying to limit the vote for American citizens, the Voting Rights Act of 1865's strength. Can the Voting Rights Act of 1865 overcome the new inequalities of proposed state legislation in 2012?

15 • Question of Equality: Youth Participation in Electoral Politics

KATIE JESAITIS, SARAH NAFIS

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

For our project, we aim to look at the changing demographic of youth voters in presidential elections. Beginning with the Student Nonviolent Coordinating Committee and the 26th amendment, and leading up to groups such as Rock the Vote and Project Vote, the focus has shifted in youth voting. Are political processes today preventing youths from voting? If so, how does this affect elections? We will examine this by looking at legislation passed at state and national levels, news articles, Supreme Court cases, election statistics, and mission statements of these various organizations. By analyzing these different sources, we hope to find the difference in youth voting from the civil rights era to today.

16 • Gerrymandering: Political Redistricting and its Effect on Racial Representation

LIAM COLLINS, SHANE SMITH

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

Political redistricting as a tool of racial prejudice, or Gerrymandering as it has been called in some historical contexts, has been utilized since the Reconstruction Era. In reshaping voting districts, racial majorities in local populations can be skewed, with the tactic's ultimate goal being the attainment of political representation swinging in one direction. Notably, this tactic was used by Southern Democrats as one way to keep Black Republicans out of office following the Civil War. The issue has not faded with time, however, as there are still many cases of strategic redistricting documented on a countrywide basis today, with an unfortunate impact of robbing racial minorities of representation. This overview examines news sources, Census data, and political hearings in order to synthesize the effects of Gerrymandering and redistricting. We are able to see the effect of this tactic and its historical impact in changes in voting patterns and the achievement of political representation. Its impact as a racial tool has waned due to Congressional intervention; however its presence is still felt.

17 • Felon Disenfranchisement

SAM GORINSKY, DAVID O'DONNELL, MIGUEL BAIQUE

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

In our GREAT Day Presentation, we will focus on the topic of felon disenfranchisement. There are ongoing questions whether or not felons are fit to vote because of their previous crimes and if it's unconstitutional to not allow felons to vote. Obviously, excluding felons from the voting process has certain implications but by starting from a sociological perspective, we will look at the groups of people that generally make up the US jail populations and then find out which ones are generally excluded. Some questions to consider are: who is affected by this voter exclusion? Will this have significant sway at the polls? And which states are the ones lobbying for this legislation?

18 • The History of the African American Vote Beyond 1910

SHANTEL GILES

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

1910 is the marking point of the climax in which disfranchisement had impacted the African American vote. Up to this time African Americans mainly in the south were fighting for the right to vote in which was granted to them by the 15th amendment. After so much chaos and negative outcomes the north eventually stopped lending a helping hand to the southern blacks making to possibility of retaining the right to vote even harder. This poster will serve as an overview of the African American vote history as well will uncover the reason in which why the amounts of votes changed over time. Rumors have said that the main reason behind presidents Obama election is that African Americans voted for him because he was black. Through this research well be able to see if this rumor is true or false. As well by the end of this poster I hope to reveal how the impact of disfranchisement has not disappeared and has impacted the African American vote so severe it has not returned to the status before 1910.

19 • Racial Language in Presidential Campaigns

YASMINE TAHA, ERIN SMITH

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

This project proposes to analyze the political rhetoric spoken by past presidents and the current presidential candidates that hold racist undertones. The bigoted aspects of such speech are not always obvious, and the general public may not always pick up on them. However, through the research of this language's intent, the use of these words to produce a desired reaction from the population that the politician aims to influence will be revealed. Direct quotes from interviews and speeches will be displayed throughout this project, along with the backlash that later accompanies them. Those who are able to recognize the offensive nature of the content will denounce it for its offensive nature and reinforcement of harmful stereotypes. It is important to understand that racism is still a very prevalent issue within the United States. This could not be more obvious, as those who have held the most prestigious political position, the presidency, are aware of the fact that they can still sway the public in their favor with the use of biased remarks that trigger the hatred of certain races.

20 • 1941 HAG: Museum Studies Experience in Geneseo's Backyard

DANA BESMANOFF, NICHOLAS FENIK, IAN MACPHERSON

FACULTY SPONSOR: KATHLEEN MAPES, HISTORY

Interns at the 1941 Historical Aircraft Group (HAG) Museum work to make museum collections more accessible to the general public. Tasks include creating informative displays for aircrafts, designing exhibits, managing collections, and researching donations. The newest endeavor is the aesthetic restoration of the museum's C-119, a World War II-era military transport plane. Interns work cooperatively and enhance their knowledge and skills in the area of museum studies. They also acquire knowledge of the planes by working with primary source material and interacting with 1941 HAG members.

20A • After Effects of the Rochester Riot of 1964

YUSUF ABDI

FACULTY SPONSOR: JUSTIN BEHREND, HISTORY

My research will investigate the Rochester Riot of 1964. The Rochester Riot exposed racial tension from segregated neighbors to segregated job opportunities. But what was the legacy of the riot on the prospering city? To what extent did the city's leaders and communities address the racial and economic conflicts in Rochester? Since the riot schools and job marketing as become equal but more segregated. After 48 years we can examine how the effects of racial separation has benefit or negatively affected but Rochester and other racial divided cities in the USA. Through an examination of population demographics as well as other economic and social indicators, I will be taking a deeper look as to how the riot impacted Rochester today.

COLLEGE UNION EAST LOUNGE

21 • 1941 Historical Aircraft Group Museum Dakota Display

JOANIE DRAKE

FACULTY SPONSOR: KATHLEEN MAPES, HISTORY

The 1941 Historical Aircraft Group Museum holds a Dakota. Student interns at the museum have researched the plane extensively and designed an information panel to stand with it on location. This display presents interesting and relevant information to museum visitors with all levels of knowledge of the aircraft.

22 • The Internship that Changed My Mind

LUKE RAGUE

FACULTY SPONSOR: KATHLEEN MAPES, HISTORY

In the past three years I have told myself and others that I wanted to go to law school and possibly become a lawyer. In pursuing this ambition, I have conducted several internships over a period of two years. This semester I had the opportunity to participate in an extended internship for six college credits. However, this most recent stint has not had the intended effects; rather than strengthening my desire for law, it has made me reconsider my future and move in an opposite direction. Various factors have impacted this decision, including personal preferences, professional preferences, and moral objections, however the biggest factor is the simple fact that I have found myself unbearably apathetic towards the work that has been given to me. To counter this boredom I find myself yearning for more fulfilling professions, and ultimately it has pushed me to take action towards a career as a Professional Ski Patrolter. Yet, my time has not been wasted: this internship has taught me many valuable lessons to be used in any profession and in life itself, and it has saved me from making this determination several tens of thousands of dollars later.

23 • 1941 Historical Aircraft Group Museum Antonov Display

VINCENT NICOLISI

FACULTY SPONSOR: KATHLEEN MAPES, HISTORY

The 1941 Historical Aircraft Group Museum holds an Antonov, a Soviet-built aircraft. Student interns at the museum have researched the plane extensively and designed an information panel to stand with it on location. This display presents interesting and relevant information to museum visitors with all levels of knowledge of the aircraft.

COMPUTER SCIENCE

24 • "EMSCRIBE" - An Emergency Medical Services Documentation Application for Android Devices

CAROLINE SCHWARTZ

FACULTY SPONSOR: CHRISTIAN SHIN, COMPUTER SCIENCE

Smart phones have drastically increased in popularity in the past few years due to the wide variety of applications available to users. With more and more applications being available on both iPhones and Android based devices, consumers are now turning to mobile devices to serve basic needs. EMScribe is a

documentation and reference application designed for use by Emergency Medical Technicians and medical providers during a 911 call. Using Geneseo as a test location, EMScribe provides protocols that are current and specific for the Monroe and Livingston County region. Beyond basic functionalities, EMScribe has a unique and user-friendly environment that will improve both quality of care for patients and thorough documentation.

25 • Development of a Tool for Creation of New Document Image Analysis Algorithms

DANIEL MCARDLE

FACULTY SPONSOR: CHRISTIAN SHIN, COMPUTER SCIENCE

The goal of this project is to create a tool to aid the creation of new Document Image Analysis algorithms. The MATLAB-based application contains two display areas for viewing an image and the results of various functions that have been run on it, such as binarization, connected component analysis, and projection profiles. The program allows the user to draw rectangles that will automatically shrink to the black pixels inside it, as well as export and import this region data to and from files. One potential use of this application would be to create ground truth data for testing correctness of segmentation algorithms. Another potential use case would be gain familiarity with how an algorithm works by seeing a visual output of what the algorithm has at each state. The application includes implementations of page segmentation algorithms described by Apostolos Antonacopoulos and Theo Pavlidis and, as part of Pavlidis' algorithm, includes an algorithm for classifying segmented image blocks as halftone image, text, or line drawing using information from a cross correlation function borrowed from the field of signal processing.

26 • Munchful: Mobile Food Ordering in Geneseo

JEFFREY SINGER, JAMIE MATTHEWS

FACULTY SPONSOR: CHRISTIAN SHIN, COMPUTER SCIENCE

Munchful is an Android Application, and mobile optimized website that allows users to find nearby cooperating restaurants, browse the entire menus, put together an order with the ability to calculate the price in real time, and place an order for pickup or delivery without making a phone call. The application is location aware, showing only restaurants that will deliver to your current location, or that are within the distance you specify for pickup, and guesses where you want your food delivered to based on your current location. It is socially integrated, users log in via their Facebook account, associating saved credit information with it, post that they have ordered to their friends, and save other information associated with their account.

27 • Euchre Tournay Android Application

KELLY KEENEHAN

FACULTY SPONSOR: CHRISTIAN SHIN, COMPUTER SCIENCE

Euchre Tournay is an Android application I began developing in the Fall 2011 semester. This application

is written in the Java Programming Language and utilizes the Android SDK tools to compile the code. Euchre Tourney will allow users to efficiently organize a Euchre tournament. Features of this application include player name input, number of rounds calculator, table/teammate assignments, tournament scorecard, trump marker, adjustable timer, payout calculator and game point counter. The user of Euchre Tourney may enter up to fifty names for a Euchre tournament and select the number of rounds for the tournament. The user is then taken to a Preferences Screen in which he/she can define various settings for the tournament. An editable scoreboard is created to keep track of each individual's points per round. The scoreboard can be e-mailed to any number of mail recipients. Additionally, the user can view the different partner/table assignments for each round as well as the ending payouts for the tournament. For each round of play, the user may chose to utilize a trump marker, an adjustable timer and/or a point counter. By the end of this semester, the Euchre Tourney application will be ready to be placed on the Android Market.

28 • Zombie City: A Tower Defense Game for the Android Platform

THOMAS BANAHAN

FACULTY SPONSOR: CHRISTIAN SHIN, COMPUTER SCIENCE

Android is an increasingly popular platform that offers incredible opportunity for independently developed software. Zombie City is a game designed to utilize the strengths of a mobile platform, and be enjoyable for casual and serious gamers alike. The game automatically saves progress so the player need not worry about playing for any length of time they wish, or receiving a phone call or text during gameplay. The player is tasked with building a city and keeping its citizens happy, all the while holding off endless waves of increasingly powerful zombie attackers. The combination of the already popular genres of tower defense and city simulation, offers a uniquely challenging experience. The theme of a Zombie Apocalypse was selected because it is currently very popular, and offers a simple explanation for an infinite number of mindless enemies. The game currently includes 30 player-constructible buildings, 6 unique enemy types, and randomly generated maps for maximum replay-ability. More enemies and possibly more buildings will be included in the final release. Areas of research during the development of this application included touch screen interfaces, accelerometers, game design, path finding, and graphics.

29 • Computer Assessment and Remediation of Elementary School Students' Mathematical Understanding

NATHAN JOHNSON

FACULTY SPONSORS: DOUGLAS BALDWIN, COMPUTER SCIENCE AND DENNIS SHOWERS, SCHOOL OF EDUCATION

Recognizing error patterns in an elementary school student's arithmetic provides valuable insight into the student's mathematical understanding. This insight allows for individualized remediation to

effectively correct misconceptions before they become ingrained in the student's practice. However, classroom teachers often lack the time or training necessary to identify and address such misconceptions. Consequently, the eventual feedback students receive is usually limited to "right" or "wrong" with no targeted further instruction. This project aims to develop Web-based software designed to immediately assess, improve, and strengthen a student's mathematical understanding based on responses to automatically generated arithmetic problems consistent with the Common Core State Standards for Mathematics.

30 • Visualizing the Game of Life on a Parallel Computing Cluster

HERBERT SUSMANN

FACULTY SPONSOR: HOMMA FARIAN, COMPUTER SCIENCE

The Game of Life is a famous cellular automata in which individual cells on a grid can be either alive or dormant. Cells change between states based on the state of its neighboring cells. We implemented a cluster based visualization of the Game of Life. The application is written in C and is distributed over a computing cluster. The cluster is made up of sixteen computers with individual monitors arranged in a four by four grid. The Game of Life is parallelized by distributing the grid to each computer in the cluster. As such, each computer is responsible for updating a subset of the total game grid. As the Game of Life runs the monitors display a visualization of the algorithm's progress. The overall result is displayed over all the monitor. The visualization allows observers to watch the Game of Life progress on a very large grid. Parallelization of the program allows both a physically larger visualization and faster execution of the algorithm. By combining parallelization with graphical visualization we have created an unique, engaging way to view the Game of Life.

30A • Perfecting the Vigenère Cipher

MARCOS DAVILA

FACULTY SPONSOR: HOMMA FARIAN, COMPUTER SCIENCE

For almost 300 years, the Vigenère Cipher was considered to be "the unbreakable cipher", given this title for its ability to partially mask letter frequency by utilizing polyalphabetic substitution. Since its inception, the Vigenère cipher has contributed much study to the field of cryptology and mathematics and was the forerunner to the first provably unbreakable cipher. The intent of this project was to assess the weaknesses of the Vigenère Cipher in common usage and create a modification of the traditional cipher that preserves the strengths of the original while mitigating the weaknesses to devise a cipher that has the properties of being secure while still being quick and easy to implement. This was done by getting the length of the input and then asking for a key of a specified length or by randomly generating one. The process was further sped up by utilizing look-up tables, which proved to be much more efficient than the mathematical formulas that would be used to produce equivalent outcomes. The conclusion that has been drawn is that with the proper key and usage, the Vigenère Cipher can

provide acceptable performance for situations that do not require failproof security.

31 • Constructing a Portable Computer Cluster Using Laptops

WYATT GORMAN

FACULTY SPONSOR: HOMMA FARIAN, COMPUTER SCIENCE

Computer clusters are extremely powerful, versatile tools which allow us to accomplish tasks much faster than we can on single machines. They are, however, typically large immobile groups of computers which require significant amounts of dedicated power, space and cooling to operate. However, each of these requirements can be minimized by constructing a cluster using laptops. This also allows these clusters to be moved into a location advantageous to those utilizing it, rather than having the users come to it, maximizing ease of use and visibility. The process of building such a cluster is an intricate combination of hardware and software. I have undertaken this challenge and am currently working on such a cluster of 20 laptop computers provided by the SUNY Geneseo Distributed Systems Lab. This undertaking will culminate in a portable laptop cluster and a video wall for the visualization of data. The video wall is made up of the laptop monitors arranged in a grid pattern, and acts as one large screen. The cluster and the video wall together provides increased processing power and screen space, providing a higher-resolution and more detailed display of the data processed on it compared to a single computer.

MATHEMATICS

32 • Partial Differential Equations and Stochastic Processes

JACK CRISTOFOLLETTI

FACULTY SPONSOR: ANDRZEJ KEDZIERAWSKI, MATHEMATICS

We use partial differential equations to model and analyze stochastic processes. In particular, we examine the relationship between Brownian motion and solutions of the Laplace equation. Additionally, we use the Kolmogorov partial differential equation to predict the expected values of gambling revenues. We illustrate our procedure with several Maple and MATLAB programs. Our solution may have a practical applications related to banking and investing.

33 • Inverse Problems for the Heat Equation and Thermal Tomography

MICHAEL KUSHNIR

FACULTY SPONSOR: ANDRZEJ KEDZIERAWSKI, MATHEMATICS

Solving inverse problems for the heat equation permits the study of physical properties of a material. Knowing an objects heat distribution at a particular time t and having knowledge of the diffusion coefficients allows us to determine the unknown initial temperature and to study the heat flow and physical properties of the body. These problems are explored mathematically and solved numerically in MATLAB. These theoretical solutions have numerous practical applications in physical systems.

COLLEGE UNION BALLROOM**ANTHROPOLOGY****34 • A Comparison of Fire Cracked Rock Distribution at the Lady's Run and Brown's Bottom 1 Sites: An Analysis of Ohio Hopewell Sedantism**

SANDRA BENDER, ERIN STEINWACHS

FACULTY SPONSOR: PAUL PACHECO, ANTHROPOLOGY

Investigation at the Lady's Run site produced evidence of an Ohio Hopewell domestic settlement on the Harness Farm, located 10 km south of Chillicothe, Ohio, on the Scioto River flood plain. Excavations conducted during the 2007-2011 field seasons uncovered multiple secondary refuse deposits at the site. In habitation sites, the distribution and density of fire cracked rock (FCR) alone is an excellent indicator of patterns of past human behavior. A comparison between FCR concentration within the secondary refuse deposits at Lady's Run and Earth Ovens from Brown's Bottom #1 and Lady's Run demonstrates distinct patterns of rock utilization and secondary refuse disposal. Focusing on FCR concentrations at both sites, the data analysis supports the assertion that Middle Woodland people, Ohio Hopewell culture, resided in sedentary complexes at the Lady's Run site.

35 • Quantitative Analysis of Prehensile Tail Use in *Alouatta palliata**palliata*

SANDRA BENDER, ERIN STEINWACHS, JULIANNA PHILIPSON

FACULTY SPONSOR: BARBARA WELKER, ANTHROPOLOGY

Howler monkeys, along with several other genera of New World monkeys, are characterized by prehensile tails. Their tails are used for balance, support, and as an additional appendage. We investigated the frequency of prehensile tail use in a group of mantled howler monkeys on Isla Ometepe, Nicaragua, from 31-XII-11 to -I-12, yielding 30 hr of data. Results indicate that the monkeys use their tails for assistance in three main functions: feeding (34.6%), locomotion (vertical= 17.0% and horizontal= 30.4%), and resting (18.1%). Tail use varied greatly within each of those activities and by age. Adults used their tails most during feeding and vertical locomotion ($\chi^2=41.8$, $df=3$, $p=0.00$). Juveniles used their tails almost exclusively during locomotion, with very little use in the other two categories ($\chi^2=168.1$, $df=3$, $p=0.00$). When feeding, animals most often had their tails wrapped around a branch ($\chi^2=17.4$, $df=3$, $p=0.00$). While moving horizontally, their tails were usually free ($\chi^2=86.4$, $df=3$, $p=0.00$). Finally, when moving vertically, their tails were usually wrapped around the branch they were currently on ($\chi^2=17.7$, $df=4$, $p<0.01$). We conclude that the animals use their tails primarily to support themselves when feeding and climbing, as those are more precarious activities than forward/horizontal movement, when more appendages would be grasping the current substrate.

36 • Sleeping Site Selection in Howler Monkeys of Ometepe Island, Nicaragua

MEAGAN WHEATLEY, ROSANNA CONSIGLIO, DEBORAH FARRIS

FACULTY SPONSOR: BARBARA WELKER, ANTHROPOLOGY

Primate sleeping site selection has recently seen renewed interest in the scientific community. A key factor identified in influencing sleeping site selection is safety provided from predators (Anderson 1998). Welker (in prep.) conducted a pilot study of night sleeping tree vs. day resting tree selection among a mantled howler group in Santa Rosa, Costa Rica. Our goal was to assess sleeping site selection among the mantled howlers of Ometepe, Nicaragua and subsequently compare our findings with the Santa Rosa group. Based on Welker's preliminary findings we predicted that Ometepe howlers would selectively choose smaller, terminal branches for night sleeping sites so as to be alerted via vibrations to an approaching predator. Data were collected for approximately 2.5 weeks from 30-XII-11 to 13-I-12 between 5:45 and 6:45am from four groups in different forest habitats. Our results indicate that Ometepe howlers preferred to sleep on terminal branches vs. those adjacent to the trunk ($\chi^2=79.77$, $df=2$, $p<0.005$) and they avoided sleeping on thicker branches ($\chi^2=13.72$, $df=2$, $p<0.005$). Consequently, the howler monkey groups of Ometepe do demonstrate a similar sleeping tree selection pattern as the howlers of Santa Rosa.

37 • Gender, Sexuality and Kinship

LEYDI BASILIO

FACULTY SPONSOR: DENICE SZAFRAN, ANTHROPOLOGY

Kinship offers a provisional and compelling language for understanding the powers and constraints of human relations. For a long time the topic of gay marriage and gay kinship has confounded America's public opinion. After taking a Sociolinguistic course with Dr. Szafran last semester, I became very interested in exploring whether there actually were any kinship terms to refer specifically to lesbians and gays. I looked into a variety of sources from ethnographies to historical background and found that gender, sexuality and kinship are intricately linked and thus cannot be analyzed in isolation. I especially took a close look into Kath Weston's ethnographic work on gay and lesbian communities in America, particularly within the San Francisco community, to explore how kinship is constructed. Although this under-represented group in society has opened the door to the creation of families different in kind and composition, the struggle to challenge the heterosexual gender configuration of the American cultural views of kinship remains.

BIOLOGY**38 • The Effect of Barley Straw on Algae Growth**

MICHAEL ARCURI, RAVIV KATZ

FACULTY SPONSOR: GEORGE BRIGGS, BIOLOGY

Although the reason has not been identified, it has been shown by some studies that Barley is a sufficient control for certain species of algae. We have created an experiment to quantify the

amount of algae within a controlled system with and without barley straw. In containers, we used distilled water with a controlled amount of fertilizer in each. We then inoculated each container with algae and placed barley straw in half the containers. After 2-3 weeks, we measured the algae in each container by measuring the amount of chlorophyll produced. This could help to further understand if barley straw will help control the growth of algae.

39 • The Effect of Electromagnetic Wavelength on Phototropism

MICHAEL ARCURI, RAVIV KATZ

FACULTY SPONSOR: GEORGE BRIGGS, BIOLOGY

Phototropism is an effect on plants in which the plants will physically bend towards the light source. Depending on the time in which the plants are exposed to light, the plants will have different responses. We tested the effect of different colors of LED light on the height and bending of Oat. For each plant, equal intensities of different color light are shown on the Oat plants after a certain growing period in the dark. After a period of light, the Oat plants are then let to grow in the dark again. The height and degree of bending are measured to analyze the effect of different colored light on the plants. This will help to further understand the effect of certain colors of light on plant growth.

40 • Neuron-specific Insulin Receptors Modulate Mesolimbic Dopamine Exocytosis

JULIANA GIACOMINI

FACULTY SPONSOR: GEORGE BRIGGS, BIOLOGY

Obesity affects a large portion of the population, currently over 60% according to the Center for Disease Control (2009). Mesolimbic dopamine codes for food reward and thus is hypothesized to play a role in the obesity epidemic. The purpose of the present study is to investigate the relationship between central insulin signaling pathways and dopaminergic neurotransmission. Although the role of peripheral insulin is well defined, that of central insulin is not well understood. This study used a neuron-specific insulin receptor knockout (NIRKO) mouse model which lacked insulin receptors in areas of the midbrain known for their role in dopamine release. Prior studies have shown that these animals develop diet-sensitive obesity which leads to the hypothesis that insulin signaling pathways may modulate the central dopaminergic system. Real-time carbon fiber amperometry was used to measure dopamine release in the dorsal striatum, nucleus accumbens, and prefrontal cortex in NIRKO and wild-type mice. This study provides preliminary data suggesting that there is a significant decrease in evoked dopamine release in NIRKO mice and, therefore, that insulin signaling in the midbrain has a role in modulating the central dopamine system.

41 • Medicinal Plants of the Yucatan Peninsula

SAMANTHA LUCREZIA

FACULTY SPONSOR: GEORGE BRIGGS, BIOLOGY

My research looked at the medicinal value of several plants: *Dorstenia contrajerva*, *Protium copal*, *Scirpus validus*, *Zanthoxylum fagara*, and

Cydistia aequinoctialis. Samples of these plants were all retrieved from the Yucatan Peninsula in Mexico.

42 • Mapping the Expression of a Novel 5-HT₇ Receptor in *Aplysia californica*

MATT CAVANAUGH, JULIANA GIACOMINI

FACULTY SPONSORS: DUANE MCPHERSON AND JANICE LOVETT, BIOLOGY

Aplysia californica is a marine gastropod commonly used in neurobiology. Serotonin, a neurotransmitter, plays a major role in modulating locomotion in *Aplysia*. In the foot muscle of *Aplysia* serotonin has been found to raise levels of cAMP, causing a stronger muscle contraction. Serotonin produces this reaction by interacting with the cell through a specific G-coupled protein receptor in the cell membrane. Our lab has previously isolated and cloned a serotonergic receptor that increases cAMP levels, a 5-HT₇ subtype. We have mapped the expression of this 5-HT₇ receptor at the tissue level. Expression levels were tested from samples of foot muscle, kidney, heart, and 15 buccal muscle, as well as the pedal, pleural, cerebral, abdominal and buccal ganglia. mRNA was extracted from each of these samples and used to create cDNA, which underwent PCR amplification with primers specific to the 5-HT₇ receptor. Actin mRNA was also extracted and tested for expression levels. Actin is a ubiquitous housekeeping protein that maintains constant levels of expression throughout all tissue types. The level of expression of 5-HT₇ for each sample was compared to the constant level of actin detected to determine the relative expression of the receptor. Results show that the 5-HT₇ receptor is consistently present in every sample tested, with the exception of heart tissue. This project was funded by a Geneseo Foundation Summer Fellowship.

43 • TMD-1/Tropomodulin Is An Important Actin Regulator In Intestinal Development In *Caenorhabditis Elegans*

RACHEL WALKER

FACULTY SPONSOR: ELISABETH PAULSON, BIOLOGY
While tube formation is vital in organogenesis, the process by which the fluid-filled lumen develops is not well understood. The intestine of *C. elegans* is a simple unbranched tube that is made via a cord hollowing mechanism. The apical membrane that surrounds the lumen contains a terminal web in which actin and intermediate filaments (IFs) form a meshwork. Our lab has identified a novel role for tropomodulin in regulating the shape of the lumen during tube formation. In vertebrates, tropomodulins regulate actin by capping the pointed ends of actin filaments, aiding in its copolymerization with tropomyosin, and by creating new actin filaments. TMD-1 localizes to the terminal web of the intestine; and our work shows that *tmd-1* (tm724) mutants have 26.6% less F-actin present in the terminal web. Currently, we are doing Western blot analysis to determine the nature of the *tmd-1* (tm724) strain to see if the allele is null or produces an abnormal sized protein. Preliminary data also shows that there may be a relationship between TMD-1 and the IFs in the terminal web. Therefore, TMD-1 may promote proper shape of the lumen by

supporting proper organization of the cytoskeleton in the terminal web.

44 • Analysis of the Changes in Vegetation of the Spencer J. Roemer Arboretum over a 12 Year Period

MOLLY JONES

FACULTY SPONSOR: GREGG HARTVIGSEN, BIOLOGY
A survey of the Spencer J. Roemer Arboretum's vegetation transect at SUNY Geneseo, established originally in 1999, was re-surveyed in the summer of 2011. We were primarily interested in investigating vegetation changes during this time. The survey consisted of quantifying the abundance of herbs, shrubs, vines, and trees in 144 5x5 plots along the 360 meter transect. We estimated cover, frequency, density, and basal area for all vascular species. We found that white ash and black walnut trees increased in importance. White ash saplings also have increased in importance. Non-invasive understory species decreased in importance, while many invasive understory species have been increasing in importance. As tree growth increases and the canopy thickens, understory growth may be decreasing due to decreasing access to light. The emerald ash borer may also cause more changes in white ash trees and saplings in future surveys as the insect enters the area and destroys this species.

45 • Using Evolutionary Computing Techniques to Better Understand the Relationship Between Structure and Function in *In Vitro* Neuronal Networks

NICHOLAS COLLISON

FACULTY SPONSOR: GREGG HARTVIGSEN, BIOLOGY
The field of computational neuroscience has seen the pace of data generation far exceed that of data analysis in recent years, and the increasing availability of data acquisition technology seems to suggest that trend's continuance. Microelectrode arrays (MEAs) enable the relatively high resolution and real-time recording of the electrical activity of monolayer neuronal networks *in vitro*. To make use of the vast amounts of data generated by MEAs, better methods of analyzing the recordings they make are needed. Accordingly, the goal of my work is two-fold: One, to develop a method for inferring the spatial and temporal characteristics of neuronal networks *in vitro*, and two, to be able to design networks with the capability of performing a desired computational function. Evolutionary computing techniques, which have proven to be useful in solving a wide range of biological problems, similarly lend themselves to network analysis, and are therefore suited to my work. Using a genetic algorithm, I was able to approximate the structures and functional characteristics of neuronal networks.

46 • Identification of Bacterial Symbionts Associated with Clonal Sea Star Larvae From the Open Ocean

PAUL SANDELL, SUSAN SNYDER

FACULTY SPONSOR: ISIDRO BOSCH, BIOLOGY
The larvae of the Caribbean cushion star, *Oreaster reticulatus*, reproduce asexually and also participate in

a symbiotic relationship with bacteria. Research in our lab addresses two questions: What is the identity of the bacteria? And, what is the nature of the symbiotic relationship? Using sequence analysis of amplified 16S-rDNA fragments we have identified the symbionts as photosynthetic bacteria of the genera *Prochlorococcus* and *Synechococcus* that may also be able to fix nitrogen. These bacteria may provide the larvae with resources, such as carbon and nitrogen, that may be essential to clonal reproduction while drifting in the nutrient-impooverished open ocean.

47 • The Migration and Raiding Patterns of Slavemaking Ants

JEFFREY LEVINE

FACULTY SPONSOR: JENNIFER APPLE, BIOLOGY
Slavemaking ants are social parasites that raid the nests of neighboring ant species, collect larvae and pupae, and raise the brood for their own workforce. In the 8-hectare Roemer Arboretum, the slavemaking ants *Formica subintegra* and *Formica pergandei* parasitize *Formica glacialis* (the host species). More than a dozen slavemaker colonies were monitored over three raiding seasons (summer 2009-2011). Eight colonies migrated at least once during these seasons and the most mobile colony migrated at least twice each of the three seasons. Characteristics of the raids of recently emigrated colonies were compared to pre-migration field data to determine how a migration event can be beneficial to the slavemaker colony. Factors such as raid distance and raid frequency were examined to determine if the high cost of migration (in energy, time, and risk of predation) could be offset by an increase in the number of potential host targets and a decrease in the distance from targets to the newly settled nest. Other local slavemaker colonies have remained stationary over four raiding seasons. The host colony density around stationary nests was compared to the density around nests before their migration. These results contribute to our understanding of the dynamics of slavemaker colony mobility.

48 • Survey of Collembola in an Early Successional Forest in Western New York: Comparing Sampling Methods

LAURA HANSEN

FACULTY SPONSOR: JENNIFER APPLE, BIOLOGY
Collembola (springtails) are a microarthropod subclass common in soil. Their diversity has been used to indicate soil health because of their abundance and sensitivity to pollution. They are important detritivores and consumers of bacteria, plant, and fungal matter. Specimens were collected from the eight-hectare Roemer Arboretum on the SUNY Geneseo campus in August 2011 using pitfall traps filled with propylene glycol. In September 2011, specimens were extracted using Tullgren funnels from soil samples taken near the pitfall traps. Specimens were identified as specifically as possible, they were measured, and any structural damage that prevented identification was noted. Pitfall trap specimens were mainly larger epedaphic species from families Tomoceridae and Entomobryidae. Epedaphic species live on the soil surface and generally have more developed appendages, eyes, and pigment patterns than

euedaphic species, which live within soil. Tullgren funnel specimens included the same species, but also included euedaphic Entomobryidae and species from family Isotomidae. Due to its extent, this difference in diversity was attributed to sampling method and not seasonal variation. The Tullgren funnel method collected a higher range of species, was less labor intensive, and had fewer damaged specimens and would be the method chosen for further survey.

48A • Using Carboxyfluorescein Succinimidyl Ester (CFSE) to Measure the Effects of Sulforaphane on Cell Division in a Human Leukemia Cell Line

OSCAR FELICIANO

FACULTY SPONSOR: ROBERT O'DONNELL, BIOLOGY
CFDA-SE is a non-permeable fluorescent molecule that can be used to measure the number of doublings in a population of cells in a given time. Once inside the membrane, cellular esterase cleaves off the acetate groups creating Carboxyfluorescein Succinimidyl Ester (CFSE). With each cell division the amount of CFSE is cut in half, which can be observed via flow cytometry. Experiments are planned with HL-60 cell line in the presence of sulforaphane and CFDA-SE in a PBS/1% BSA solution for 48 - 96 hours. A control population of cells will be treated with CFSE and no sulforaphane. Preliminary experiments with only CFSE have shown no loss of viability from the CFSE or the DMSO concentration used to dissolve the CFSE. It is expected that the control cells will show more divisions than the drug treated cells as evidenced by an increased number of fluorescent peaks with less and less fluorescence.

49 • A Survey of Ant Diversity: Seasonal Effects on Ant Activity

MICHAEL MARCHESE

FACULTY SPONSOR: JENNIFER APPLE, BIOLOGY
Ant diversity and species composition in a site can be a good indicator of habitat quality and disturbance history. A survey of ant diversity in the 8-hectare Spencer J. Roemer Arboretum in Geneseo, NY was conducted through repeated sampling of pitfall traps in spring, summer, and fall of 2011. Multiple samples were collected because a preliminary survey in July 2010 and field observations in September 2010 suggested seasonal variation in the species composition of active ants. Ants were collected from 32 pitfall traps located 10-15 m apart along two transects spanning the research site. Specimens were identified to the species level based on species richness estimates, diversity indices, and species similarity among samples were calculated using the program EstimateS. Comparison of ants sampled in each season indicates whether pitfall trap sampling is sensitive to seasonal shifts in ant activity at this site. Species composition and diversity data can be used as a baseline for continued long-term monitoring of this secondary successional forest.

50 • Using Mitochondrial and Nuclear DNA to Assess *Formica glacialis* Population Structure and Gene Flow

SARAH DZARA

FACULTY SPONSOR: JENNIFER APPLE, BIOLOGY
Formica subintegra and *F. pergandei* are two ant species considered social parasites, or 'slavemaking' ants. *F. subintegra* and *F. pergandei* conduct raids upon a third species, *F. glacialis*, during which the raiders capture the immature *F. glacialis* ants. The captives are used as a food source or raised as slaves, performing nest maintenance, foraging for food, or caring for the queen and her young within the *F. subintegra* or *F. pergandei* nests. Little is known about the reproductive behavior of the ant species *F. glacialis*. We used mitochondrial DNA to determine the number of female lineages present in known polygynous *F. glacialis* colonies, which can reveal if queens are recruited from within the nest or if colonies adopt foreign queens. The relatedness of the offspring-producing queens was assessed based on the mitochondrial DNA sequences of the workers. Genetic relatedness was compared to distance between nests to test for isolation by distance over short spatial scales. Differentiation based on mitochondrial analysis was contrasted with differentiation at nuclear DNA microsatellite analysis to evaluate sex-biased gene flow. The results of this study can contribute to our understanding of the reproductive patterns and factors contributing to population structure of *F. glacialis*.

51 • Role of SLC10A1 SNPs in Regulating Cytochrome P450 Expression

OLGA VARECHTCHOUK

FACULTY SPONSOR: KEVIN MILITELLO, BIOLOGY
Cytochrome's P450 (CYPs) are a group of enzymes that have a major role in metabolizing drugs, and their variable expression can lead to pharmacokinetic and pharmacodynamic differences within the population. One cause of such genetic polymorphisms is the presence of single nucleotide polymorphisms (SNPs) in the gene. SNPs within CYP genes (cis-SNPs) can lead to altered CYP expression and/or activity. While they have been extensively investigated, genetic variants in CYPs only explain a part of the inter-individual variation in hepatic CYP expression. A recent study has proposed SLC10A1, a bile acid uptake carrier, to be a novel regulator of CYP expression via the effects of bile acids on ligand-activated nuclear receptors like the pregnane X receptor (PXR), the constitutive androstane receptor (CAR), and the farnesol X receptor (FXR). We studied the effects that functional SNPs (single nucleotide polymorphisms) in SLC10A1 may have on CYP expression. We found a total of eight SNPs in the 98 analyzed samples, and the genotypes of one exon 1 synonymous SNP correlated with total mRNA of SLC10A1 as well as the downstream target CYP3A4.

52 • Correlating Tree Population Shifts to Climate Change in the Eastern Great Lakes Region

ANGELA KLINCZAR, JEFFREY GEISENDORFER

FACULTY SPONSOR: RAY SPEAR, BIOLOGY

The Neoglacial (3000 yr - present) culminating in the Little Ice Age (c. 1600-mid 1800 AD), and the Mid-Holocene (c. 6500-5500 yr BP) are two periods when climate change caused fluctuations in tree populations. The increase of Pinus in the Neoglacial, and the decline of Tsuga canadensis in the Mid-Holocene Period are the two major changes in tree populations in the eastern Great Lakes region. To verify these trends, pollen samples from a 2.25 m sediment core was taken at Hanging Bog, in Alleghany County, NY. The depth in the core corresponds to the age of the sediment sample. Through pollen analysis it may be possible to link shifts in tree population with known climate change. Patterns determined at Hanging Bog will then be compared to patterns at other sites in the Great Lakes Region and the Northeast to demonstrate regional climate change.

53 • Aerobiology: Long-term Pollen Seasonal Trends and Analysis of Student Allergy Symptoms Related to Airborne Pollen Levels

ROZALYN HESSE, KELLY NOLAN, MICHAEL HOY

FACULTY SPONSOR: RAY SPEAR, BIOLOGY

The aerobiology lab analyses airborne pollen samples from the Geneseo environment using a Rotorod Sampler on the roof of the ISC. Daily pollen samples from the years 2008-2012 have been counted and compared to pollen records from Allergy Asthma and Immunology of Rochester (AAIR). We are comparing our data with the records from AAIR in an attempt to distinguish possible changes in growing seasons of plants in the area. Another aspect of our research includes the surveying students about their allergy symptoms. The survey taken in the first week of March and again in April during the peak spring pollen season will help to determine how allergy symptoms of students correlate to high airborne pollen levels. Our lab also plans to maintain a weekly allergy warning system on the Geneseo Healthguards Facebook page in order to keep students up to date on how much airborne pollen is currently in the air. This will available on <http://www.facebook.com/profile.php?id=100000732886684&sk=wall>.

54 • The Effects of Glycyrrhizic Acid on Tumor Cells

KRISTEN GIUGLIANO, KELLI CONNOLLY

FACULTY SPONSOR: ROBERT O'DONNELL, BIOLOGY
We have been using a component of licorice root called Glycyrrhizic acid, which has been suggested as a chemopreventive agent. GA has been shown to be an inhibitor of lipoxygenase, cyclooxygenase, protein kinase C and to down regulate the epidermal growth factor receptor. We are testing the effects of Glycyrrhizic acid on MDA MB- 435 cells using cytotoxicity experiments, apoptosis assays and cell cycle analysis. The concentration of 0.0075µg/ml caused 50% cytotoxicity and was therefore used for subsequent experiments. Our preliminary results have shown that Glycyrrhizic is capable of inducing apoptosis after an incubation period of 24 hours, at the above dose. However, cell cycle analysis showed that GA did not inhibit the cell cycle. Also the bicarbonate control seemed

to increase the G-2 population. Future experiments will look at the effect of GA on different cancer cell lines. If administering this drug can cause apoptosis in the cancerous cells that are growing uncontrollably then Glycyrrhizic acid could serve as a promising potential cancer treatment.

55 • The Effects of Sulphoraphane and Elevated Temperatures on the Cell Cycle of MDA-MB 435 Breast Cancer Cells

PETER TUNKEY

FACULTY SPONSOR: ROBERT O'DONNELL, BIOLOGY
Sulforaphane (SFN) is a member of the isothiocyanates, a group of chemicals produced by cruciferous vegetables. Initial experiments have shown that the ratio of G2/M:G1 increased from the control cells to the cells incubated with SFN, which supports previous studies that have shown isothiocyanates are mitotic inhibitors and arrest the cell cycle in G2/M. The investigation of whether or not the application of elevated temperatures augments these effects, as analyzed through flow cytometry and MTT assays, was also performed. Preliminary results show that although elevated temperatures inhibited cell growth in general, the presence of low doses of SFN moderated this effect. Future experimental testing will look to identify the causes of this moderation, possibly through the identification of heat shock proteins and their potential influence on SFN's effects.

56 • Sulforaphane Induces Apoptosis with Varying Efficacies in HL-60, HTB-4, and MDA-MB-435 Cancer Cell Lines

TOBY TERWILLIGER, FANGYUAN JIN, JESSICA BOSCH

FACULTY SPONSOR: ROBERT O'DONNELL, BIOLOGY
Sulforaphane (SFN) is an isothiocyanate found largely in cruciferous vegetables, such as broccoli and cauliflower. SFN has been shown to have anti-cancer effects, including the induction of apoptosis. We tested the ability of SFN to induce apoptosis in HTB-4 human urinary bladder cancer cells, MDA-MB-435 human breast cancer cells, and HL-60 human promyelocytic leukemia cells. Apoptosis was measured with an annexin V staining assay that fluorescently tags phosphatidylserine molecules on the outer membrane leaflet. The cells were then analyzed by flow cytometry to detect those in early and late apoptosis. We found different abilities of SFN to induce apoptosis for the three cell lines. HL-60 cells were most sensitive to the SFN treatment, with a 24-hour incubation yielding the most apoptosing cells. The HTB-4 cells required a longer incubation time of 48 hours for maximum apoptosis. MDA-MB-435 cells were least affected by SFN with the best effects again coming at 24 hours. The different sensitivities of these three cell lines to SFN are consistent with the heterogeneity of different cancers and indicate the need for a variety of treatments. Our results suggest that SFN may be a potential chemotherapeutic agent and encourage further research into its mechanisms of inducing apoptosis.

57 • The Development Of A Qpcr Assay To Study The Competitive Fitness Of *Escherichia Coli* With And Without A Functional DNA Cytosine Methyltransferase Gene (*dcm*) Gene

KUN HYOE RHO

FACULTY SPONSOR: ROBERT SIMON, BIOLOGY

In prokaryotes, the DNA cytosine methyltransferase catalyzes cytosine methylation in the sequence of 5'CCWGG3' (W = A or T). Previous work by Militello et al. has shown that the *dcm* gene is conserved in all examined strains of *Escherichia coli*. In order to gain insight of the role of *dcm* gene, I carried out two fitness tests by competing strains with and without the *dcm* gene with a 1:1 ratio. Also, I developed a quantitative assay to measure the relative ratio of *dcm* by using qPCR. The first experiment was to determine which strain has a growth advantage in stationary phase (GASP). The two strains were mixed in a rich media at 37°C for twelve days. The result showed that the strain with the *dcm* gene vanished quickly. The second experiment examined the effects of competition of the two strains in the repeated growth cycles for thirty days. The result was consistent which the strain without *dcm* gene overtook the population. While the results do not explain the presence of *dcm* gene, the assay will easily allow further fitness tests in different conditions, resulting in a better understanding of this phenomenon.

58 • The Nocturnal Behaviors of the Snail *Bulinus truncatus*

RYAN AVERY

FACULTY SPONSOR: SUSAN BANDONI MUENCH, BIOLOGY

The poster will give an overview of the research conducted so far on the nightly behaviors of the snail *Bulinus truncatus*. It will feature an energy budget, which will help to explain how they spend their energy throughout night. The major activities observed, such as feeding, different types of movement, and resting will be discussed in greater depth. It will feature a graph that shows the average nightly occurrence of these major activities. The poster will also compare the nightly activity found in *Bulinus truncatus* with another often-researched snail, *Biomphalaria glabrata*. Both of these snails are important in the spread of schistosomiasis throughout the world. There will be a section discussing how this research is important in limiting its spread, especially since *Bulinus'* nocturnal behaviors have never been formally studied before. The poster will also explain what experiments were conducted and what equipment was used to obtain information. In particular it will focus on the use of a night vision video camera that was an essential aid in the experiment. Overall the poster should help the average person better understand what behaviors *Bulinus truncatus* displays at night and why researching this behavior is important.

59 • The Effects of Natural Molluscicides on *Biomphalaria glabrata* and *Bulinus truncatus* Snails

ASHLEY JONES, ABIGAIL BOATENG

FACULTY SPONSOR: SUSAN BANDONI MUENCH, BIOLOGY

Schistosomiasis is a parasitic disease prevalent in developing countries and is transmitted to humans by the intermediate snail hosts *Biomphalaria glabrata* and *Bulinus truncatus*. Drug treatment alone has not reduced the prevalence of infection. Orange oil and caffeine are reported to have molluscidal properties and we have tested the effects of these compounds on the medically important snail *Biomphalaria glabrata*. The oviposition of the snails will be used to assess the effect of the natural molluscicides. Six snails were placed in tanks with differing orange oil or caffeine concentrations. The number of egg masses and the number of eggs within those masses were recorded. Our results reflect our initial hypothesis in that the introduction of orange oil into the environment decreased the oviposition, both the number of egg masses and the number of individual eggs, of the snails. Although there was a linear increase in concentration between tanks, the decrease in number of individual eggs was not linear. Orange oil seems to greatly reduce the oviposition, but it does not totally inhibit the snails from producing eggs. We expect the caffeine treatment to follow a similar trend as the orange oil treatments; experiments on caffeine are currently underway.

60 • Novel Insights on the Prevalence of Gender Conflict in *Biomphalaria glabrata*: Autosperm Buildup Not a Likely Factor

JONATHAN SCHULTZ, JEFFREY HOLLINGER

FACULTY SPONSOR: SUSAN BANDONI MUENCH, BIOLOGY

Biomphalaria glabrata is a hermaphroditic, tropical, freshwater snail native to South America and the Caribbean. This species is an obligate intermediate host in the transmission of schistosomiasis, a parasitic disease that affects 210 million people globally. An understanding of the reproductive ecology of this species will help reduce prevalence of the parasite species. In simultaneous hermaphrodites, gender conflict arises when two snails both attempt to mate in the male role. This experiment aimed to determine under what conditions gender conflict occurs. Snails were observed for gender conflict after exposure to three different environmental conditions for one week. Snails were isolated in individual microenvironments, isolated from other snails within the same microenvironment, or left in a microenvironment where they can freely interact. Our experiments indicate that gender conflict was more prevalent among the snails isolated in their individual microenvironments. The results of these observations, determined through chi-squared analysis, were statistically significant ($p < .05$). Experiments are currently underway to determine how long the snails must be isolated in order to observe gender conflict and what chemical cues, if any, are acting on the snails.

61 • The Effects Of Common Plastic Pollutants on the Freshwater Snail *Biomphalaria Glabrata*, Intermediate Host For *Schistosoma mansoni*

SHADMAN SINHA, CHRISTIAN EVANS

FACULTY SPONSOR: SUSAN BANDONI MUENCH, BIOLOGY

Schistosomiasis is a debilitating disease affecting over 200 million people around the world. Infection is caused by schistosomes, which are parasitic trematode worms found in freshwater environments of endemic regions. Schistosome parasites exhibit a human-snail-human host life cycle where the parasite must rely on snails to become infective to humans. Thus if snail populations can be controlled, infection to humans may be controlled as well. Our study focuses on the snail species *Biomphalaria glabrata* (*B.glabrata*). Previously, we observed that *B.glabrata* oviposition increased in the presence of plastic pollutants common in waters of endemic regions. Now we are testing to see if plastic bags imported from Ghana could result in increased egg-laying as well, and if offspring from these eggs are viable. So far our data have been consistent with previous observations that plastics increase egg-laying. Furthermore, some offspring had hatched from eggs in the presence of plastic. Thus, there may be a link between increasing plastic pollution in waters, and increased *B.glabrata* population size. This in turn may lead to increased rates of schistosomiasis infection to humans. Our future plans are to determine if plastic induces egg-laying by physical or chemical means.

CHEMISTRY

62 • Characterization of Dialkoxo Disulfide Functionalized Nano Gold Colloidal Particles

GIANG NGUYEN, AMY TRAN

FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

Aiming to more stably produce an oligomer form of amyloid beta (i.e., a key intermediate of fibrillogenesis which eventually leads to Alzheimer's disease), the surface of gold colloids were functionalized with nitro-, phenyl-, chloro-, and methoxy-dibenzoyloxy disulfide, and molecular interactions were investigated in a dimethyl sulfoxide environment. The transition of color change was observed at pHo as the pH value was lowered externally. As evidence of disulfide being adsorbed on the colloidal surface, the pHo values were dependent of each substituent of the dibenzoyloxy disulfide compounds. The trend of pHo exhibited a parabolic relationship as a function of F-value (Swain-Lupton Field constant).

63 • Solvent Effect on Nano-Scale Self-Assembly of Amyloid Beta Peptide

GIANG NGUYEN, AMY TRAN, EUN SOPHIA HWANGBO

FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

A fiber formation of amyloid beta with 40 or 42 amino acid sequences is a hallmark of the Alzheimer's disease. The amyloid beta of sequences 1-40 ($\text{A}\beta$ 1-40) exhibits a reversible self-assembly in water, when they are placed over the 20 nm gold colloidal surfaces between pH 4 and pH 10. However, the amyloid beta of sequences 1-42 ($\text{A}\beta$ 1-42) does not dissolve in water particularly under an acidic condition (pH 4) and investigation of self-assembly process of $\text{A}\beta$ 1-42 over gold colloidal particles have not been fully investigated. We used an organic solvent to dissolve $\text{A}\beta$ 1-42, and self-assembly process was investigated over various sizes of gold nano-colloids ranging between 10 nm and 100 nm in diameter. As solution was changed from basic to acidic condition, the color of the solution changed from red to blue. The pH value where this color takes place (pHo) is regarded as the point where the $\text{A}\beta$ coated gold colloids possess no charge and indicating that a formation of intermediate of a fiber formation (precursor of fiber) As for $\text{A}\beta$ 1-40 coated gold colloids in water, there was a unique size dependence in pHo, On the other hand, under an organic solvent, no significant size dependence was observed

64 • A Time For Choosing: The Audacity Of "Knowing"

STEPHANY ROMERO

FACULTY SPONSOR: BARNABAS GIKONYO, CHEMISTRY

The planning, implementation and outcome of a premiere chemistry and biochemistry access opportunity program (AOP) summer course at SUNY Geneseo are presented and discussed. The program seeks to provide some answers to the question of recruiting students from underrepresented groups, specifically; what are the most effective methods for recruiting and retaining students from underrepresented groups in the STEM disciplines? It involved working with economically and educationally disadvantaged students who demonstrate potential for achieving success in college. Factors addressed; 1) providing students with an opportunity to have a feel of introductory level chemistry and biochemistry, 2) discussions on general study strategies and overcoming exam anxiety, 3) providing students with transitional information, college level expectations and how they differ from those of high school. 75% of the students found the program helpful to their transition to college academic setting and 98.36% of them have already joined the college.

65 • Synthesis of Transition Metal Complexes with a Benzimidazole Thiophene Ligand

JAMES DONOHOE

FACULTY SPONSOR: CRISTINA GEIGER, CHEMISTRY
Benzimidazole derivatives are an important class of organic compounds. They are significant for their pharmacological effects as they are involved in a great variety of biological processes, and also they play an important role in environmental chemistry. Their Platinum complexes exhibit luminescent properties, which suggest they can be utilized as metal sensors. With this in mind we carry out a reaction to synthesize the benzimidazole 1,2-di(iminocarboxy-2-thiophene)benzene (DITB) with

the purpose to coordinate this ligand to Pt(II) and study its sensing properties in the presence of Hg^{2+} ions. The Schiff-base condensation reaction of 1,2-diaminobenzene and two equivalents of 2-thiophenecarboxaldehyde produced an unexpected intramolecular cyclization and 2-(Thiophen-2-yl)-1-(thiophen-2-ylmethyl)-1H-benzimidazole (TTBI) was obtained instead of the expected DITB product. We have attempted a template synthesis using Zinc acetate. A zinc complex connected to two diaminobenzenes by a single NH_2 group has been obtained and its structure has been determined by X-Ray crystallography. The reactivity of the TTBI ligand with platinum is now being investigated.

66 • Synthesis and Characterization of 2-(Furan-2-yl)-1-(Furan-2-ylmethyl)- Benzimidazole

JARED DECK

FACULTY SPONSOR: CRISTINA GEIGER, CHEMISTRY
The synthesis and structural characterization of benzimidazole derivatives obtained from 1,2-diaminobenzene with 2-furaldehyde was investigated. Coordination of similar compounds (ligands) with platinum, show strong luminescent properties and are used as mercury sensors. We hope our compounds exhibit similar selective sensing properties since Hg^{2+} sensing is interesting in environmental and biological chemistry. The structures of the benzimidazole derivatives synthesized were analyzed using Nuclear Magnetic Resonance (NMR) spectroscopy and X-Ray crystallography. The major product as determined from NMR spectroscopy demonstrated the expected product in which 2-furaldehyde reacts in a two to one ratio with 1,2-diaminobenzene, producing a benzimidazole derivative with two covalently attached furan rings. Surprisingly, the minor product as determined by X-Ray crystallography demonstrated an unexpected structure in which 2-furaldehyde reacts in a three to one ratio with 1,2-diaminobenzene, producing a benzimidazole derivative with three covalently attached furan rings. Our efforts are currently focused on growing single crystals for the major product and synthesizing the cyclometalated platinum complexes.

67 • Benzimidazole Derivatives With Potential Chemical Sensor Use

MATTHEW DESTEFANO, AVA ISAAC

FACULTY SPONSOR: DAVID GEIGER, CHEMISTRY
Benzimidazoles are a class of organic compounds that find use in areas as diverse as pharmaceuticals (e.g., antiviral and fungicidal agents) and surfactants. Our research efforts have focused on the synthesis and characterization of 1,2-disubstituted benzimidazole derivatives. These compounds can coordinate transitional metals leading to luminescent compounds with potential use in chemical sensors, as the luminescence may be quenched by heavy metal ions such as mercury. Our work focuses on changing the substitution pattern on the benzimidazole ligand to impart better solubility and to tune the spectroscopic properties of the complex. We will discuss our progress and future plans.

68 • Chemical Analysis of Soil Samples from an Ancient Mayan Site in the Yucatan Peninsula

MICHAEL NELLIST

FACULTY SPONSOR: DAVID GEIGER, CHEMISTRY

The Mayan ruins of Coba, located in the eastern half of Mexico's Yucatan Peninsula, is truly an amazing site. This ruined civilization is a testament to the once great Mayan society that inhabited the city. The purpose of this research is to examine the chemical footprints left by the people of Coba. A vast amount of chemical information that can be used to help shed some light on the ancient civilization lies stored in the soil. Phosphate analysis of soil samples has proven to be a powerful analytical method for evaluating anthropols, soils that have been chemically modified by long-term human activity. Already, significant analysis of soil chemistry has taken place in another ancient Mayan city, Piedras Negras. Like in Piedras Negras, soil analysis will provide insight on areas where the inhabitants cooked, stalled animals, and placed waste, as well as countless other activities in everyday life. By performing chemical analysis on the soil samples from Coba, knowledge of an ancient world can be literally uncovered.

69 • Apocynin as an inhibitor of NADPH Oxidase

JOSEPH BOSHERS

FACULTY SPONSOR: DAVID JOHNSON, CHEMISTRY

Apocynin has been shown to inhibit the harmful effects of reactive oxygen species (ROS). However, the mechanism of this inhibition is relatively unknown. It is theorized that apocynin dimerizes in the presence of reactive oxygen species and that this molecular dimer inhibits ROS build-up. It is thought that by inhibiting NADPH oxidase, a potent neutrophil used in immune response, apocynin effectively stops ROS cascades that have been shown to play a major role in heart disease and asthma. By using L-cysteine and glutathione as analogs for the p47PHOX subunit of NADPH oxidase, research has demonstrated that apocynin selectively dimerizes sulfhydryl groups and we propose that this may be the mechanism of NADPH oxidase inhibition.

70 • Study of Apocynin Dimerization and Effects on NADPH Oxidase Inhibition

MICHAEL AZZARO, SARA DITURSI

FACULTY SPONSOR: DAVID JOHNSON, CHEMISTRY

Various experiments have been performed to characterize the method of inhibition of apocynin dimers on NADPH Oxidase. NADPH Oxidase is an enzyme that has been shown to produce reactive oxygen species, a cause of arterial plaque and many other inflammatory diseases. The effects of apocynin have been observed through the use of several biological compounds treated with a reactive oxygen species work up. Using Liquid Chromatography/Mass Spectrometry, the effects of apocynin have been characterized. Through this experimentation it has been shown that apocynin inhibits the formation of reactive oxygen species by inhibiting the activation of NADPH Oxidase.

71 • Characterization of cis-Pt(F₂phpy)₂Cl₂

BENJAMIN NAGASING

FACULTY SPONSOR: JAMES MCGARRAH, CHEMISTRY

The investigation of cyclometalation of 2-(2,4-difluorophenyl)pyridine (F₂phpy) with potassium tetrachloroplatinate (K₂PtCl₄) yielded a previously unreported compound in which no cyclometalation occurred. The new compound is cis-Pt(F₂phpy)₂Cl₂. The identity was confirmed by single crystal x-ray diffraction. Interestingly, the compound crystallized in a chiral space group P2₁2₁2₁, something unusual for a square-planar platinum(II) compound not coordinated to an independently chiral organic ligand. Research in the McGarrah group is focused on luminescence of platinum(II) coordination compounds and their potential use in organic light emitting devices. This effort is focused on the cyclometalation of 2-(2,4-difluorophenyl)pyridine with platinum to yield Pt(C,N-F₂phpy)(N-F₂phpy)Cl (where C,N-F₂phpy is the bidentate coordinate ligand and N-F₂phpy is the monodentate ligand bound through the nitrogen atom) Success at synthesizing cis-Pt(F₂phpy)₂Cl₂ will be presented, as well as x-ray structure data, optical characterization and 1D and 2D (¹H, ¹⁹F, ¹³C) Nuclear Magnetic Resonance spectroscopy data.

72 • Detection of Fiber Precursor Causing Alzheimer's Disease by Utilizing Surface Modified Nano-Gold Colloids

AMY TRAN, EUN SOPHIA HWANGBO

FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

Pathologically, a key hallmark of the Alzheimer's disease (AD) is the formation of insoluble fibrillar deposits of amyloid beta-peptides (Aβ) as senile amyloid plaque that invades the brain's seat of memory and cognition. Extensive studies have been conducted on these fibrillar deposits aiming to understand a full mechanism of AD. However, a key step of the mechanism is an initial stage of a formation of fiber precursors (oligomers). Up to now only a few studies on the oligomers are available, since the oligomers are too unstable to be observed. The oligomers are regarded as the most dangerous and neurotoxic entities for brain cells, whereas their fully formed fibrils are not. Recently, our group succeeded to detect a stabilized oligomer by utilizing a force field available over a newly designed nano-gold colloids. The surface of a gold colloid was modified with dibenzyl-dialkoxy-disulfide complex, which contains a sulfur-sulfur bond (-S-S-). Quite interestingly, a formation of an oligomer was completed with a simultaneous production of S₂. It is speculated that an Aβ monomer was stabilized by a portion of dibenzyl-dialkoxy group through a weak interaction as S₂ was liberated, so that oligomers were considered to be formed avoiding strong chemical and physical restrictions.

73 • Dynamics of Protein Self-Assembly over Quantum Dot's Surface

DAN MARK

FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

Recent developments of protein functionalized nanoparticles are highly regarded as an important nanobiomaterial. Currently, they are being utilized in the medical field to probe specific target sites. Our goal is to extract how protein is attached to the nano-scale surface, the structure of the protein is significantly different from when it was just present in the solution. The ovalbumin, chicken egg white protein, was interacted with nano-scale spherical shaped crystals (Quantum Dots-QD), which emit light after excitation. The lifetime of QD was investigated as a function of concentration of protein at various pHs. The structure of ovalbumin differs according to the basicity or acidity of its environment, and it conducts a self-assembly to unfolded shape at acidic condition and to a folded shape at a basic condition. The fluorescence lifetime of QD was significantly increased when ovalbumin was attached to the QD implying ovalbumin was stabilized at the surface and an excitation energy to QD was more slowly distributed.

74 • Investigation of Memory-Effect of Assembly Structure of Amyloid Beta 1-40 over Gold Colloidal Surfaces

JEFFREY MA, MAKAIYA PAPASERGI, DALIA CALIX

FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

Amyloid beta protein 1-40 (Aβ 1-40) has been known to conduct reversible self-assembly at the surface of gold colloidal particles between pH 4 and pH 10. It is also known that the self-assembled structures depend on the initial temperature at which pH 4 was achieved. A significant temperature dependence in self assembly is particularly observed when Aβ 1-40 is self-assembled over 30 nm at either 15°C or 45°C. Utilizing electron microscopy, we directly observed if this initially constructed structure will be conserved even the temperature was later changed. Our results indicated that the structure prepared at 5°C and 45°C showed a significant difference, and indicated that the gold colloidal surface can remain the original structure of an initial temperature when Aβ 1-40 was exposed to acid.

75 • Effect of Nanosize "Guest" Particles to the Solvent Diffusion Through a Silica Gel Matrix"

JISU RYU

FACULTY SPONSOR: KAZUSHIGE YOKOYAMA, CHEMISTRY

Effective delivery and direct injection of a drug to a targeted region of living cells is a challenging issue, especially, the efficiency of a drug can be significantly reduced by a damage caused by the stomach acid. Therefore, an acid resistant drug-carrying device needs to be designed. Silica gel is regarded as an excellent material that fits such criteria. In order to design a capsule with controlled rate of drug delivery at highly acidic condition, the diffusion rate of the solvent (acid) reaching into the cavity of the silica based gel material was investigated. Instead of a drug inside a silica gel, a fluorescent nano-size crystal (Quantum Dot-QD) was used as a "host" to probe the condition of the

drug inside the cavity. The change in lifetime of the QD was measured as the solvent penetrated into the gel. The dynamics of the host particle was sensitively changed as the size of the guest particles ranged between 5 and 80 nm. The penetration rates and the guest particle sizes did not exhibit simple linear relationship, however, the rate maximized when the guest particle size was around 5 nm. For both silver and gold guest particles, this trend was not affected.

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

JOCELIN KALISH, JISU RYU, DAN MARK
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA,
CHEMISTRY

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

77 • Electron Microscopy Study of the Amyloid-beta Protein on the Surface of Colloidal Nanoparticles

MAKAIA PAPASERGI, JEFFREY MA, DALIA CALIX
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA,
CHEMISTRY

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

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

QUEENY PAN, GIANG NGUYEN, MICHAEL ANNESE
FACULTY SPONSOR: KAZUSHIGE YOKOYAMA,
CHEMISTRY

The conjugation of various sequences of amyloid beta, protein (A β), A β 12-28 and A β 1-40 with gold colloidal suspension of 20nm size was studied. Absorption spectroscopy was used to identify changes in the optical properties of gold colloid for pHs, ranging from pH 2 to pH 10. Color changes were seen for all tested proteins in this study at a higher pH than where bare gold colloid exhibits its color change pH=3.09 +0.02. All tested AB sequences except for A β 1-42 exhibited color changes around pI values of A β 1-40, about pH 5.2. The change color change observed at a pH lower than 5 is attributed to the unfolded A β 1-42 monomer units around the gold colloidal surface. Interestingly, only A β 1-40-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 A β 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.

79 • Temperature Dependence of Congo Red Binding to Amyloid Beta 12-28

DOUG JACKSON, BAREEQAH AHMAD
FACULTY SPONSOR: RUEL MCKNIGHT, CHEMISTRY
KAZUSHIGE YOKOYAMA, CHEMISTRY

It is now well known that the deposition of amyloid-beta peptides contribute to the formation of plaques that are a major cause of Alzheimer's disease (AD). The main components of the amyloid plaques are the 42- and 40-residue long, A β 1-42 and A β 1-40. Conversion of the more soluble A β 1-40 to insoluble aggregates is thought to be important in the early phase of AD. In order to rationally design an effective therapeutic agent, knowledge of the interactions involving the early ordered oligomers at the molecular level is therefore critical. Congo Red (CR) has been identified as a potential therapeutics against amyloid fibril formation. Several studies have indicated that the segment of A β monomer between residues 12 and 28 are crucial for binding to CR. Some investigators have also found that aggregation of A β is temperature dependent. In the current work, we have done preliminary isothermal titration calorimetric studies to gain insight into the temperature dependence of CR binding to A β 12-28. Studies done between 15-35°C show a strong temperature dependence, with CR binding decreasing with temperature. We have detected two types of interactions differing by two orders of magnitude; an entropy-driven CR

disaggregation phase, followed by an enthalpy-driven CR binding to A β 12-28.

COMMUNICATION

80 • "It's Not As Easy As It Looks:" College Student's Experiences with Romantic Relationship Development and Decline

KATELYN PALKA
FACULTY SPONSOR: MEREDITH HARRIGAN,
COMMUNICATION

As the number of young adults enrolled in colleges and universities increases, so too does the need to study and understand the communicative processes through which young adults engage in romantic relationship development and decline. Grounded in the model of interaction stages in relationships (Knapp & Vangelisti, 2009), the researcher conducted eight interviews with college women to investigate how young adult women use interpersonal communication in order to develop, maintain, and ultimately terminate their romantic relationships with those of the opposite sex. The researcher describes the ten stages of coming together and coming apart using the language of the model. Implications of these findings are discussed to provide insight to researchers and individuals who are looking to understand how we can effectively learn more about the ways in which young adult women experience relational development and decline.

81 • Exploring the Communication Dynamics of Anonymous Donor Conceived Families: The Parents' Perspectives

EMILY WAGNER, KATELYN PALKA, ALEXANDRA PRIORE, CHARLES SCHULZ, ELIZABETH STARCZEWSKI, MELANIE WEINTSTEIN
FACULTY SPONSOR: MEREDITH HARRIGAN,
COMMUNICATION

This study is grounded in a systemic investigation of communication in families formed through anonymous donor conception. The purpose of our specific project is to investigate the communication-related experiences of parents in this system. Using qualitative methods of data collection and analysis, we are exploring how parents talk with their donor conceived offspring and others about the conception. Important questions to address include: (a) how do parents negotiate private information, (b) how and when do parents communicate this information to their children/others involved in the system, (c) how does parenting a donor conceived child affect the parent's relationship with others, and (d) how do donor conceived families compare to other traditional/nontraditional family systems. Initial analysis suggests that (a) parents value openness with their children regarding their conception, (b) parents look for opportunities to communicate with their child about their conception, (c) parents do not hide the truth from others, and (d) there are shared characteristics between families created by adoption and families formed through anonymous donor conception. It is our hope that our findings will offer both theoretical implications for communication researchers as well as practical

implications for donor conceived families and individuals who communicate with donor conceived families.

COMMUNICATIVE DISORDERS & SCIENCES

82 WITHDRAWN • "It's Not Too Late!" (Justification for Speech Language Pathologists in Public Middle Schools and High Schools)

JOANNA FINNERTY

FACULTY SPONSOR: BEVERLY HENKE-LOFQUIST, COMMUNICATIVE DISORDERS & SCIENCES

Throughout the early 1900's, when Speech Language Pathologists began to provide services for public school children in America, it was recognized by professionals the significance of effective communication for academic success. Today, many school administrators and policy makers believe that it is "too late" to deliver effective services to adolescents with language disorders. Although early intervention is extremely important to overcoming language disorders, many children continue to express communication difficulties during middle school and high school. Adolescents with language disorders have the right to speech-language services and should not be ignored because of their age. This ignorance could contribute to adolescent behavioral and verbal liabilities as well as peer victimization. Hopefully with the collaboration efforts of university faculty, researchers, clinical supervisors, graduate students, and school-based SLPs, there will be a way for SLPs to practice in later education and show that it is not too late for adolescents with language disorders to receive help.

83 • The Hearing Aid Effect

SYDNEY LUCE, NICOLE LEFEVER

FACULTY SPONSOR: DOUGLAS MACKENZIE, COMMUNICATIVE DISORDERS & SCIENCES

The term "Hearing Aid Effect" first appeared in a study by Blood, Blood and Danhauer in 1977, looking at how people perceived others with hearing aids. Throughout the years, this study has been looked at and replicated in an effort to understand and interpret this effect. Its main purpose has been to understand and change the stigmatism that has accompanied hearing aids throughout the years. Since the original study, different aspects have been researched and new information has been revealed, shedding light on the still-changing perception of hearing aids and hearing aid users in today's society.

84 • Do You Hear What I Hear?:

Cochlear Implants and Music

STEPHANIE HABURA

FACULTY SPONSOR: DOUGLAS MACKENZIE, COMMUNICATIVE DISORDERS & SCIENCES

Historically, cochlear implants have provided enormous benefits to individuals with a severe to profound sensorineural hearing loss. While there have been tremendous strides in technology, one area cochlear implant users are usually disappointed with is music perception. Many different technologies have been produced in order to improve a user's ability to perceive all components of music such as pitch, timbre, rhythm

and overall tone quality. This poster explores current research regarding different techniques and technologies used to improve music perception among cochlear implant users. These techniques may not only work to improve music perception, but speech perception as well, making them incredibly beneficial to recipients.

85 • Brochures for Families of Children and Adults with Articulation and Phonological Disorders:

Assessment and Speech Therapy

KATELYNN IMAGNA, MEGAN ALI, KEENA ANTHONY, MARY COBLE, CHRISTINA DORNBUSH, JULIA GANGLOFF, ANNE HALSTEAD, AMANDA HAMMER, KELSEY HOGEL, SARA KORMAN, STACIANNE LESTER, BRIGHID MARIQUIT, BRIDGET MCGOVERN, EMILY MECI, KATHRYN MICHALEK, BRIDGET MISKELL, KAITLYN RAFFE, CALLI RAINES, APRIL RUIZ, BRIANNA SERGIO, BRYNNE STURGE, ASHLEY THORNTON, AXITA VORA

FACULTY SPONSOR: IRENE BELYAKOV, COMMUNICATIVE DISORDERS & SCIENCES

Students will display the brochures they have made for families of children and adults with articulation and phonological disorders: from dysarthria and childhood apraxia to craniofacial syndromes, hearing loss, and other causes. The students' main focus in their research was on presenting Speech Language Therapy (including assessment) for people with these disorders and what families can do to assist their loved ones in this process. Presenters will also display games, visual aids, and other assistive devices they created to go along with their brochures. Everything presented is the students' original work.

86 • Augmentative and Alternative Communication

ALANNA EGAN, MOLLY ALLEN

FACULTY SPONSOR: LINDA HOUSE, COMMUNICATIVE DISORDERS & SCIENCES

Augmentative and alternative communication (AAC) is used by people with severe communication disabilities to assist them in expressing their thoughts, needs and desires. These augmentative aids improve the social interactions, school performance, work abilities and self-esteem of those whose speech is unintelligible. Augmentative aids are diverse and can either be aided or unaided. Unaided communication includes an individual's body using gestures, sign language and facial movements. Aided communications is the primary focus of our research on AAC and includes the use of external tools or equipment paired with the individual's bodies to assist them with communicating. We will discuss the varying types of aided AAC and what disorders cause such a severe communication disability that they are needed.

87 • Behavioral Management: Elementary

ALISON PETRY, ZOYLA AGOVINO-ROJAS

FACULTY SPONSOR: LINDA HOUSE, COMMUNICATIVE DISORDERS & SCIENCES

We will be presenting a variety of strategies based on behavioral management in clinical and school settings for children of the elementary ages during speech-language therapy.

88 • Fluency Materials for Children

ANNE HALSTEAD, SARA CARVER, MICHELLE CERVELLO, MARY COBLE, KEENA ANTHONY, AMANDA HAMMER, SAMANTHA HARTNETT, KELSEY HOGEL, KATELYNN IMAGNA, KATHRYN MAKOWIEC, EMILY MECI, MURIEL PEETE, APRIL RUIZ, BRYNNE STURGE, AXITA VORA, MEREDITH WEBER, DANIELLE WILLIAMSON, KATHRYN MICHALEK

FACULTY SPONSOR: LINDA HOUSE, COMMUNICATIVE DISORDERS & SCIENCES

Students have completed original materials designed to aid in creating fluency in young children with dysfluent speech. The concepts of fluency enhancing are demonstrated. The materials are parents friendly and can be used with both male and female clients.

89 • A Look Inside the Injured Brain: Differences in Traumatic and Acquired Brain Injuries

CAROLYN MAHON, STEPHANIE HALVAX, ELIZABETH RYAN, MEGAN OLSKAMP

FACULTY SPONSOR: LINDA HOUSE, COMMUNICATIVE DISORDERS & SCIENCES

This presentation will place emphasis on the differences between an Acquired Brain Injury and a Traumatic Brain Injury across all populations. An Acquired Brain Injury is defined as an injury to the brain as a result of a neurochemical change (airway obstruction) causing global damage. A Traumatic Brain injury is defined as an injury that is a result of a blunt force causing locational damage. There will a focus on causes, location of damage, prognosis, symptoms, and intervention.

90 • Auditory Processing Disorder

CASSIE GRILLO, ALYSSA CAVALLARI

FACULTY SPONSOR: LINDA HOUSE, COMMUNICATIVE DISORDERS & SCIENCES

The poster will describe what a child with an Auditory Processing Disorder (APD) struggles with as well as some characteristics of the disorder. Viewers will learn what strategies to use during therapy with clients with APD.

91 • Autism Spectrum Disorder: Causes, Diagnosis and Treatment

DANI MANSI, NICOLE ZUPO

FACULTY SPONSOR: LINDA HOUSE, COMMUNICATIVE DISORDERS & SCIENCES

Autism Spectrum Disorders are life-long developmental disabilities often diagnosed prior to three years of age. ASD is characterized by impairments in social interactions, verbal and non-verbal communication, and repetitive behaviors or interests. The characteristics of Autism vary greatly across the spectrum. Some children with Asperger's Syndrome are high functioning, while there are children on the other end of the spectrum who exhibit more severe characteristics. The prevalence of Autism has increased greatly over the past decade. It is now said to affect 1 in 110 children in the United States. Due to this increasing area of need, there is a higher demand for Speech-Language intervention.

92 • Autism Spectrum Disorders

ERIN BONTRON

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES
An overview of autism spectrum disorders including symptoms and possible treatment options.

93 • Occupational Settings for Speech and Language Pathologists

HEIDI ROBINSON, ABBY LONG

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES
Our poster is designed to help show up and coming SLP's, the variety of different occupational settings they have to choose from when selecting a job placement. These explanations will provide details such as salaries and hours as well as the pros and cons of each placement within the field.

94 • The Relevance of Anthropology in Speech: A Linguist's Playground

KAREN DINSE

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES
The poster will outline/touch on how language shapes communication between two people, how language varies from region to region, country to country, etc. Language forms social identity and group membership, organizes cultural beliefs and ideologies, and develops a common cultural representation of natural and social worlds. Overall, my poster will show how language/speech is at the basis of everything regardless of the geographical location; no matter what language is being spoken language, as a whole, serves a bigger/mutual purpose.

95 • Hippotherapy: Using Horses as a Treatment Strategy

KATHRYN MAKOWIEC, MURIEL PEETE

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES
Hippotherapy is speech-language, occupational, and physical therapy that utilizes equine movement as part of the intervention program. The movement of the horse at a walk replicates the physical movement of walking, which increases trunk strength, balance, posture, breath support, and motor planning. The implication of hippotherapy for speech-language pathologists is the movement of the horse engages the systems that support speech and language. For occupational therapists, the horse's gate works on fine motor control and sensory integration. For physical therapists, the patient's motor needs can be incorporated into the movement of the horse to address skills such as walking, sitting, and standing. Hippotherapy enables the patient, adult or child, to participate in therapy that takes place outside of a typical clinic setting. Hippotherapy provides a unique experience for the patient and their family, combining intervention with something as fun and relaxing as being around horses.

96 • Job Opportunities Within the Field of Communicate Disorders and Sciences

KATY PINKHAM, STEPHANIE HALVAX

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES
There are many opportunities for employment within the field of Speech- Language pathology. Speech Language Pathologists provide clinical services such as prevention and referral; screening; assessment; early identification and treatment; consultation; diagnosis; and documentation. Clinicians address typical and atypical communication in various areas. These areas include but are not limited to speech and sound production; resonance; voice; fluency; language; and cognition. Speech language pathologists provide clinical services in a wide variety of settings. These settings include public and private schools; early intervention settings such as preschools and day care centers; health care setting such as hospitals and rehabilitation facilities; private practice setting; universities and research facilities; correctional institutions; and corporate and industrial settings. The role of the Speech language pathologist can vary depending on the practice setting. After receiving a degree in Communicative Disorders and Sciences, an individual is not limited to one specific professional setting.

97 • Speech Pathology and Audiology: A Look into Your Education

KRISTEN SCHULTZ, ELIZABETH RYAN

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES
Relevant information regarding Speech Pathology and Audiology with a focus on programs and degrees ranging from undergraduate to the doctorate level. Emphasis will be placed on coursework, testing, ASHA standards, job outtake and salaries within each level.

98 • Overview of Multiple Sclerosis

LISA MARTINEZ, JAMIE SHARRATT, MARILYN YANG, KELLY BERGIN

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES
Our presentation will focus on Multiple Sclerosis. It will include symptoms and classifications, treatment/therapy options, and the role of the Speech- Language Pathologist. A brief overview of multiple sclerosis and diagnostic procedures as well as prognosis information will be provided. This presentation is intended to target Speech Language Pathologists, patients with multiple sclerosis, and family members and well as caregivers.

99 • Telespeech: Speech from a Distance

MACKENZIE FAHEY

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES
Speech-Language Pathology services are necessary for many individuals and for many reasons. Some of these populations may include the disabled, the deaf, celebrities, and public speakers. Because Speech-Language Pathologists have such a broad spectrum of whom they help, finding environments for their clients can sometimes be challenging. This could be due to the client's, or the SLP's, schedule with other aspects of their lives, or even

the fact that where they are prohibits them from actually meeting with one another. Because this difficulty exists, there is sometimes a breakdown of the specialized attention provided to the client. But what if that could all change? What if a client could receive services from anywhere? Now they can thanks to the increasingly popular use of telecommunication. Thanks to this technology, it is now easier to provide Speech-Language Pathology services to those who, otherwise, wouldn't be able to receive them due to various barriers.

100 • Cerebral Palsy

MARILYN YANG, LYDIA JEONG

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES
Cerebral Palsy (CP) is a non-progressive disorder of the brain that leaves children with permanent motor impairment. There are numerous causes of CP; some specific causes may be congenital or neonatal problems such as premature birth. There are currently no agreed-upon diagnostic criteria to make the diagnosis of CP in individual children, making the observations of the child's developmental milestones much more important. When a child is not meeting developmental milestones, has persistent primitive reflexes, or has significant abnormalities in the elements of motor function, a diagnosis of CP can be made. Cerebral Palsy can be classified into two categories of extrapyramidal and spastic types. Seventy five percent of children with CP will have a combination of these two classifications but this is underreported as well. There are currently no known cures for CP however there are many treatment methods to cope with the symptoms of CP.

101 • Personal FM vs. Sound Field Amplification Systems: Making an Informed Decision About Assistive Hearing Technology

MARY-CLARE STOKES, LISA MARTINEZ

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES
The purpose of our presentation is to inform, compare and contrast the benefits of using either a personal FM System or a Sound Field Amplification System in a school setting. This presentation is intended for school officials and parents of school-aged children with hearing difficulties who would benefit from assistive hearing technology. The presentation also is designed to raise awareness of populations who would benefit from assistive hearing technology.

102 • Technology and Therapy: A Look into New Resources Available for Clinicians

MEGAN OLSAMP, JORDAN OVSENIK

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES
With technology becoming a growing part of today's society, it is beginning to integrate itself into every aspect of life. Some may be scared by the new advances, but with knowledge and understanding of new technological resources, they can become a great asset in therapy. We will demonstrate unique ways to use electronic tools, such as the iPad and

other touch screen devices, Skype and the advances made with DynaVox, in therapy and to administer therapy in a way never done before.

103 • The Integration of Speech - Language Therapy and Music Therapy for Children with Communication Disorders

NATALIE ADILETTA

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES

Speech, language and music all share a common goal: the communication of an individual with the outside world. For some individuals, the medium of music is a preferred and enjoyable method of expression and communication. By having a speech-language pathologist and music therapist work in collaboration, therapy plans for particular communication disorders can be created that will engage and motivate a child that is naturally drawn to music.

104 • Speech and Language Therapy Materials: Original Student Works

NICOLE LEFEVER, TOMMIE POMEROY, KAITLYN RISBERG, ABBY LONG, KATHRYN KREIDLER, JAQUELYN BOSWORTH, ANNE FELDMAN, CASSIE GRILLO, ALEXIS MAZZEO, KATELYN MOOTZ, KATHRYN MAKOWIEC, NICOLE KENNEY, STEPHANIE HALVAX, RUSSELL ALLEN, STEPHANIE ABREU, NATALIE ADILETTA, ERIN BONTHRON, SYDNEY LUCE, DONALD MONACELLI, MURIEL PEETE, ELIZABETH RYAN, JAMIE SHARRATT, MARY-CLARE STOKES, ALEXANDRA WILLIAMS

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES

Displayed speech-language therapy materials were constructed by CDS students in their first semester of clinical experience for use with clients in the Geneseo Speech and Hearing Clinic. The materials are highly individualized, based on each client's speech and language goals and interests. Students used these materials to motivate their clients during therapy sessions and teach new communicative skills. The materials on display were used with clients demonstrating articulation errors, language delays and autism, but could easily be adapted for use with any population.

105 • Misconceptions and Controversies of Alzheimer's Disease

REBECCA REGINALD, NICOLE LEFEVER, KATELYN MOOTZ, RENE LEHMAN

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES

This presentation is aimed to raise awareness on Alzheimer's Disease (AD). Alzheimer's is progressive presenile dementia which first symptom is impaired memory. Alzheimer's is misconstrued at various levels. Memory loss is often associated with the elderly, and is thought to be a normal part of aging. This presentation will set apart myths from facts. The central focus of this presentation is to educate that AD is not a part of normal aging. This is done through examples of early onset and highlights of cases of people acquiring AD in their 40s and 50s. Another focus is validation therapy and the controversial pros and cons. Validation therapy is validating beliefs of a person suffering from

dementia even if those beliefs are false. The idea is to agree with them but redirect their focus. The controversy is that this is promoting lying and causes emotional harm to caregivers. However, it is non-confrontational and the person with AD is never belittled. We will also cover basics such as symptoms, treatments/supplements, warning signs, stages, and risk factors.

106 • "To Practice Any Art..."

RUSSELL ALLEN, SEAN FUSTER

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES

American author Kurt Vonnegut once wrote, "To practice any art, no matter how well or badly, is a way to make your soul grow. So do it." In this project, we will examine the positive effects involvement in the arts has on the developing speech and language skills of children. This may include studio art, music, and the performing arts for toddlers through adolescence.

107 • Advances in Communication Using a Dynavox

SARAH FLANNERY, MELISSA MADARASZ

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES

The Dynavox is a technological advancement that has changed the lives of many people. We would like to shed light on why this advancement has become crucial in the field of communicative disorders. In our poster we will explore the ways in which the Dynavox assists with communication. We will touch upon the various disorders that it can be used for and how it is helpful.

108 • Asperger Syndrome in Children

SARAH HEALY, MELANIE DOROSKI

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES

Our poster will include a brief summary of what Asperger Syndrome is, how many children it affects, symptoms you may notice in your child, and ways of dealing with children with Aspergers. We will also include methods to help them cope in the classroom or at home. This poster will offer a good insight to those who have not yet been introduced to this disorder and how they can learn more.

109 • Childhood Apraxia of Speech

TARA GERVERA, KRISTIN DIDONATO

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES

Childhood Apraxia of Speech (CAS) is a term used cautiously in the field of Speech Language Pathology due to the uncertainty of its etiology. It is important to understand there is no known cause for this condition and the possible causes are admittedly theoretical. CAS is considered a motor disorder due to the poor coordination between the brain and facial muscles. Children diagnosed with Apraxia of Speech have a motor planning disorder in the absence of motor weakness. Motor planning is the determination of how the articulators will transition from one posture to the next. This involves a fine tuned awareness of the current state and the desired future state of the articulators at any given moment, and a plan for smoothly transitioning from one state to the next.

Further research collected will explain the diameters, warning signs, characteristics, and information regarding the evaluation and assessment of Childhood Apraxia of Speech. Suggestions for parents who wish to be proactive in their child's fight against Apraxia of Speech will also be discussed.

110 • Ways to Use iPad Applications in Therapy

TOMMIE POMEROY, KRISTINA WHELPLEY

FACULTY SPONSOR: LINDA HOUSE,
COMMUNICATIVE DISORDERS & SCIENCES

This poster presentation will contain information on the iPads application in therapy, as well as its use as an augmentative communication (communication methods used to replace speech or writing for those with impairments in the production or comprehension of spoken or written language) device.

SCHOOL OF EDUCATION

111 • KKIS: Keeping Kids In School

MOLLY JONES, JONATHAN SCHILLACE, GRIFFIN MERVINE, DANIELLE CLARK, MICHAEL EISINGER, ERICA GIORDANO, MATT ROMANOW, STEVE BENNETT, APRIL MEYER, JOSEPH CERIELLO, ABBY LITTMAN, ALISON PAYNE, LEAH TINGLEY, CHELSEY BARKER, ADAM REINEMANN

FACULTY SPONSORS: JANE MORSE AND BRIAN MORGAN, SCHOOL OF EDUCATION

Keeping Kids in School [KKIS] evaluates the impact of a two-week summer camp. A Saturday School follows the summer camp. The 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%. In 2010, the graduation rate fell short of the goal of 53%, graduating only 46% of students. 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 is further examining the factors that keep our participants in school and working to develop a method for analyzing coded interview data. 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. This year's poster will focus on access to college and college and career readiness.

112 • The Power of Physical Sciences (POPS) Motion and Design Day

ALEXANDRA YAUNEY, KYLE HUBBLE, RACHEL KOSOFF, GINNY TATE

FACULTY SPONSOR: KATIE ROMMEL-ESHAM,
SCHOOL OF EDUCATION

The Power of Physical Sciences (POPS) was designed to encourage more girls to become interested in studying the physical sciences in high school and college. The POPS Motion and Design Day, a one-day workshop affiliated with POPS, examined the

effect that grouping has on middle-school girls' participation, engagement, science attitudes, and self-efficacy. The Motion and Design Day involved middle-school students from several rural school districts. The students were purposely placed into groups of three (all girls, mix of girls and boys, all boys). Students then took part in hands-on lessons focused on motion using K'NeX cars. This intervention was based on science education research that indicates that 1) gender differences in attitudes about science develop prior to the high school years, 2) girls are more interested in careers that benefit society, and 3) girls benefit from hands-on learning activities.

113 • Who Owns Disability?

ROBERT RUBSAM

FACULTY SPONSOR: LINDA WARE, SCHOOL OF EDUCATION

This poster will showcase various ways disability has traditionally been understood: Historically, scientifically, culturally, through education, and with a feminist perspective. There will be a discussion of each, mixing imagery and text. The goal of the poster is to challenge how the audience views disability, and to question their assumptions about it. It is intended to both engage and inform those that see it. We will be covering the so-called Ugly Laws, scientific portraits, and how disability is taught and 'handled' in schools.

114 • Meaning-Making through Multiple Modes of Learning

ALEAH MARCAITIS, EMILY MURPHY, CAITLIN SULLIVAN, MARY SHEEDY, MEGAN KNITTER

FACULTY SPONSOR: MARIA LIWANAG, SCHOOL OF EDUCATION

This mini-inquiry research investigates how students make meaning through the use of multiple modals of learning. Using a case study approach, students in our study will be asked to physically draw (sketch) their meaning of a selected instrumental song as it relates to them. After they have completed their drawing, we will record their oral interpretation of their work. We will do this to triangulate our data on the ways students make meaning through other forms of creative expression other than writing. Using Gardner's research on multiple intelligences, Bruner's constructivist theory of learning, and Harste's research on multimodality, we hope to find information that would support more integration of artistic forms of creative expression in the elementary classroom curriculum.

115 • Understanding the Reading Process Through Miscue Analysis:

Lessons from Reading with Bob

CHRISTINA MARCONI, HANNAH HUNTER, MATTHEW SOLIMANO, KATHRYN DROZDIEL, BRITTANY BOEHM

FACULTY SPONSOR: MARIA LIWANAG, SCHOOL OF EDUCATION

This mini-inquiry study focuses on using miscue analysis to understand a second grader's reading strategies. By using miscue analysis as a framework, we seek to understand how readers like Bob make sense of a text. Expected outcomes include a discussion of our participant's reading processes

and strategies. We will also present what the results mean for teaching literacy.

116 • "Reading the Word-World" Through the Use of Children's and Young Adult Literature

KYLE HUBBLE, JENNIFER DAVIS, HALAYNA IVERSON, CYNTHIA MORGAN

FACULTY SPONSOR: MARIA LIWANAG, SCHOOL OF EDUCATION

This mini-inquiry research focuses on developing a list of children's and young adult literature is useful to a classroom teacher. Using Freire's framework of "reading the word-world," we examine how language and knowledge of the world are dynamically intertwined. By using several databases of literature and criteria such as Newberry Medal and Caldecott Award winners to choose books we have constructed a diverse list of titles. Expected outcomes include the a discussion of how to create a booklist and use the book list as an outlet for students to explore the views and values of other cultures through literature.

117 • Pre-Service Teachers Using Eye Movement Miscue Analysis (EMMA) to Examine the Literacy Process

LAUREN FONTE, ROSE HENDERSON, JESSICA CARL, MARIAH MARIENFELD, NICOLE SWIFT

FACULTY SPONSORS: MARIA LIWANAG AND ANN MARIE LAURICELLA, SCHOOL OF EDUCATION

This research focuses on using eye movement miscue analysis (EMMA) as a research methodology to examine the complexities of the reading process. Using the ASL 504 eye-tracking machine, preservice teachers, as novice researchers are immersed in tracking, plotting and analyzing readers' eye fixation patterns as they read various selections of print and multimodal texts. Through a constructivist lens of learning, preservice teacher-researchers identified and gained insights into how proficient readers use various strategies such as correcting, inferring, and predicting to interpret and assign meaning encountered in a text. Implications about the nature of a text and how the various modes of meaning embedded in a text influence meaning construction are also presented.

118 • Exploring Curricular Development in Foreign Language Learning

MARISA SHUMAN

FACULTY SPONSOR: MARIA LIWANAG, SCHOOL OF EDUCATION

This study reports on the development and design of a curricular program for teaching foreign languages to elementary students, through which the concepts of foreign language teaching and bilingual education will be explored. Focus of the curriculum is on using authentic children's literature to teach the target language. Research has shown that second language acquisition is better supported if there is comprehensible input (Krashen, 2009) for the student. For example Spanish/English and French/English picture books will be utilized to teach Spanish and French to Grades 1-5 students. As a result, we are able to learn about the understanding and learning process

of elementary school students with regards to foreign languages.

119 • Exploring the Reading Process Through Miscue Analysis

MEGAN EISENBACHER, JENNA THEOFIELD, RACHEL KOSOFF, KATY GERBER, COURTNEY PAYNE

FACULTY SPONSOR: MARIA LIWANAG, SCHOOL OF EDUCATION

This mini-inquiry, focuses on the reading process by, utilizing miscue analysis strategy with 4th grade students. Through a meaning-making lens, we will showcase students comprehending and comprehension process. Expected outcomes include a discussion of quality of miscues student's level of comfort in students reading ability and influence of the text.

120 • Using Multicultural and International Literature to Understand other Cultures

MEGAN WHITEHURST, SINDY PARK, FELICIA VANACORE, ALEXIS RYTEL, BRIANNE LYNCH, AMELIA HOLDING

FACULTY SPONSOR: MARIA LIWANAG, SCHOOL OF EDUCATION

As pre-service teachers, we have composed a list of multicultural and international literature works that can be used to encourage students' understanding of other cultures. This list is meant for teachers working with students in grades kindergarten through sixth grade. We discuss our process for compiling this list, including how we drew from scholars Friere, Rosenblatt and Vygotsky to formulate our specific criteria. We have annotated the list with related themes and ways teachers can use this literature to encourage critical thinking skills. The result of this research is an easily accessible listing of high-quality multicultural and global literature that will enhance the learning environment of any classroom.

121 • A Survey of Pre-Service Teachers' Perceptions of Basal Reading Programs: Implications for Teaching Literacy

NICOLE ZITO, HANNAH-RUTH CIVITA, CAITLYN DOWELL, MEGHAN GOSLINE, ANNIE O'NEILL

FACULTY SPONSOR: MARIA LIWANAG, SCHOOL OF EDUCATION

This mini-inquiry research project reports on a survey of pre-service teachers' perceptions of basal reading programs. We selected texts from the Scott-Foresman and Houghton Mifflin basal reading series for use with second grade students and compared two stories from each basal with the original text. Participants of the survey evaluate the selected texts based on a set of criteria. Results of the survey as well as a discussion of what the survey means in teaching literacy is presented.

122 • Journey to an Intellectual Life Through Use of Authentic and Diverse Literature in the Elementary Classroom

STEPHANIE BERLAND, STEPHANIE TOTH, KAITLYN MAMAY, ELISE MURREL

FACULTY SPONSOR: MARIA LIWANAG, SCHOOL OF EDUCATION

This mini-inquiry research involves reviewing a series of books that focuses on cultures around the world. These books will be incorporated into the curriculum and used to teach grades 4-6 about various cultures, in hopes of providing them with perspective concerning the diversity they may encounter amongst their peers inside and outside of the classroom. Using Vygotsky as framework for developing a list of diverse books, we discussed how "children would grow into the intellectual life around them," (Atwell, 2007) and we need to make sure that our students receive the appropriate information to help them grow along their journey.

123 • WITHDRAWN The Paradox of Christian Conservatism

MATTHEW HARRIS, PAUL MUNIZ

FACULTY SPONSOR: PHIL NATOLI, SCHOOL OF EDUCATION

Students will produce a poster to demonstrate the results of a paper produced during a collaborative interdepartmental directed study. The poster will examine inconsistencies found between the political behavior and ideological commitments of individuals that identify as Christian Conservatives in America.

ENGLISH

124 • Criticism Without Borders: Visual Essays on Poetry, Prose, and Drama

GABRIELLE CAMPANELLA

FACULTY SPONSOR: PAUL SCHACHT, ENGLISH

My poster includes images and descriptions of a series of drawings I created based on my interpretations of various readings from English 170. Each sketch is what I call a "visual essay," giving my thoughts on the reading(s), and is supplemented by a written explanation on the poster as well. The goal of this project was not only to creatively analyze literature, but to show that a formal essay is not the sole option for people to express their interpretations of literature.

GEOGRAPHY

125 • Mapping Potential Hydrofracking Impacts on the Genesee River Basin, NY

BENJAMIN WUNDER

FACULTY SPONSOR: COLLEEN GARRITY, GEOGRAPHY

This project examined the potential environmental impacts that hydrofracking would have on the Genesee River Basin. The primary focus analyzed the impact on the environment caused by the drilling based on expected spacing interval and area of affected land, including both cleared land and habitat impact. Other impacts that were examined include potential impacts to roads, potential for noise pollution, and potential for methane intrusion into private water wells. By examining and mapping these variables geographically, community impacts can be better analyzed and represented.

126 • Olympic Running, Performance, and Evolving National Stereotypes

EMILY DOUGHERTY

FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

This research looks at the progression of performance in the marathon and the 100 meter dash. We document the decrease to improvement in race performance. Four phases appear to have changed international competition since the Olympics began. The first phase was dominated by privileged, often resolutely amateur, Western runners. The second phase consolidated national competition, pride, and support. In the third phase Developing World runners emerged as potential medalists. Kenya and Ethiopia became known as strong marathon contenders, while Jamaican runners competed successfully in the 100 m dash. Today, in the fourth phase, even poor countries are willing to invest in improving runner performance as a symbol of national prestige. Whatever physiological "edge" may have underscored early successes is now supplemented or even replaced by an exacting and professional training regimen.

127 • Chinese Urban System Growth: The Emerging Tiers

RYAN POWELL

FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

At the start of the 1980s, a period of reform started a period of immense growth for China. China's urban population skyrocketed, with some cities growing by more than 2000% during the period of growth. Data for the years between 1950-2025 were used graph the change in the urban system that occurred due to the growth. The graph shows the creation of a tiered urban system, drawing special attention to the growth in the emerging second and third tiers. These new tiers demonstrate a change in the urban hierarchy of China. The urban centers are no longer exclusive to the coastal areas, but now inland cities have some of the largest populations. The growth of cities away from the coast, as well as away from the long-standing urban centers of Shanghai and Beijing mark a pivotal change in China's urban history.

128 • Paraphilia in India

SAMANTHA LANDAU

FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

The population size, internet usage, income per capita and literacy rate of the various Indian provinces are examined and how they effect the FetLife usage in each province.

129 • Communities of Resilience: Population Stability in Rural Communities of New York State

KEVIN CONTINO

FACULTY SPONSOR: DAVE ROBERTSON, GEOGRAPHY

Rural depopulation is a well-documented phenomenon in the United States. Less well studied are instances of rural population stability. This study examines recent population change in non-metropolitan New York State with the goal of identifying socioeconomic and cultural characteristics

of rural communities showing stable or growing populations. GIS analysis of data from the 2010 U.S. Census and the Bureau of Labor Statistics is used to identify these communities and interpret the factors underlying their resilience. Changing age distributions, economic and educational indicators, and proximity to urban centers or transportation arteries are considered. In many communities, major institutions such as universities, prisons, or factories are sources of economic and social vitality. In other instances, however, community resilience is a more challenging phenomenon to interpret.

130 • Ice Internationalization of SUNYAC, D III Men's Hockey, 1999-2012

STEFAN DECOSSE

FACULTY SPONSOR: DAVID ROBERTSON, GEOGRAPHY

The purpose of this study is to explore the internationalization of State University of New York Athletic Conference (SUNYAC) ice hockey. Place of birth and previous team data are compiled and statistically and spatially analyzed to illustrate emerging trends between the 1999-2000 and 2011-2012 seasons. SUNYAC team standings are also analyzed to investigate whether a relationship exist between internationalization and team success. Place of birth data illustrates country origins of players in the SUNYAC but previous team data illustrates the fundamental reason for SUNYACs internationalization. There is a lack of scholarly and popular literature concerning the internationalization and recruitment patterns not only of the SUNYAC, but all NCAA men's ice hockey leagues. Athletic organizations, both professional and amateur, will benefit from applying the methodologies developed in this study, methods that are also applicable to other realms of life. Businesses, colleges, and other organizations engaged in recruiting activities could potentially apply this studies methodologies to make recruitment policies more efficient and effective.

131 • Historical Geography of the American Circus: Analysis of Golden Age Itinerant Entertainment

TOBIAS SCOTT-KILLIAN

FACULTY SPONSOR: DAVID ROBERTSON, GEOGRAPHY

This study analyzes historical itinerant routes of the American circus during its Golden Age. Route information is acquired from the Circus Historical Society: Circus Route Library, which draws from 19th century route books and other primary sources. Two circuses, 'Ringling Brothers' and 'Barnum and Bailey' are analyzed. Historical information related to transportation and population is used to interpret circus route scale, scope, and confluence, in the year 1890. As well a case study of the Ohioan circus confluence is displayed for the year 1890. The circus routes are brought into a historical GIS for analysis. As a paramount form of late 19th century itinerant entertainment, few studies have examined the geography of the "Greatest Show on Earth." The introduction of the railroad into circus travel had recently expanded range over a season; analyzing

the American Circus at this time of technological revolution is a fertile topic.

132 • Emerald Ash Borer: Patterns of an Invasive Species Across the Landscape

KEVIN BRONSON

FACULTY SPONSOR: JAMES KERNAN, GEOGRAPHY

The emerald ash borer (*Agrilus planipennis*) is an invasive species that is spreading at a rapid pace across the Great Lakes and Mid-Atlantic States with little sign of slowing. It is important to fully understand the spatial patterns of the invasion to make informed management decisions. The movement of this insect is aided by human activity, as evident from past research, but in this work a closer look was taken at potential human dispersal vectors. After collecting infestation data (initial infestation dates gathered from web, media, and personal contact) and mapping the movement of EAB, patterns were analyzed in a GIS. EAB is often found in counties that are within five miles of a major highway or have highways directly intersecting the county, near clusters of recreational areas, and in large urban centers where human populations are high. Emphasizing EAB dispersal in New York State, maps were generated to recreate the spatial-temporal advance of EAB at a county scale. A better understanding of the progression of the invasion may make it possible to plan for EAB, and help to slow the spread.

133 • Students on the Water - Houseboats in Groningen

DANIEL SOLOW, SHANNON CULLIGAN

FACULTY SPONSOR: JENNIFER ROGALSKY, GEOGRAPHY

The project addressed the viability of student houseboat living in Groningen, The Netherlands. The aim was to evaluate if college students and the current houseboat population would desire the prospect of students living in the canals. Our stimulus for the project is the short housing stock and housing pressures in Groningen. Unlike American cities, Groningen is a compact city with stringent planning regulations and makes development a challenge. Canals and houseboats run through the city so the canal network is the proposed solution. For our data we distributed 202 student (International and Dutch) surveys and 40 houseboat resident surveys. Our results indicated that Dutch students were largely opposed to the idea while International students were mainly excited for the idea. Additionally houseboat residents did not mind students entering the canal neighborhood. This empirical presents a creative initiative to help address the housing pressures in the Groningen.

134 • Can Sustainability Features Revitalize Buffalo Neighborhoods?

DREW ROGERS

FACULTY SPONSOR: JENNIFER ROGALSKY, GEOGRAPHY

The city of Buffalo has been severely damaged by the massive migration of people to the suburbs and the declining number of industrial jobs. Like many other Rust Belt cities, Buffalo now has an overwhelming number of abandoned houses and

vacant lots which litter the city's streets. Buffalo pre-suburbanization was the home of thriving densely populated neighborhoods where residents lived sustainable lives in terms of low dependence on the automobile. People lived within walking distance of everything they needed. These systems faded away along with the people and the sense of neighborhood. Buffalo neighborhoods, particularly on the East Side, have been drastically transformed into areas of blight and urban decay in a matter of 50 years. Population decline persists today and there has been little action by the government to prevent further decay of these neighborhoods other than demolition of abandoned houses.

135 • Ocracoke, North Carolina: An Exercise in Land Use Regulation and Zoning Enforcement

IAN MACPHERSON, JANE RAFFALDI, PATRICK LYNCH, LUKE JOHNSON

FACULTY SPONSOR: JENNIFER ROGALSKY, GEOGRAPHY

Ocracoke is a remote island town located on the Outer Banks of North Carolina. Founded as a shipping pilot town in colonial times, it also became a pirate haven, and in recent years it has grown significantly, with tourism becoming its main economy. This rapid expansion as a tourist and retirement destination has put stress on the existing infrastructure of the village, and possible solutions are being inhibited by a lack of cohesive, and enforceable, zoning and land use regulation on the island. Using case studies of surrounding towns to identify means and methods to improve zoning regulation, our group is assisting the village of Ocracoke's Advisory Planning Board to help manage its growth while maintaining its historical character. Through analysis of other communities' land use regulations and enforcement, our research will aid the Board as it revises the Ocracoke Development Ordinance.

136 • Ocracoke Planning Analysis for Pop-Up Businesses

SHANNON CULLIGAN, MILES SHADMAN, JONATHAN BIBER, ROBERT SEMLER, JESSE RABINOWITZ

FACULTY SPONSOR: JENNIFER ROGALSKY, GEOGRAPHY

Ocracoke is a small island community on the Outer Banks, off the eastern coast of North Carolina. Due to a rapid increase of populations, especially in tourism, Ocracokers are noticing several problems that they have not been able to predict. One of these problems includes the emergence of unregulated businesses that residents and business owners are setting up on their own property to sell commodities, primarily to tourists. The people of Ocracoke are very concerned with these "pop-up businesses" or "kiosks." Concerns include: waste management; how these businesses change the look of the community; whether or not these businesses are paying sales tax; and if the location of these "pop-ups" creates a serious safety risk. Our group intends to help the Ocracoke Advisory Planning Board address these issues by researching case studies of communities experiencing similar issues, and examining how these communities are attempting to solve these problems. Our research

analyzes specific legislation and ordinances that are already in effect or are being proposed by these communities, as well as their effects on the communities. The goal of our analysis is to assist the Ocracoke Advisory Planning Board in finding solutions that work for Ocracoke.

137 • A Study of Travel Trailer Ordinances for Ocracoke, North Carolina

STEVEN LUBRANO, JORDAN POTTER, KEVIN CONTINO, REGINA CONNELLY

FACULTY SPONSOR: JENNIFER ROGALSKY, GEOGRAPHY

Ocracoke is a formerly isolated small island community in North Carolina, which, in recent years, has experienced an unprecedented influx of tourism. As a result of the associated rapid economic growth, many residents have chosen to live in travel trailers when faced with the rising costs of traditional homeownership. While there is an existing Development Ordinance, the Ocracoke Advisory Planning Board is interested in alternative measures adopted by other communities, and most importantly how these measures are enforced. Their primary concerns are about health, safety, water & sanitation, and property setbacks of these travel trailers. To address these concerns, we have researched communities of similar size and composition to Ocracoke. Communities with comparable historical, economic, and geographical features, particularly a strong tourism industry, have been selected for case studies. Using municipal code databases, such as municode, we can examine the ordinances implemented by these communities and identify popularly employed measures that could work well for Ocracoke. Upon completion of our research we expect to analyze a breadth of in-depth case studies, to provide comprehensive recommendations to the Ocracoke Advisory Planning Board.

GEOLOGICAL SCIENCES

138 • The Response of Standish Slag to Acidic Solutions

ELLIS BAEHR

FACULTY SPONSORS: AMY SHELDON AND DORI FARTHING, GEOLOGICAL SCIENCES

The objective of this study is to determine how the physical and chemical properties of slag change in response to exposure to an acidic solution, such as acid rain in the Adirondack Mountains. Slag samples from Standish, New York were powdered and sieved using an 80 mesh sieve size to homogenize the slag sample. Ten gram samples were exposed to 100 mL, 200 mL, 500 mL, and 1000 mL of 2.0 pH solution of hydrochloric acid. After one hour of exposure, the pH of each solution was as follows: pH 11.15 for 100 mL, pH 10.86 for 200 mL, pH 10.31 for 500 mL, and pH 9.81 for 1000 mL. Extrapolation of the relationship between the mass to volume ratio and pH suggests a significant long-term buffering capacity of the Standish slag to acid rain. Samples will be analyzed by x-ray fluorescence spectroscopy to determine elemental changes upon exposure to the acidic solutions. The results of this study will provide insight as to the environmental impact of the Standish slag in response to the acid rain in the Adirondack Mountains

139 • Geneseo Storm Drain Water Quality

ELLIS BAEHR, KRISTINA NELSON, CHRISTOPHER WAID

FACULTY SPONSOR: AMY SHELDON, GEOLOGICAL SCIENCES

The objective of this study is to provide an indication of the water quality exiting Geneseo Village storm drains. Water samples were collected from four drain locations around the Village of Geneseo during October, 2011; two of these drains were located near Riverside Drive, one near Seneca Avenue, and the other was near Park Street close to the athletic center. Samples were sent to Columbia Analytical Services, Inc. in Rochester and analyzed for nitrates, pesticides, and non-polar oils and greases. Nitrate values of 1.5 mg/L were measured in the more upstream Riverside location and 4.0 mg/L at the Seneca Avenue location. These were the only significant results reported; however these values are not of serious concern as the EPA maximum contaminant level is 10 mg/L. Another set of samples will be collected and analyzed this spring. While the two sampled dates (one fall, one spring) provide an indication of the quality of water entering the river, they each represent only a brief period of time. Continuous monitoring would be required to fully characterize the quality of water discharging into the river.

140 • Glacial Geochronology and Paleoclimate Reconstruction in Northern Montana, Glacier National Park

BRENDON QUIRK

FACULTY SPONSOR: BENJAMIN LAABS, GEOLOGICAL SCIENCES

Mountain glaciers are highly sensitive to changes in climate and provide valuable geologic records of past climate change in the northern Rocky Mountains of Montana. A valley glacier occupied the Cut Bank Creek valley on the eastern flank of the Lewis Range during the Last Glacial Maximum. The ice extended 8.5 km beyond the mountain front to form a piedmont lobe, depositing terminal and recessional moraines. Due to land access issues, the timing of the Last Glacial Maximum in this region is poorly understood. Sandstone and quartzite boulders, deposited at the crests of the moraines by the glacier, provide excellent targets for cosmogenic ¹⁰Be surface exposure dating. Nine boulders were sampled from these moraines and processed to beryllium oxides for analysis by accelerator mass spectrometry at Purdue University's PRIME Lab. Paleoclimate reconstruction was completed by modeling the extent of the glacier (based on geomorphic mapping) and application of numerical modeling of mass balance and ice flow to constrain precipitation and temperature during the Last Glacial Maximum. Results of these two experiments are discussed in the context of glacial chronologies from elsewhere in the northern Rocky Mountains.

141 • Testing the Relationship of Height and Cosmogenic Exposure Age of Moraine Boulders

MEGAN CAREY

FACULTY SPONSOR: BENJAMIN LAABS, GEOLOGICAL SCIENCES

When choosing moraine boulders to sample for cosmogenic exposure dating, a traditional approach involves preferential sampling of tall boulders. This is based on the assumption that tall boulders are more likely than shorter ones to have experienced constant exposure. Surface cover of moraine boulders decreases the production of cosmogenic isotopes in surface material and would result in exposure ages younger than the actual moraine age. Here we test the assumption that taller boulders yield older exposure ages than younger boulders by exploring a large dataset of exposure ages and moraine boulder heights. Among these, few datasets demonstrate that taller boulders yield exposure ages closest to the actual moraine age. A linear regression analysis reveals that short boulders yield exposure ages that are not statistically different than tall boulders exposure ages. These results indicate that taller boulders on moraines will not necessarily yield more accurate exposure ages than shorter boulders. This finding is similar to that of Briner (2009), who found indistinguishable exposure ages of pebbles and boulders atop Pleistocene moraines in Colorado. Despite the similarity of these findings, the question of whether they are evidence of geomorphically stable moraine crests or significant degradation of moraine crests needs further consideration.

142 • Precambrian Geology of Yellowstone National Park (YNP) and Surrounding Areas: Plutonic Rocks of the Slough Creek Area

ALISA KOTASH

FACULTY SPONSOR: DORI FARTHING, GEOLOGICAL SCIENCES

Precambrian plutonic rocks of the Slough Creek area in northern Yellowstone National Park are composed of several different lithologies that range in composition, grade of metamorphism, structural style, and magmatic activity. This indicates a distinct evolutionary history of felsic plutons in this region. Samples collected in 2011 from the 2.8 Ga Hellroaring and Crevice granitic plutons located to the west of Slough Creek, have similar relationships between each other but differ in mineralogy, rock type, and field relations from samples collected in the Beartooth Mountains, located to the northeast of Slough Creek. The purpose of this study is to determine the emplacement history of the three-felsic plutons in the Slough Creek area using mineralogical and geochemical techniques. Petrographic analysis of the Hellroaring pluton reveals mineralogy of plagioclase (19-51%), quartz (15-48%), K-feldspar (1-50%), biotite (1-18%), ± hornblende (0-13%), and epidote (0-3%). Titanite and allanite exist as potentially dateable accessory minerals. Hornblende is locally partially replaced by biotite and epidote. Titanite is relatively common, reaching 4mm in diameter. Quartz is recrystallized showing undulose extinction and subgrain boundary development. Deformation twinning is present in plagioclase and myrmekite formation.

143 • Slag Effect on Soil pH at an Abandoned Iron Factory in Ironville, NY

HALEY GALLO, BETHANY MALENICK

FACULTY SPONSOR: DORI FARTHING, GEOLOGICAL SCIENCES

Smelting factories mine metals from their metal ores and are located all over the world. A residual called slag is often left behind as a result of this process and will remain in the area long after the factory is gone. Slag can affect the surrounding environment through the alteration of water and soil chemistry. Areas that are in direct contact with slag often show a noticeable change in pH. An abandoned iron furnace located in Ironville, NY was surveyed and soil samples were taken from the surrounding area. The samples from within a small radius of the site produced a much higher pH than those of the background soils from the area. A series of maps were created from the data and display that slag does affect the environmental state of an area.

144 • Tentaculites and the Frasnian-Famennian Extinction Event(s)

BETHANY MALENICK

FACULTY SPONSOR: JEFFREY OVER, GEOLOGICAL SCIENCES

The Frasnian-Famennian Boundary marks an extinction event that is considered one of the 'big 5' extinction events of geological time. Many marine taxonomic groups have a reduction in diversity along with a changing of habitat. An analysis of tentaculites from the Upper Devonian show a decline in the tentaculites fauna up to the Frasnian-Famennian Boundary extinction event, which only the Order Homoctenida survives. Samples from Michigan and New York indicate a shift in species dominance from the Frasnian to the Famennian. The dominance of the Order Homoctenida into the Famennian suggests that this order of tentaculite has some adaptation which allowed them to tolerate the changing climate and environment.

145 • No Decline in Ostracode Predation by Gastropods Across the Pliocene-Pleistocene Boundary, Southeastern North Carolina

ERIKA DANIELSEN, AMY GROGAN, AGNES LINK-HARRINGTON, THOMAS MACKOWIAK, ANTHONY PIVARUNAS, KATHERINE TUSKES, CAROLYN GORMAN, HTAT WIN MAUNG KAUNG, KIMBERLY LOTITO, JAMES KRUEGLER, SIMON NASH, BENJAMIN TANCHYK, ZACKERY WISTORT, AMBER LOUNSBERRY, DANIEL MISERENDINO

FACULTY SPONSOR: JEFFREY OVER, GEOLOGICAL SCIENCES

The Pliocene-Pleistocene boundary in the Atlantic Coastal Plain is characterized by a significant extinction of mollusks, including a decrease in predatory gastropods that feed on clams by boring through the shell. It would be expected to find fewer drilled ostracodes, a small bivalved crustacean known to be preyed upon by juvenile predatory gastropods that feed on clams, in Pleistocene strata - our test hypothesis. Ostracodes were collected from three localities in southeastern

North Carolina, one in the late Pliocene (3.0 Ma) Duplin Formation and two in the lower Pleistocene (2.5-1.9 Ma) Waccamaw Formation to determine if there was a change in predation on ostracodes as indicated by the presence of bore holes. 300 + specimens of ostracodes were identified and the number of bored specimens tallied. In the Duplin Formation at Natural Well; two valves show unequivocal borings; 1.9% of the valves had evidence of gastropod predation. In the Waccamaw formation, 1.1% of valves were bored in one locality and 2.7% at the other. Across the Pliocene-Pleistocene boundary, assuming the same depositional setting, there is a decrease in ostracode diversity, but no significant change in predation as indicated by the relative number of bore holes produced by juvenile gastropods.

146 • Geologic Map of Indian Fort, Geneseo, NY

PATRICIA GREGORY

FACULTY SPONSOR: JEFFREY OVER, GEOLOGICAL SCIENCES

The Indian Fort Reserve, recently acquired by the Genesee Valley Nature Conservancy, is located 3.5 km (2 miles) south of Geneseo, New York. The bedrock geology and the glacial deposits of this unique area were assessed and mapped in ArcGIS as distinct "layers" that show the stratigraphy: Middle and Upper Devonian Windom shale, the Penn Yan shale, the Geneseo shale, and the Genundewa Limestone, which holds up the waterfall. The glacial deposits consist of a till veneer where there is an exposure near the base of the largest gully. Using no more than a contour map, an altimeter, and a measuring tape, the points of change in bedrock were determined and a cross-section produced. Although smaller scale geologic maps have been made of this area, a more detailed and precise map will benefit visitors that desire to learn more about what is underneath their feet.

147 • Chemical and Mineralogical Analysis of Middle Proterozoic Graphitic Calcitic and Dolomitic Marble from the Eastern Adirondacks, NY

RACHEL MCGEE

FACULTY SPONSOR: JEFFREY OVER, GEOLOGICAL SCIENCES

A sample of calcitic and dolomitic marble from the Grenville Marble Member of the Grenville Series was collected from talus within a cave in Horicon, Warren County, New York. This unit is similar to the nearby Grenville marbles found throughout the Adirondacks, especially in the area surrounding Ticonderoga. These marbles were formed during the Grenville orogeny, between 1.2 and 1.0 Ga, which metamorphosed carbonaceous Precambrian limestone. Ticonderoga and other localities in the Adirondacks are known numerous economic graphite deposits.

148 • Conodonts in the Upper New Albany Shale, Southern Indiana

SCOTT EVANS

FACULTY SPONSOR: JEFFREY OVER, GEOLOGICAL SCIENCES

The upper New Albany Shale of the Illinois Basin, southern Indiana, consists of the Jacobs Chapel, Henryville and Falling Run beds. Conodonts, the phosphatic, tooth-like remains of eel-like organisms, are abundant and diverse in several concentrated horizons. The mixed fauna found in each level, consisting of Devonian and Carboniferous conodonts suggests the erosion of Devonian strata and reworking of Devonian fossils into the Carboniferous of the upper New Albany Shale. Conodonts found in the Jacobs Chapel Bed indicate that it was deposited in the Lower Carboniferous Lower crenulata Zone. Three conodont-rich horizons below the Jacobs-Henryville contact contain *Siphonodella cooperi* an indication of the Upper duplicate Zone. The Devonian-Carboniferous Boundary is projected to be in the upper part of the Clegg Creek Member, below the Falling Run Bed.

149 • Weathering Rims Found on Chemically Altered Hornblendes Within Granites from the Henry Mountains

ALBERT KIM

FACULTY SPONSOR: SCOTT GIORGIS, GEOLOGICAL SCIENCES

This project investigates an irregularity in paleomagnetism data from a portion of the Henry Mountains, Utah. Seven sites were drilled from a fairly small area from the Henry Mountains to find the orientation of the dipole of that area. But two out of the seven cores showed data that were scattered and not like the others. There were three possible explanations for this irregularity: a lightning strike, thermal alteration from near-by magma pulses, and chemical alteration due to weathering. Using the scanning electron microscope (SEM) was the first step at looking for irregularities within the rock minerals. Fortunately, the SEM found evidence of chemical alteration/weathering. After carbon coating the rock sample and looking at them under the SEM, weathering rims were found on the hornblendes in almost all the rock sample, except for two, suggesting that the minerals were chemically weathered with the rims as evidence of chemical alteration. Since a majority of the samples have hornblendes with weathering rims, we hypothesize that the degree or abundance of weathering rims plays an essential part in determining if the dipole within in the iron bearing minerals has been altered.

150 • Paleomagnetic Insight into the Construction of the Buckhorn Ridge Sill, Henry Mountains, UT

ASHLEY SWEDE-GRAKOWSKY

FACULTY SPONSOR: SCOTT GIORGIS, GEOLOGICAL SCIENCES

The Henry Mountains located in Utah provide an ideal place to study the emplacement history of igneous intrusions. The country rock originally consisted of nearly horizontal Mesozoic sedimentary strata that have been tectonically inactive before and after emplacement. We analyzed paleomagnetic data to study the construction of the Buckhorn Ridge Sill, a 40-m-thick intrusion that is part of the larger Mount Holmes intrusive center. Presently, this sill dips approximately 19 N. Alternating field

demagnetization of samples from the sill yielded two or three component remnant magnetization signals in almost all samples. Four of seven sites analyzed yield remnant magnetization orientations consistent with the stable North American reference pole for the intrusion age (33-23 Ma). This suggests the sill was emplaced in its present orientation - i.e. the sill was intruded while the surrounding sedimentary strata were already inclined due to an underlying laccolith. Our results contrast with the conclusions of earlier work by other authors on a distinct but nearby intrusive center. On the Mount Hillers intrusive center, paleomagnetic analysis of marginal sills suggested the sills were intruded and cooled while host rock strata were still horizontal. These differing results suggest a complex construction history for the Henry Mountain laccoliths.

GEOPHYSICS

151 • Relative Age Dating of Sills and Satellite Intrusions from Paleomagnetic Data, Mt Hillers, Henry Mountains, UT

DOMINICK CIRUZZI, MATT FARRELL

FACULTY SPONSOR: SCOTT GIORGIS, GEOPHYSICS

The laccoliths of the Henry Mountains in south central Utah provide an ideal place to study the emplacement history of igneous intrusions constructed from multiple magma pulses. We analyzed paleomagnetic data to study the construction of the Mt. Hillers intrusive complex. Alternating field demagnetization of samples yielded two or three component natural remnant magnetization signals in almost all samples. The high coercivity component of individual cores at each site was consistently oriented at most sites ($\alpha_{95} < 5^\circ$). We recognize five categories of intrusions based on the paleomagnetic results and the orientation of bedding in the nearby sedimentary rocks: (1) emplacement into horizontal country rock followed by tilting; (2) emplacement into tilted country rock followed by further tilting; (3) emplacement into tilted country rock followed by vertical axis rotation; (4) emplacement into horizontal country rock followed by inclined axis rotation (i.e. horizontal and vertical axis rotation); and (5) emplacement into dipping country rock followed by inclined axis rotation. The categories listed above are placed in order of increasing complexity of their structural history. We hypothesize that those units with the most complex histories are the oldest, while younger units have progressively more straightforward structural histories.

LANGUAGE AND LITERATURES

152 • Neologism, a Quest for Identity and Liberation in Black Africa and the Caribbean

CLADIA PLANTIN, DAISY LUMA-HADDISON

FACULTY SPONSOR: KODJO ADABRA, LANGUAGE AND LITERATURES

In the early 20th century, a sense of euphoria swept over the African continent as it witnessed one country after another experiencing political freedom. As many African states struggled to reinvigorate abiding subservient cultures and societies, an arresting impulse towards African identity emerged as an

expression of revolt against colonialism and its dominant role in the African Diaspora. With the continent in transition, neologism became an important factor in the rediscovery of a true African identity. The voices of scholars and Leaders that were united in the fight led to one of the greatest movements in favor of a united Africa: Pan Africanism. This neology became a substantial ideology with multiple currents and played a significant role in the emergence of newer movements/revolutions. Pan Africanism encompasses various aspects of everyday life such as language and culture, while also reaching broader topics such as racism and political structures. While Pan Africanism is an important example of the power of neology to unite a people, this poster will illustrate how neologism has produced several equally influential movements in Black Africa and the Caribbean, such as Negritude, Tigritude, Créolité, Rasta, etc.

PHYSICS & ASTRONOMY

153 • Measuring Super Mirror Reflectivity at He-Ne Laser Wavelength

ALEXANDER VAN SLYKE

FACULTY SPONSOR: GEORGE MARCUS, PHYSICS & ASTRONOMY

The purpose of this study was to discover the reflectivity of cavity ring-down super mirrors for use in ascertaining scattering properties of atmospheric particles. The reflectivity of the mirrors must be known over the range of wavelengths that will be used in further atmospheric scattering studies. A He-Ne laser beam was coupled with a sealed optical cavity filled with filtered and dehumidified air. The time required for the signal at an optical detector at the far side of the cavity to decay after laser deactivation was then measured and the reflectivity was calculated from this time. A threshold trigger pulse generator was built for use with this system to enable rapid (<100 ns) laser deactivation. The reflectivity was measured to be $(99.9920 \pm 0.0007)\%$. This value is in agreement with expectations given that the documented reflectivity is 99.995%. Further tests will be done with a laser diode to observe the reflectivity at different wavelengths.

154 • Analysis of an Eclipsing Binary System

ANTHONY KAMINSKA

FACULTY SPONSOR: AARON STEINHAEUER, PHYSICS & ASTRONOMY

Many stars orbit each other in binary pairs. When this orbit takes one member directly between its partner and the earth it is known as an eclipsing binary. These star pairs are interesting because we can use data gathered from them to determine properties of the partner stars such as the period of orbit, and the mass and radius of each star. These stars are too close together to individually resolve, however by taking careful measurements using a telescope and CCD (charge-coupled device) camera the change in brightness can be observed. With enough data a light curve can be created. A light curve is essentially a plot of the system's brightness versus its orbital phase. This poster will include descriptions of binary star systems, the data collection process (including pictures of the

equipment used), and the results including the light curve.

155 • The Father of Modern Chemistry: Antoine Lavoisier and the Disproval of the Phlogiston Theory

BENJAMIN PETERSON, ANDREW NICHOLSON, JULIE COOK

FACULTY SPONSORS: JAMES MCLEAN, PHYSICS & ASTRONOMY AND JOSEPH COPE, HISTORY

During the era of the French Revolution, major advancements were made in chemistry by an important French scientist, Antoine Lavoisier. Lavoisier (1743-1794), considered the father of modern chemistry, was responsible for discrediting the phlogiston theory, a once widely accepted theory of combustion. Through his various quantitative experiments, he disproved this rudimentary theory and in doing so, discovered the role oxygen plays in oxidation and combustion. At the time, British scientists, including Joseph Priestley, Henry Cavendish, and Joseph Black, supported the phlogiston theory, and Lavoisier's work drew him into conflict with his British colleagues. The politics of this intellectual exchange are significant. Not only did the scientists on both sides of the Channel have to deal with issues such as funding and differing stances on religion and natural philosophy, but the political conflict between Britain and France in this period made collaboration and productive intellectual exchange very difficult. This was also true in a French-only context, as Lavoisier's involvement in politics led to his condemnation and death at the hands of the guillotine during the French Revolution.

156 • Analysis of Energy Distribution Throughout Magmacore Ceramic Armor

BRIAN ALEXANDER, CHAD PIERCE

FACULTY SPONSOR: JAMES MCLEAN, PHYSICS & ASTRONOMY

Ceramic armor is on the cutting edge of military and law enforcement technology. Our research will contribute positively in these fields by digitally recreating such technologies. Research from the school year has involved fabricating and analyzing a three dimensional representation of ceramic based armor using computer automated design software. This armor, consisting of a tetrahedral shaped plastic core, is populated with small solid ceramic balls. As a bullet is fired on the armor, the hardness of the ceramic causes the given projectile's energy to be distributed across the entire structure, dissipating the impact of the bullet. The simulation begins when gravity is applied to the ceramic balls in order to replicate manufacturing processes. Once settling of the ceramic balls has occurred, the bullet is fired at the armor. LS-DYNA is used to track the kinetic energy and momentum of the simulation and produces graphical and video outputs. In field tests, after the bullet impacts the structure, broken fragments of the ceramic settle back into place, creating an internal self-healing property of the armor. The goal of our simulations will be to replicate the results seen in these tests.

157 • Benjamin Franklin: The Lightning American

CORY YOUNG, BRANDON DEFILIPPIS, JACOB FALLICA

FACULTY SPONSORS: JAMES MCLEAN, PHYSICS & ASTRONOMY AND JOSEPH COPE, HISTORY

Benjamin Franklin was gifted with an exemplary mind; his innate curiosity combined with a Puritan upbringing by his father sparked in him an insatiable drive to improve not only himself, but the lives of others. To him, science was always more than an intellectual pursuit, but also a tool to be used for the advancement of humanity as a whole. His investigations into house fires led to the creation of the first volunteer fire department, and further inquiries into electricity culminated with the invention of the lightning rod. He demonstrated that the static electricity on earth was a result of the same phenomenon that created lightning in the heavens. Furthermore, he made a significant impact on the study of electrostatics as a whole by being the first to postulate that electricity was one "electric fluid" (rather than two separate ones) which could exist in either excess or deficient quantities. Franklin was eventually inducted into the Royal Society due to his revelations regarding electricity (among other fields), showing that a man of humble beginnings could secure his place in the history of physical science.

158 • Optimization of Neutron Activation of Carbon at the NIF

DANAE POLSIN, MEGAN RUSS

FACULTY SPONSOR: STEPHEN PADALINO, PHYSICS & ASTRONOMY

To determine the pR of ignition scale targets at the NIF, a carbon activation diagnostic is being developed to measure tertiary neutron yield. It has been shown theoretically that the ratio of the tertiary yield to the primary yield is directly related to rhoR and is nearly independent of hot-spot electron temperature. Due to carbon's 20.3 MeV reaction threshold, it is insensitive to 14.7 MeV primary neutrons which are measured by other means and allows for an unambiguous determination of the tertiary to primary ratio. The energy distribution of the 20 to 30 MeV DT neutrons folded with the (n,2n) cross section in this energy region determines the degree in which carbon will be activated. However, the published ¹²C(n,2n) cross sections in this energy range are bifurcated. To set upper and lower limits on the sensitivity of the activation diagnostic, a finite element calculation was used to determine the limits of the method's usefulness at diering primary yields and solid angles for the NIF chamber. It was further used to verify MCNPX activation calculations. This work was funded in part by the USDOE through LLE.

159 • WIYN Open Cluster Survey: UBVR CCD Photometry of Open Star Cluster NGC 581

DANIEL GOLE

FACULTY SPONSOR: AARON STEINHAEUER, PHYSICS & ASTRONOMY

We present photometry of the young, metal rich open star cluster NGC 581 and an independent measure of basic parameters including reddening, age, and distance. This study is part of an ongoing

WOCs survey of this cluster. This photometry will be vital to follow-up spectroscopic observations.

160 • A Triumvirate of Progress: The Story of Johannes Kepler, Tycho Brahe, and Rudolph II

DANTE TUFANO, CHRISTINA KENNEDY

FACULTY SPONSOR: JAMES MCLEAN, PHYSICS & ASTRONOMY AND JOSEPH COPE, HISTORY

While many people are familiar with Johannes Kepler's three laws of planetary motion, less people are familiar with the circumstances under which Kepler was able to pursue his research. Though Kepler was an astronomer and mathematician, he was also a man with strong religious convictions, and faced discrimination for his religious beliefs. This led him to accept an invitation to work at Tycho Brahe's observatory under the funding of Emperor Rudolph II. Rudolph II's religious tolerance enabled Kepler to work in Brahe's observatory without fear of persecution. Still, Brahe and Kepler's relationship was often strained by disagreement over Kepler's Copernican beliefs and Brahe's refusal to share his data. The goal of this project is to examine the importance of Rudolph II's role in supporting Kepler's research and how this is reflected in the relationship between Brahe and Kepler. We will also be presenting an experiment which parallels Kepler's work, consisting of the use of a pinhole camera to measure the distance of the sun and the moon from the earth as well as to examine the orbit of the sun.

161 • Galileo: Scientist, Heretic, Courtier

ERIC GRATIEN, LUKE PORTER, THOMAS DAVIS

FACULTY SPONSOR: JAMES MCLEAN, PHYSICS & ASTRONOMY AND JOE COPE, HISTORY

Our poster will discuss Galileo's scientific methods and how his observations led to the validation of the Copernican view of the universe. We will discuss the degree to which Galileo's methods represent a move towards empirical knowledge and a rejection of ancient "wisdom." Related to this is the development of the ways in which science is valuable as a means of describing the true nature of the world. Some specific applications Galileo helped foster include his works in astronomy, and his development of new technology to aid in that field. Additionally, Galileo's conflicts with the church show how the modern scientific ideas of the Enlightenment were clashing with traditional beliefs. Furthermore, we will explore how his relationship with the Medici family in Italy affected his science. Our experiment will explore Galileo's work on falling bodies, which proves that two objects in a vacuum will fall at equal rates, regardless of mass.

162 • WIYN Open Cluster Study: Spectroscopic Metallicity of the Open Star Cluster M37

EVAN LOSH

FACULTY SPONSOR: AARON STEINHAEUER, PHYSICS & ASTRONOMY

M37 is a very rich open star cluster at an age that is slightly younger than the Hyades which places it in a key position to diagnose important issues in stellar evolution such as the Lithium Gap. We

present high-resolution, WIYN Hydra spectroscopy of slow rotating dwarfs in M37 and report a cluster [Fe/H].

163 • Gait Analysis of Equines Using the PEGASUS System

JARROD LAFOUNTAIN, MARIE KALET, MARINA MASSARO, CHELSEA WEIBEL

FACULTY SPONSORS: STEPHEN PADALINO AND ED POGOZELSKI, PHYSICS & ASTRONOMY

A diagnostic force plate system, named PEGASUS for "Pressurized Equine Gait Analysis System Under Strain", was developed to measure the transverse, longitudinal and vertical forces, and to calculate torques and impulses exerted by a horse as it walks over it. The system consists of a steel plate and ten strain sensors that measure orthogonal applied forces on the plate. Four 1,000 lb sensors, which act as vertical supports for the plate, are mounted under the plate and measure the vertical force exerted by the horse. Six horizontal sensors, each mounted in the sides of the horse plate frame, measure the transverse and longitudinal forces. These forces are then converted into torques based on the geometry of the system. The data acquired by this force plate will allow equestrians and veterinarians to determine the degree of lameness of an animal after an injury. When used on a regular basis the PEGASUS can generate data that can help guide the treatment process. This medical diagnostic system can help ensure long term equine health if used during the lifetime of the animal.

164 • Simultaneous Measurements of Ion and Electron Energy Spectra Using a Thomson Parabola

JIAN CONG ZENG, DREW ELLISON, COLLIN STILLMAN, KYLE CROMPTON

FACULTY SPONSORS: CHARLIE FREEMAN, PHYSICS & ASTRONOMY AND KIRK ANNE, CIT

A Thomson Parabola Ion Spectrometer (TPIS) is used at the Multiterawatt (MTW) laser facility at the Laboratory for Laser Energetics (LLE) at the University of Rochester. This diagnostic was designed to study the energy spectrum of ions accelerated from the rear side of targets illuminated with ultra-intense laser light. The TPIS implements parallel electric and magnetic fields to separate ions of a given mass-to-charge ratio onto parabolic curves on the detector plane. The position of the ions along the parabola is used to determine their energy. Recently, this device has been used to study the energy spectrum of electrons which are also emitted from the rear side of laser-irradiated foils. A Fujifilm imaging plate (IP) was placed at the rear of the TPIS to detect the ions and another at the top of the TPIS to detect the electrons. The position of the charged particles on the imaging plates is used to determine their energy. The data are analyzed using routines written in scientific analytical software. Preliminary results from these analyses will be presented.

165 • Cavendish and The Weight of The World

JONATHAN TATRO, KEVIN LAKAWICZ, ADAM URBANIC

FACULTY SPONSORS: JAMES MCLEAN, PHYSICS & ASTRONOMY AND JOSEPH COPE, HISTORY

The Cavendish Experiment was the first experiment to yield accurate results for the universal gravitational constant. Despite Cavendish often been credited with finding the value of the universal gravitational constant, his experiment actually yielded the Earth's density. To achieve this Cavendish used a torsion pendulum, a shockingly sensitive device for the time. Cavendish did not originally design the apparatus, but he modified it to purpose. Nor did his experiment yield the value for the universal gravitational constant. This monumental experiment was only achievable by the collaboration of the scientific community of the time. There are many interconnected links between Cavendish and the other prominent scientists of the time. Due to the fact that Cavendish had crippling shyness, and possible mental illnesses his contribution to the community was a fraction of what he deserved. He published only a select number of his works and theories. Despite this shyness Cavendish was involved in an interweaving web of other scholars, building on others work and having his work expanded upon and replicated. This continuous till present day.

166 • Ultraviolet Radiation and Plastic Nuclear Track Detectors

JOSEPH MIFSUD, MARK TEETS, DANTE TUFANO

FACULTY SPONSOR: JAMES MCLEAN, PHYSICS & ASTRONOMY

When subatomic particles hit a plastic nuclear track detector, they damage it. This damage can be seen as pits when the plastic is chemically etched because the path has a faster etch rate than the undamaged bulk plastic. Ultraviolet radiation has been found to enhance the track to bulk etch rate ratio of CR-39 plastic detectors; this experiment aimed to quantify the wavelength that maximizes this enhancement. CR-39 was exposed to alpha particles (helium nuclei), then ultraviolet radiation of varying wavelength, and etched. A wavelength range centered around 350 nanometers showed to dramatically increase the diameters of the pits and therefore the track to bulk etch rate ratio. If used in the future, this enhancement will help distinguish pits from noise inherent in the sample and allow for more accurate data analysis.

167 • Upgrades to a Table-Top System for Characterizing ICF Charged Particle Detectors

KRISTINA PUNZI, HANNAH MILLER, JOHN DERMIGNY

FACULTY SPONSOR: KURT FLETCHER, PHYSICS & ASTRONOMY

A simple, high-current system has been assembled to test and calibrate charged particle detectors for Inertial Confinement Fusion. A duoplasmatron ion source system produces 0-30 keV deuterons that are focused by an einzel lens and strike a deuterated polyethylene target, initiating the ${}^2\text{H}(d,p){}^3\text{H}$ and ${}^2\text{H}(d,n){}^3\text{He}$ reactions. An upgrade of the system is underway to increase the count rate for the fusion products. The main challenge is the stability of the polymer target, which melts and disintegrates under bombardment by the intense (1 mA) beam. Using a thermocouple system to monitor the target temperature, modifications to the water-cooled target mount and different target

designs have been studied. In addition, a Wien filter has been installed downstream of the einzel lens to ensure that the ion beam is well characterized. The deflection of the individual electric and magnetic fields of the Wien filter have been measured and compared to calculated values. Plans to replace the Wien filter system with an analyzing magnet system are being implemented. This work was supported in part by the U.S. Department of Energy through the Laboratory for Laser Energetics.

168 • A Retrieval System for Radioactive Target Materials at the NIF

KYE SHIBATA, MICHAEL KRIEGER, JACOB FALLICA
FACULTY SPONSORS: ED POGOZELSKI AND STEPHEN PADALINO, PHYSICS & ASTRONOMY

Currently, solid radioactive material collection from the NIF target chamber is performed via the DIM. The retrieval process takes several hours to complete. To decrease this time for short lived radioisotopes, the Target Materials Retrieval System (TMRS) is being designed to move a radioactive sample from the target chamber to the counting station in less than 50 seconds, using a closed-loop helium filled RaPTORS system. The TMRS consists of three components: the retrieval apparatus, RaPTORS and the counting station. Starting at 0.5 meters from TCC, the sample will move from the vacuum chamber, travel through 60 meters of 10 centimeter diameter RaPTORS tubes, reaching speeds of 10 m/s. The sample will then arrive at the counting station, where it be robotically placed in front of a gamma ray detector. The use of helium will decrease background gamma radiation produced by activated N₂ normally found in a pressurized air system. This work was supported in part by the US Department of Energy through the LLE.

169 • Performance Characterization of RaPTORS Systems

KYE SHIBATA, MICHAEL KRIEGER, JACOB FALLICA
FACULTY SPONSORS: ED POGOZELSKI AND STEPHEN PADALINO, PHYSICS & ASTRONOMY

The Rapid Pneumatic Transport of Radioactive Samples (RaPTORS) system can quickly and efficiently move radioactive materials from their activation site to a counting station. Facilities such as the NIF and LLE are considering these systems while NRL is currently using one. The system is essentially a 10 cm diameter pneumatic tube with a cylindrical sample carrier. The performance of the system depends on many factors, including the mass of the carrier, length of the tube, angle and difference in height of the tube's endpoints, the carrier's physical design, and the number, type, and distribution of blowers attached to the tube. These factors have been systematically examined to develop the fastest and most reliable system. The most significant factors are the mass and the vertical travel of the carrier. When the carrier mass is low, moving air supports the carrier in the tube, resulting in low friction. The terminal velocity ranges from 13.5 to 2.5 m/s for masses varying from 1 kg to 3 kg. Using a single 1100 W blower, the initial force exerted on the carrier was 11.3 N. This work was supported in part by the US Department of Energy through the LLE.

170 • Calibration of the Response of Radiochromic Film to Monoenergetic Ion Beams from a 1.7 MV Pelletron Accelerator

KYLE CROMPTON, COLLIN STILLMAN, MICHAEL SCHEPIS

FACULTY SPONSOR: CHARLIE FREEMAN, PHYSICS & ASTRONOMY

Radiochromic film (RCF) is used to study protons and other ions that are accelerated from the rear side of targets illuminated with ultra-intense laser light. An experiment is underway to characterize the response of RCF to protons, deuterons, and alpha particles of various energies using the 1.7 MV tandem Pelletron accelerator at SUNY Geneseo. A monoenergetic ion beam from the accelerator is incident on a thin (~0.1 μm) gold foil placed in the center of a 28-inch diameter scattering chamber. A strip of RCF is positioned in a circular arc that is centered on the gold foil. The ion beam strikes the gold foil, causing the RCF to be exposed to elastically backscattered ions. The scattered ion fluence on the RCF strip varies as a function of the scattering angle. After removal from the chamber, the RCF is scanned in transmission mode using an Epson 10000 XL flatbed scanner. The red channel of the resulting scan is used to determine the optical density of the film. The output from the flatbed scanner is cross calibrated with a precision microdensitometer (PDS).

171 • Tracking Effluent in Conesus Lake

LAUREN BOMEISL, BECKY MEISSNER

FACULTY SPONSOR: STEPHEN PADALINO, PHYSICS & ASTRONOMY

Many lakes fed by estuaries with high nutrient concentration will result in algal blooms and overgrowth of macrophyte algal beds. This disturbs the health of an aquatic ecosystem, and can present a potential threat to public health through ingestion or in extreme cases, skin contact. Dr. Isidro Bosch has studied Conesus Lake, NY and discovered an inverse correlation between agricultural management plan implementation and algal surface coverage. This experiment will support Bosch's work, verifying the affect of run-off effluent by following tributary stream and lake currents to the macrophyte bed locations using GPS instrumentation. Holux M-241 data loggers and real-time commercial tracking devices will be deployed in watertight sealed PVC housing into the streams and central lake, respectively, to trace tributary flow in Spring 2012. The Holux M-241 accurately records latitude and longitude in real-time every second within the housing. The accuracy of the tracker is dependent on cell phone service and varies based on location. This method of effluent tracking and real-time location transmission is inexpensive and can be used in various freshwater research applications if cell tower reception within the region allows for it.

172 • Optimization of Particle Transport

MARTHA HAMPSHIRE

FACULTY SPONSOR: GEORGE MARCUS, PHYSICS & ASTRONOMY

Particle counts from different system conditions were analyzed in Excel and compared to determine the most efficient system set-up for particle transport through an aerosol transport system. The curvature of the system's tubing was altered to see what affect the number and radius of turns had on the transfer of particles. A particle counter operated by LabVIEW measured the number of particles of various sizes that traversed the system. A particle neutralizer was installed increasing the number of particles transported successfully through the system by a factor of ten.

173 • Francis Bacon: The Father of Empiricism

MICHAEL BRANNICK, SEAN MCCLOAT

FACULTY SPONSORS: JAMES MCLEAN, PHYSICS & ASTRONOMY AND JOSEPH COPE, HISTORY

In his *Novum Organum*, Francis Bacon outlines a method of inquiry and reasoning which is often regarded as the antecedent of the modern scientific method. Bacon's method stressed the use of accumulated data and inductive reasoning as the basis of a new natural philosophy with which natural phenomena could be investigated. We investigate what influences events contemporary to Bacon could have had on the development of his method. In particular, we examine his interest in law and the similarities the legal system has with his empirical method, along with legal reforms he proposed. We also examine what role Bacon had in the development in the modern scientific method. Finally, we provide two simple experiments outlined in Bacon's *Novum Organum* as ways of demonstrating the Baconian method in a class setting. These experiments, used by Bacon to show how useful his method could be, focused on deciphering the true nature of heat.

174 • Scientific Publication from the Royal Science Academy

PETER O'CONNELL, JOSEPH MIFSUD, NATHAN KAHN

FACULTY SPONSORS: JAMES MCLEAN, PHYSICS & ASTRONOMY AND JOE COPE, HISTORY

Robert Hooke and Robert Boyle were among the first members of the Royal Academy of science in England. The publication of their works was not only significant because of the material, but also because it helped thrust science into the public eye. Publication of their work allowed new science to become accessible to a wider audience as well as allowed other scientists to collaborate on common interests. Precedents set forth by the publication of these men's work within the context of the rise of influence of Royal Society are examined.

175 • Analysis of Pit Profiles in Plastic Nuclear Track Detectors

ROBERT LITMAN

FACULTY SPONSORS: JAMES MCLEAN AND STEPHEN PADALINO, PHYSICS & ASTRONOMY

CR39 is a plastic that is used for nuclear particle detection. When etched in a caustic solution, pits form where particles entered the plastic as tracks corrode more quickly than the untouched material. A method for viewing CR39 pit cross sections with an optical microscope is being developed. Alpha-irradiated and etched CR39 samples are cracked by

hand into shards and secured to a microscope slide on-edge. From pit cross sections, particle track etch rates as a function of position on the track will be determined. Experimental results will be compared to the theoretical predictions of the modeling software, TRIM. A solid understanding of how track etch rate evolves over the length of a track can be used to increase CR39 sensitivity by tailoring etch and polishing times to the type of radiation one is trying to detect. It may also be used to identify properties of the radiation from pit shape such as charge, mass, and energy. Funded in part by the United States Department of Energy. Thanks to Mark Teets, Dante Tufano, and Joe Mifsud for experimental contributions.

176 • Rocket Science at SUNY Geneseo - Engine Thrust Characterization

SAMUEL MURPHY, JAMES VAUGHN, DREW ELLISON, MATEUSZ ZUKOWSKI

FACULTY SPONSOR: STEPHEN PADALINO, PHYSICS & ASTRONOMY

An investigation to study the thrust characteristics of various Estes model rocket engines was performed and compared to published data and a fuel burn simulation. In order to perform these measurements a rocket engine force sensor was mounted on a heavy steel test bench. The engines were held stationary during the measurement and electrically ignited remotely via an ignition system. The thrust as a function of time was recorded at 10,000 samples per second on a Techtronix TDS 2012B oscilloscope and transferred to a computer for analysis. The engine exhaust was simultaneously video recorded at 30 frames per second. Six different size engines were tested and analyzed to determine the thrust vs. time characteristics due to various engine nozzle sizes. The experimental data was compared to an engine fuel burn model developed for this project which predicted the thrust produced by a given rocket engine size, geometry, and nozzle size opening diameter. Research currently underway will record the engine thrust with a high-speed camera capable of taking 10,000 frames/sec. This will allow for a critical analysis of the exhaust evolution, and ejected engine debris by correlating the thrust values with the video image every 0.1 of a millisecond.

177 • Geometric and Calculus-based Modeling of Elliptical Orbits - The Science, The Math, The History

SURAJ UTTAMCHANDANI, GREGORY PALERMO, MICHAEL EISINGER

FACULTY SPONSORS: JAMES MCLEAN, PHYSICS & ASTRONOMY AND JOE COPE, HISTORY

In the late 16th and early 17th centuries, Johannes Kepler built on the observations of Tycho Brahe to conjecture his three laws, the first of which states that planetary orbits are elliptical. At that time, the conjecture was based only on observation and geometry. A proof was still lacking, possibly because there did not yet exist a precise and mathematically rigorous definition of velocity and acceleration, nor a quantitative explanation of their relation to these elliptical orbits. Newton developed calculus to find these more precise definitions for velocity and acceleration. He was soon publically challenged to

prove some of Kepler's ideas about planetary motion. In response, he derived them from his Universal Law of Gravitation and put them forward in his Principia. Supposedly, he did this without calculus, although his scratch work likely involved the new math. Today, there exist derivations of Kepler's First Law that can be done using Newton's Calculus in its contemporary form. We seek to explore how Kepler and Newton were similar and dissimilar in negotiating the conjecture that all planets have elliptical orbits. Further, we will discover some of the motivations of their respective communities and audiences and how these influences factored into their proofs.

177A • Simulation of Hexagonal Ceramic Armor

JACOB DESHAIES,

FACULTY SPONSOR: JAMES MCLEAN, PHYSICS & ASTRONOMY

My project involves exploring the advantages and disadvantages of a ceramic bead armor built out of hexagonal-shaped beads over an armor made up of cylindrical beads. This entails simulating an armor-piercing bullet hitting a section of the armor using industry-standard software, and reviewing the results. In particular, I examined the final kinetic energy of the bullet, the eroded mass of the beads, and the eroded mass of the bullets. By overlaying the results over pictures of the different armors, weak and strong points of each of the armors can be highlighted. Also, graphs of the kinetic energy and eroded masses over time synchronized with snapshots of the simulation will further clarify the differences in the armors. Our focus is on where the initial energy of the bullet goes; specifically where, when, and how some of the energy is 'dispersed' into parts of the armor and in what form.

PSYCHOLOGY

178 • Bystander Intervention for Sexual Assault: Comparing Men's Willingness to Intervene After Single Sex Versus Mixed Sex Group Training

SARA WIGDERSON, CHRISTINA MILLER

FACULTY SPONSOR: JENNIFER KATZ, PSYCHOLOGY

Bystander intervention training is commonly used to help prevent campus sexual assault. We examined outcomes associated with bystander intervention training for sexual assault implemented in single sex (all men) versus mixed sex groups. Undergraduate men were randomly assigned to either a same sex group (n = 25) or a mixed sex group (n = 10) for a 90 minute bystander intervention training session. Personal and perceived peer support for sexual assault and barriers to sexual assault bystander intervention were assessed at baseline, immediately after the program, and at follow up. Actual bystander intervention behaviors also were assessed at follow up. Immediately following the program, men in both groups reported greater intentions to intervene in sexual assault situations. At follow up, there was a significant group difference in personal support for sexual assault; men in the mixed sex group showed a decrease in personal acceptance, whereas men in the same sex group showed an increase in acceptance over time. In addition, bystander intervention behavior was more common

in the mixed sex group than in the male only group. Results suggest that mixed sex training groups facilitated by male peers may help to promote bystander intervention behaviors among male college students.

179 • Feminine Ideology and Campus Sexual Assault: Are More Traditional Women at Greater Risk?

SARA WIGDERSON

FACULTY SPONSOR: JENNIFER KATZ, PSYCHOLOGY

Campus sexual assault is a prevalent problem, particularly for college women. The present study examined risk for sexual assault related to women's feminine ideology and associated behaviors. 254 undergraduate women responded to assessments of feminine ideology, alcohol use, and sexual refusal assertiveness (SRA). About 15.7% (n = 40) reported at least one completed sexual assault involving nonconsensual penetration during college. There was no direct relationship between women's feminine attitudes and sexual assault. However, as expected, different types of feminine attitudes were related to risky and protective behaviors. More specifically, women invested in feminine purity consumed less alcohol, and women invested in feminine deference were less sexually assertive. Furthermore, sexually assaulted women consumed more alcohol and reported significantly less sexual assertiveness than non-sexually assaulted women. The present results suggest indirect effects of traditional femininity on women's risk for sexual assault via different behaviors associated with purity and deference. Because risk for sexual assault is related to these attitudes and behaviors, effective campus prevention programs may educate college women about healthy drinking behaviors and barriers to SRA, and gender norms/feminine ideals.

180 • The Effects of Cyber- and Traditional Victimization on Adolescent Well-Being

SARA WIGDERSON, NETTA ADMONI, BRIGID HEENAN, STEPHANIE EDWARDS

FACULTY SPONSOR: MICHAEL LYNCH, PSYCHOLOGY

The purpose of this study was to examine how different forms of victimization affect the well-being and grade point average (GPA) of adolescents. This study assessed both traditional forms of victimization (relational and physical) and cyber-victimization, and how victimization experiences impact depression, anxiety, self-esteem, and GPA. Adolescent students completed questionnaires that were sub-divided into several sections, each measuring a different construct. Three-hundred-ninety-six students (51.3% male) from a rural school district's middle and high school participated in the study. The data revealed a pattern of association among the various forms of victimization indicating that many participants experienced multiple forms of victimization, or polyvictimization. Linear regression analyses revealed that cyber-victimization uniquely predicted depression, self-esteem and grades. Additionally, interaction effects between cyber-victimization and traditional victimization uniquely predicted aspects of well-being. Overall, the links between depression, anxiety, self-esteem, and GPA, suggest that people who experience victimization may experience a

depleted sense of well-being. These findings have the potential to inform issues that are especially relevant for secondary school students. These results can be used by school personnel to design bullying programs that address the full range of victimization experiences that adolescents may encounter, especially in regard to cyber-victimization.

181 • Modifying Physiological Response to Stress with One Session of Progressive Muscle Relaxation

Yael Massen, Molly Walsh, Sarah Freeze, Michelle Engleman

FACULTY SPONSOR: MICHAEL LYNCH, PSYCHOLOGY
The purpose of the current study was to determine whether physiological stress responses could be modified to produce greater adaptation. Prior research in our laboratory indicates the existence of individual differences in physiological response to challenge. These differences can be seen in patterns of reactivity to and recovery from a stressor derived from recordings of participants' heart rates. The identification of individual differences in physiological profiles led us to question whether they could be modified. Progressive Muscle Relaxation (PMR) has been found to be efficacious in decreasing stress, anxiety, and physiological arousal, and to increase the rate of autonomic recovery from laboratory-induced stressful events. The aim of our study was to determine whether or not an individual's pattern of physiological reactivity and recovery in response to stress could be modified through the administration of an abbreviated session of PMR. Initial analyses revealed that a single administration of PMR resulted in more regulated physiological response to challenge compared to the control condition. If these findings can be replicated, they may suggest that a brief intervention such as a single session of PMR may help people deal with short-term challenges in physiologically well-regulated ways, thus facilitating more adaptive behavioral and emotional responses.

182 • Latino Immigrant Children's Sibling Relationships: A Context for Positive Development

Ana Nunez, Maria Salamanca, Lindsay Gips, David Murray, Sarka Turecka, Christine Donovan

FACULTY SPONSOR: GANIE DEHART, PSYCHOLOGY
Previous research and anecdotal evidence indicate high levels of familism among immigrant Latino families. Moreover, sibling pairs' nurturance and support help negotiate life in a novel and potentially uncomfortable environment. We explored this phenomenon by analyzing Latino immigrant children's aggressive and prosocial behaviors through semi-structured play situations, and compared to similar Anglo siblings. We recruited 50 pairs of siblings from New York State. Latino siblings demonstrated lower rates of aggression than a comparison group of Anglo sibling pairs. Additionally, there were gender and ethnicity differences among prosocial behavior. As predicted, these interactions indicate protection and nurturing, signaling the development of positive and beneficial social functioning between siblings.

The emphasis on familial values in the Latino family helps coping and adjustment.

183 • Communicative Functions of Verbal Irony in Adolescents' Sibling and Peer Interactions

Gina Ottolia, Corrin Pudlewski, Michael Vizzi, Lawrence Bellomo, Mary Vanvoorhis, Sana Shakeel, Leslie Coohon

FACULTY SPONSOR: GANIE DEHART, PSYCHOLOGY
Research on irony in adolescence has focused mainly on judgments about meaning and intent in hypothetical situations; less is known about how adolescents actually use irony in naturally-occurring conversations and the functional differences between sarcasm and jocularity. Irony can serve various defensive functions for adolescents, especially in uncertain social situations; it can provide deniability for both potentially hurtful and potentially affiliative utterances by leaving their intent open to interpretation. To further complicate matters, it can be used both aggressively (if the intent is to hurt or bother the partner) and playfully, sometimes simultaneously. Experimental studies of adolescents' perception of irony can tell us whether they are able to understand various ways of using it, but analyses of adolescent conversations are needed to determine to what extent they use irony in each of these ways and how gender, partner, and other aspects of social context make a difference. Our study examined adolescents' verbal irony uses of dominance, affiliation, distancing, and covering embarrassment and considered these functions in the context of gender and partner. Gender and partner made a difference in the specific purposes for which sarcasm and jocularity were used, with boys particularly likely to use verbal irony to assert dominance.

184 • The Role of Birth Order in Social Engagement with Siblings and Friends

Krista Muscarella, Sara Hirsch, Whitney Salamone, Cheyenne Higgins, Joanna Santos

FACULTY SPONSOR: GANIE DEHART, PSYCHOLOGY
As part of a larger longitudinal study, we examined social engagement in sibling and friend interactions from early childhood through adolescence. There is reason to believe that social engagement with friends and siblings will be influenced by birth order, but this question has been understudied. Past studies have indicated that, as a group, laterborn children tend to be more socially competent and popular with peers than firstborns, perhaps due in part to experiences in sibling relationships. Participants in the study were 30 white, middle-class children who were videotaped at home at ages 4, 7 and 17 in separate sessions with a sibling and a same-age, same-sex friend. Approximately half of the target children were firstborns. The videotapes were transcribed and coded for social engagement at 10-second intervals. The results show that age, partner, and birth order all had seemed to have an influence on social engagement. Birth order made a difference in children's interactions with both siblings and friends not only in target children's behavior, but also in the responses of their interaction partners. The differences may be explained in part by the

dynamics of sibling relationships. However, experiences with siblings may also play a role in friend interactions.

185 • Parents of Children with Autism in Western New York: Stress Levels and Accessibility of Autism Intervention Services

Kristen Kolb

FACULTY SPONSOR: GANIE DEHART, PSYCHOLOGY
Presentation of research from a project investigating the levels of stress experienced by parents of children with autism in Western New York and the possible association between their stress levels and difficulties in locating and securing intervention services (including educational, therapeutic, and medical services, etc.) for their child(ren).

186 • College Women's Verbal Sexual Coercion: Associations with Hooking Up, Alcohol and Sexual Refusal Assertiveness

Kathryn Boyle

FACULTY SPONSOR: JENNIFER KATZ, PSYCHOLOGY
This study examined the effects of three potential risk factors for verbal sexual coercion: hooking up, alcohol consumption and sexual refusal assertiveness (SRA). College women (n = 254) responded to measures of verbal sexual coercion, hook up and alcohol frequency and SRA. As expected, women who experienced college verbal sexual coercion also reported more frequent hooking up and alcohol consumption as well as lower SRA compared with non-verbally sexual coerced women. Also, as expected, that among the subsample of women who hooked up (n = 171) those with lower SRA were more likely to report college verbal sexual coercion. For college women, all three factors examined impacted the risk for verbal sexual coercion, however, in the context of hooking up those women with lower SRA were at greater risk for verbal sexual coercion. This finding should be implemented in prevention programs since hooking up is prevalent and higher SRA is a likely protective factor against verbal sexual coercion in the hookup context.

187 • Perceptions and Experiences of Sex During Hook Ups: Risk for a Negative Reputation and for Sexual Assault Among First Year College Students

Laura Lappan

FACULTY SPONSOR: JENNIFER KATZ, PSYCHOLOGY
A hook up typically is a single sexual encounter between strangers or acquaintances, without the expectation of further contact. Hook ups are common on college campuses. Although men and women students hook up at similar rates, penetrative sex during a hook up predicts emotional distress for women only. We assessed perceptions and experiences of penetrative hook up sex that might explain new women students risk for emotional distress. First year undergraduate students reported their hook up behavior over the academic year, the social acceptability of oral and

vaginal sex during a hook up for the average female and male student, and their experiences of nonconsensual penetration since starting college. As expected, a) participants rated oral and vaginal sex for the average female student as less socially acceptable than for the average male student and b) rates of sexual assault were elevated among women but not men who engaged in hook ups. Results suggest that women who have penetrative hook up sex may be at risk for a negative social reputation and sexual assault. Educational programs about sexual double standards and consent with casual partners may reduce the emotional distress experienced by some women following hook ups.

188 • The Effectiveness of Eroticized Pro-Environmental Messages

CASSANDRA BERBARY, CHRISTINA MONACHINO, MICHELLE ENGLEMAN, MATTHEW COUCH, MICHAEL INFRANCO, DANIELLE BILECKI, MATTHEW BOWER, SARKA TURECKA

FACULTY SPONSOR: JIM ALLEN, PSYCHOLOGY

Environmental activists are increasingly using sexualized stimuli to promote environmentally friendly behavior. This study evaluated the effectiveness of this strategy. Under graduate participants were randomly assigned to read a Public Service Announcement that varied in the degree of eroticism, level of romantic commitment between the models shown in the PSA, and the congruency between the eroticism and the message. The results indicated that sexualized messages can potentially influence observers' attitudes. However, the messages can also produce psychological reactance in which the eroticism becomes counter-productive.

189 • Money, Materialism, Affiliation and Happiness: Does Money Decrease Affiliation and Happiness for Non-Materialistic Individuals?

DANIELLE BILECKI, CASSANDRA BERBARY, MICHELLE ENGLEMAN, CHRISTINA MONACHINO, MATTHEW COUCH, MICHAEL INFRANCO, SARKA TURECKA, MATTHEW BOWER

FACULTY SPONSOR: JIM ALLEN, PSYCHOLOGY

Reminders of money reduce individuals' need to affiliate with others. Other research suggests that low affiliation motivation is associated with lower levels of happiness. However, it is not known whether money driven reductions in affiliation reduce happiness. The present study examined whether this is the case. In addition, we also examined whether money reduces affiliation (and happiness) equally for both materialistic and non-

materialistic individuals. Consistent with hypotheses, results indicated that the effects of money are stronger for materialistic than non-materialistic individuals.

190 • Altruistic Predictors of Environmentally Friendly Behaviors

MATTHEW BOWER, MATTHEW COUCH, DANIELLE BILECKI, CASSANDRA BERBARY, CHRISTINA MONACHINO, MICHAEL INFRANCO, SARKA TURECKA, MICHELLE ENGLEMAN

FACULTY SPONSOR: JIM ALLEN, PSYCHOLOGY

Research indicates that altruistic social norms can motivate environmentally friendly behaviors. However, relatively little research has focused on the role of altruistic personality characteristics in predicting environmentally friendly behaviors. The results of this correlational study indicate that trait empathy mediates the relation between trait perspective taking and environmentally friendly behavior among under graduate participants. Furthermore, results indicated that environmental values mediated the relation between trait empathy and environmentally friendly behavior.

191 • Strategic Presentation of Academic Performance and Effort in Middle School: Links to Gender and Social Goals Elizabeth Thorp, Peter Kearns, Kevin Cleary, Staci Weiss

FACULTY SPONSOR: JOAN ZOOK, PSYCHOLOGY

We investigated how early adolescents want to be perceived by popular peers with regard to their grades and effort in school (ideal academic public selves) and their use of self-presentation strategies to manage how they are perceived by peers academically. We also explored how ideal selves and self-presentation strategies varied by gender and social goals (students' desire to be popular, dominant, or have intimate friendships). Participants were sixth- and eighth-graders in two rural schools who completed a self-report survey. Results indicated that the highest rated ideal self was hard-working with good, but not excellent, grades. The most commonly used self-presentation strategies were giving vague responses to questions about grades and hiding bad test scores. Students with dominance goals had low-effort and low-achieving ideal selves and used the most self-presentation strategies, while students with intimacy goals had hard-working and high-achieving ideal selves and used the fewest self-presentation strategies. The effects of popularity goals varied, being associated with positive ideal academic selves when combined with intimacy goals and associated with negative ideal academic selves when combined

with dominance goals. This suggests existence of two popular subgroups, one that is friendly and academically-oriented and one that is aggressive and unconcerned with school.

192 • Attachment Style and College Adjustment: The Mediating Role of Possible Selves, Self-Efficacy, and Self-Regulatory Behaviors

BENJAMIN PERRY, VANESSA LOBO, NATHANIEL LU, MICHAEL MAGUIRE, KATHRYN DANA, GENEVIEVE MARTIN, LAURA O'BRIEN

FACULTY SPONSOR: MONICA SCHNEIDER, PSYCHOLOGY

The current study examined the potential mediating role that possible selves, self-efficacy, and self-regulatory behaviors play in the relationship between students' attachment style and their college adjustment. We found that closeness, depend, and anxiety uniquely predicted different aspects of college adjustment. Specifically, dimensions of closeness and depend were associated with positive social outcomes, whereas anxiety was linked with negative academic adjustment. Closeness was associated with only a few social ideal possible-self dimensions. In contrast, depend was associated with both social ideal and social feared possible-self dimensions as well as one academic ideal possible-self dimension. Anxiety was associated with a few dimensions in both social ideal and social feared possible-selves as well as academic ideal and academic feared dimensions. Social ideal selves, social self-efficacy, and social self-regulatory behaviors mediated the relationship between the closeness and depend dimensions and social adjustment. Likewise, academic ideal selves, academic self-efficacy, and academic self-regulatory behaviors mediated the relationship between anxiety and academic adjustment. These results suggest that students' self-conceptions, sense of efficacy, and engagement of self-regulatory behaviors provide a more complete understanding of how students' attachment issues are related to both their academic and social adjustment to college.

SOCIOLOGY

193 • Healthcare in Vietnam

AMY TRAN, AARON MOCK

FACULTY SPONSOR: ELAINE CLEETON, SOCIOLOGY

Our goal of this project is to learn more about traditional and western medicine in different regions of Vietnam, specifically Ho Chi Min City and Ben Tre.

CONCURRENT PRESENTATIONS QUICK VIEW GUIDE

9:40 – 10:55 AM CONCURRENT PRESENTATIONS SESSION 1

| | | |
|---|---|--|
| 1A • ANTHROPOLOGY & GEOLOGICAL SCIENCES MILNE 105 1B • BIOLOGY & MATHEMATICS NEWTON 203 <i>Biomathematics and Modeling 1</i> 1C • CHEMISTRY NEWTON 204 <i>Chemistry Honors Thesis 1</i> 1D • EDGAR FELLOWS WELLES 121 <i>Edgar Fellows Miscellany I</i> 1E • EDGAR FELLOWS WELLES 123 <i>Edgar Fellows Miscellany II</i> 1F • SCHOOL OF EDUCATION SOUTH HALL 340 <i>Stories from the Geneseo Storytelling Institute</i> | 1G • ENGLISH WELLES 138 <i>"Is this the promised end?" Three Film Versions of Shakespeare's King Lear</i> 1H • ENGLISH WELLES 131 <i>Ancient Insights from the Greek and Islamic Worlds</i> 1I • ENGLISH BRODIE BLACK BOX <i>Macbeth Scenes and Workshop</i> 1K • HISTORY STURGES 109 <i>On the Borders of Inclusion: Women, Dissenting Confederates, and Black Politicians in Nineteenth Century America</i> 1L • MATHEMATICS NEWTON 201 <i>Algebra and geometry</i> 1M • MATHEMATICS 1 NEWTON 214 | 1N • PHILOSOPHY STURGES 112 <i>The Animal Treatment Debate</i> 1O • POLITICAL SCIENCE & INTERNATIONAL RELATIONS WELLES 24 <i>Continuity and Change in the Middle East & South Asia</i> 1P • PSYCHOLOGY WELLES 115 <i>Studies Examining the Response to Threat and Challenge</i> 1Q • SOCIOLOGY SOUTH HALL 338 1R • COMMUNICATION WELLES 26 <i>Communication & History</i> |
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11:05 – 12:20 PM CONCURRENT PRESENTATIONS SESSION 2

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| 2A • ANTHROPOLOGY MILNE 105 2B • BIOLOGY NEWTON 203 2C • CHEMISTRY NEWTON 204 <i>Chemistry Honors Thesis 2</i> 2D • COMPUTER SCIENCE WELLES 128 2E • EDGAR FELLOWS WELLES 121 <i>Edgar Fellows Miscellany III</i> 2F • EDGAR FELLOWS WELLES 123 <i>Edgar Fellows Miscellany IV</i> 2G • SCHOOL OF EDUCATION SOUTH HALL 340 <i>LIVES Program</i> 2H • ENGLISH WELLES 131 <i>A Reading of Poetry and Fiction by David Alliger, Walter Murphy, and Greg Sorin</i> | 2I • ENGLISH WELLES 132 <i>Between Centuries: Where Medieval Literature Comes From</i> 2J • ENGLISH WELLES 133 <i>Heard@Geneseo</i> 2K • HISTORY STURGES 108 <i>Fracking & Its Consequences: Part 1</i> 2L • MATHEMATICS NEWTON 201 <i>Mathematics 2</i> 2M • PHILOSOPHY STURGES 112 <i>The Problem of External World Skepticism</i> 2O • POLITICAL SCIENCE & INTERNATIONAL RELATIONS WELLES 24 <i>Health Care Policy in the United States</i> 2P • SCHOOL OF BUSINESS 1 SOUTH HALL 338 | 2Q • SOCIOLOGY MILNE 109 <i>Studies in the Sociology of Religion</i> 2R • INTERDISCIPLINARY: CHEMISTRY, MATHEMATICS, PHYSICS & ASTRONOMY NEWTON 209 2S • SERVICE LEARNING & GLOBAL AWARENESS WELLES 134 2T • THEATRE AND MUSICAL THEATRE BRODIE BLACK BOX <i>Theatre and Musical Theatre Senior Projects</i> 2U • CULTURAL EXPLORATION (moved from 3S) STURGES AUDITORIUM |
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2:55 – 4:10 PM CONCURRENT PRESENTATIONS SESSION 3

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|---|---|---|
| 3A • ANTHROPOLOGY MILNE 105 <i>Bridging Theory and Practice in Museum Studies: High Impact Learning Experiences and the Six Big Ideas</i> 3B • BIOLOGY & MATHEMATICS NEWTON 203 <i>Biomathematics and Modeling 2</i> 3C • COMMUNICATIVE DISORDERS & SCIENCES WELLES 26 <i>Language Sample Analysis</i> 3D • EDGAR FELLOWS WELLES 121 <i>Edgar Fellows Miscellany V</i> 3E • EDGAR FELLOWS WELLES 123 <i>Edgar Fellows Miscellany VI</i> | 3F • SCHOOL OF EDUCATION SOUTH HALL 340 <i>Pre-service Teachers' Research on Literacy in the Classroom, Part 1</i> 3G • ENGLISH WELLES 111 <i>Katie, Katie, and Katie's Senior Reading</i> 3H • ENGLISH WELLES 132 <i>Language, Image, and Space-Time</i> 3I • ENGLISH WELLES 133 <i>Mind over Manners, Morals, and Modesty: Considerations of Gender, Society and Decorum in Plays of Shaw, Wilde, and Coward</i> 3J • ENGLISH WELLES 134 <i>Prescriptions from Langland, Dreams from Malory</i> | 3K • GOLD GOLD LEADERSHIP CENTER CU 114 <i>Diamond Certificate Presentations</i> 3L • HISTORY STURGES 108 <i>Fracking & Its Consequences: Part 2</i> 3M • HISTORY STURGES 109 <i>"To Elevate Our Race": The Black Experience During The American Civil War</i> 3N • MATHEMATICS NEWTON 201 <i>Mathematics 3</i> 3O • INTERDISCIPLINARY NEWTON 204 <i>The Hidden Court Street</i> 3P • PHILOSOPHY STURGES 112 <i>The Occupy Movement, Dido, and New Testament fragments</i> |
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3Q • POLITICAL SCIENCE & INTERNATIONAL RELATIONS WELLES 24
Political Science and International Relations Honors Theses

3R • INTERDISCIPLINARY: LANGUAGE & LITERATURE, ENGLISH

WELLES 138

3S • moved to 2U

3T • POLITICAL SCIENCE & INTERNATIONAL RELATIONS WELLES 119
Topics in American Politics

4:20 – 5:30 PM CONCURRENT PRESENTATIONS SESSION 4

4A • ANTHROPOLOGY WELLES 24
From Theory to Practice in Anthropology 307: Student-designed Grassroots Organizations to Promote Sustainable Community Development in Pakistan and Liberia

4B • EDGAR FELLOWS WELLES 121
Edgar Fellows Miscellany VII

4C • EDGAR FELLOWS WELLES 123
Edgar Fellows Miscellany VIII

4D • SCHOOL OF EDUCATION SOUTH HALL 340
Pre-service Teachers' Research on Literacy in the Classroom, Part 2

4E • ENGLISH WELLES 131
Renaissance Literature and the Bible

4F • ENGLISH WELLES 132
The Dandy and the Aesthete in the British Novel

4G • ENGLISH WELLES 133
Paper-Writing on YouTube and Two Town/Gown Issues -- The Riviera Theatre and Feral Cats

4H • HISTORY STURGES 108
The Unsettling of America: Competing Narratives on the Civil War and Emancipation

4I • HISTORY STURGES 109
Upstate New York Black Freedom Struggle

4J • LANGUAGE AND LITERATURES WELLES 26
La cultura Moderna de España / Modern Spanish Culture

4K • MATHEMATICS NEWTON 201
Applied Mathematics

4L • PHILOSOPHY STURGES 112
Eastern Philosophical Reflections

4M • POLITICAL SCIENCE & INTERNATIONAL RELATIONS MILNE 105
State and Society in Comparative Perspective

4N • SCHOOL OF BUSINESS 2 SOUTH HALL 338

4O • SOCIOLOGY STURGES 114
"Yeah, a cereal bar is pretty healthy."

4P • THEATRE/DANCE WADSWORTH AUDITORIUM
The Metamorphosis of Dance- a Reflection of the 20th Century Social Liberation Movement

4Q • WOMEN'S STUDIES WELLES 138
Women's Studies Senior Project Presentations

4R • INTERDISCIPLINARY: GEOGRAPHY & ANTHROPOLOGY WELLES 115

4S • INTERDISCIPLINARY: BIOLOGY & HISTORY WELLES 119

4T • ENGLISH (moved from 4H) WELLES 111
A Reading of Poetry and Fiction by David Alliger, Walter Murphy, and Greg Sorin

CONCURRENT PRESENTATIONS 1 • 9:40-10:55AM

1A • ANTHROPOLOGY & GEOLOGICAL SCIENCES MILNE 105
SESSION CHAIR: JAMES AIMERS, ANTHROPOLOGY

Fair Trade at Geneseo

ZEBEDIAH GALLAGHER

FACULTY SPONSOR: JAMES AIMERS, ANTHROPOLOGY

Over the semester, Professor Aimers and I studied the history of fair trade coffee at Geneseo and the policies and practices of the Starbucks on campus and off. In short, Fair trade is a movement, supported by various grass roots groups and governmental organizations that strive to ensure marginalized farmers receive a fair wage for their work. Fairly traded products affect millions and millions of producers providing them with more resources and control over their lives. My focus was on fair trade coffee. For my research, I submitted two articles in the Lamron and a total of three on Geneseo's wiki. Throughout the study, many issues that were addressed affect students on our campus. This includes consumer awareness, issues related to fair trade policies, and the availability of fair trade coffee on our campus. Basically, I broke my research down to three

different segments. The real cost of coffee: History of fair trade (coffee) at Geneseo and beyond. Fair Trade coffee at Geneseo currently. Finally, prospects for fair trade (coffee) at Geneseo and what students can do in the future to make it more effective on our campus.

"Just Put it In Your Mouth"

MICHELLE WALPOLE

FACULTY SPONSOR: JAMES AIMERS, ANTHROPOLOGY

This program is one that I presented at NEACURH (North East Affiliate of College and University Residence Halls). It is an interactive discussion based on food taboos and food culture in an anthropological perspective. I will discuss all different cuisines from different countries, and how American culture would never consider attempting to try these foods. This presentation will include video clips, pictures, and excerpts from reliable sources. After presenting nutritional facts on these unique cuisines, I plan on implementing an interactive discussion regarding whether or not people would be willing to go beyond food taboos to reap nutritional benefits. The purpose of this presentation is to promote an open view on trying new foods and going above and beyond our own

culture. As a new generation of college students, it is important for us to truly understand cultures before we judge them.

X-ray Fluorescence Analysis of Maya Pottery from Belize

MOLLY CARNEY

FACULTY SPONSOR: JAMES AIMERS, ANTHROPOLOGY

Traditionally, Maya ceramics have been classified and sorted based upon stylistic attributes of the pottery. However, the use of X-ray Fluorescence (XRF) lets researchers identify the chemical elements or compounds constituting the ceramics, thus giving researchers new ways to classify this material. The purpose of this directed study was to compare stylistic classifications of Maya pottery with chemical analysis in order to determine if the classification correlates with the chemistry. 19 samples from Tipu and 20 samples from San Pedro were analyzed using Geneseo's XRF spectrometer. By studying the classifications and compositions, we are looking to further understand trade and exchange routes in the Maya Postclassic period. While the data from our findings is not available at this time, I will discuss ceramic preparation, the XRF

process, and the challenges confronting XRF analysis of ceramics.

Constraints on Glacial Retreat And Paleoclimate Conditions for the Pine Creek Glacier, Montana During the Last Glacial Maximum

ELIZABETH HUSS

FACULTY SPONSOR: BENJAMIN LAABS, GEOLOGICAL SCIENCES

Although the timing of the Last Glacial Maximum in the northern Rocky Mountains is well constrained, the timing and pace of ice retreat during the last deglaciation is poorly known. A valley glacier occupied the Pine Creek valley in the northwestern Absaroka Range, a sub-range of the northern Rocky Mountains in southern Montana. The glacier in Pine Creek valley deposited terminal moraines at the mouth of a narrow canyon until 17.5 ± 1.4 ka, when it began retreating. Glacially polished bedrock surfaces in Pine Creek valley were sampled to track the retreat of the glacier using cosmogenic ^{10}Be surface-exposure dating. The timing of ice retreat was coupled with numerical modeling of glacier mass balance and ice flow in Pine Creek valley to set limits on temperature and precipitation changes that accompanied glaciation. Based on this research, I discuss the timing of ice retreat in Pine Creek valley and climate conditions during the Last Glacial Maximum and subsequent deglaciation in the Absaroka Mountains.

1B • BIOLOGY & MATHEMATICS

NEWTON 203

Biomathematics and Modeling 1

FACULTY SPONSORS & SESSION CHAIRS: CHRIS LEARY, MATHEMATICS AND GREGG HARTVIGSEN, BIOLOGY

Isle Royale Ticks are Bugging Moose to Death

PATRICK ASSELIN, JEFFREY BIRD, JESSICA GUISE

Wolves (*Canis lupus*) and moose (*Alces alces*) have coexisted on Isle Royale, an island in Lake Superior, since 1959. In 1990, winter ticks (*Dermacentor albipictus*) that feed on moose were introduced to the island. Warm summers have led to increased tick populations leading to increased mortality for moose populations. We model the moose and wolf populations and include the tick population by adjusting for an increased predation and mortality rate of the moose population using a modified Lotka-Volterra difference equation model. We investigate how ticks and wolves interact to affect the stability of the moose population. Our model appears to accurately simulate the moose population. Tick densities are positively correlated with spring temperatures which suggest moose populations may decline faster than our model predicts should temperatures continue to increase. We compare two models, one with and one without ticks, to the data and find that unregulated tick population growth and the wolves will push the moose towards extinction. Our model indicates the moose population can return to a stable size by reducing the tick population.

The Effect of Batesian Mimicry on the Predation of Salamanders *Plethodon jordani* and *Desmognathus ochrophaeus*

RACHAEL BECKMAN, STEVEN ROSENZWEIG, ASA WHALEN

Plethodon jordani produces noxious skin secretions that discourage Blue Jays from eating it. *Desmognathus ochrophaeus* (mimic) has evolved to resemble *P. jordani* (model) so that the Blue Jays will avoid them as well. This is an example of Batesian mimicry. We developed a differential equation model to test the effect of Blue Jays on the relative abundance of *D. ochrophaeus* and *P. jordani*. We used a linear function to represent the consumption rate of Blue Jays on *P. jordani* and *D. ochrophaeus*. Our results suggest that the presence of *P. jordani* increases the population of *D. ochrophaeus* because the Blue Jays eat *P. jordani*, decreasing the consumption rate of Blue Jays on both species. Our model can be used to help explain the predator-prey dynamics between *D. ochrophaeus* and Blue Jays based on the presence of *P. jordani*.

Combating the 'Clap': Exploring Intervention Strategies for Gonorrhea in New York State through the Use of a Differential Equation Model and a Scale-Free Bipartite Network

GREGORY SPITZ, HAYLEY MARTIN, JAMES HARTWELL

The World Health Organization estimates that there are over 62 million new cases of gonorrhea each year worldwide. Caused by the bacterium *Neisseria gonorrhoeae*, gonorrhea can cause infertility, cardiovascular complications, and joint damage. To model the spread of this disease, we created a differential equation model in which males and females are separately classified into one of three distinct states: susceptible, infectious, or receiving treatment. In addition to this model, we created a scale-free bipartite network, which simulates the spread of gonorrhea over time. We defined parameter values based on data from the New York State Department of Health, and adjusted each of our models to simulate the implementation of patient education programs. Our differential equation model indicates that increasing education about safer sex and awareness about gonorrhea will decrease the spread of the disease over time. In addition, our network model shows that focusing intervention strategies on the most connected individuals is more effective than using broad based educational strategies.

The Interactions Between the Parasitoid Wasp *Tetrastichus plannipennis* and its Host, the Emerald Ash borer (*Agrilus planipennis*)

TYLER GILMORE, THOMAS KOHLMANN, NATALIE NARANJO

The emerald ash borer (*Agrilus planipennis*) is an obligate parasitoid of ash trees (*Fraxinus* spp.), which was introduced to North America in the 1990s. *Tetrastichus plannipennis* is a parasitoid wasp specific to the emerald ash borer (EAB) in its native range, and is currently being introduced into North America as an agent of biological control. To investigate the dynamics of this relationship and determine if the introduction of *T. plannipennis* is a viable method of biological control, a modified Nicholson-Bailey host-parasite difference equation model of the ash tree, EAB, and wasp populations was developed. The effect of introducing a small founding group of EAB to a healthy stand of ash trees was analyzed. Then the effect of the introduction of *T. plannipennis* on the EAB population was studied. Parameter values for the model were gathered from previous studies on the life histories of the species and the nature of their interactions. It was found that by introducing the parasitic wasp, the EAB was eradicated. By controlling the spread of the EAB the ecological and economic values of *Fraxinus* species can be preserved in an efficient and cost-effective manner.

1C • CHEMISTRY

NEWTON 204

Chemistry Honors Thesis 1

FACULTY SPONSOR: JAMES MCGARRAH, CHEMISTRY
SESSION CHAIR: CRISTINA GEIGER, CHEMISTRY

Investigation of the Photophysical Properties of Photoluminescent Organometallic Platinum (II) Complexes in Self-Assembled Molecular Cages

AMANDA AMORI

Luminescent Pt(II) and Ir(III) compounds are used as photoluminescent materials in OLEDs because heavy metals allow for efficient conversion of electrically generated excited-states in an electroluminescent device. We are attempting to study the aggregation properties of luminescent square planar Pt(II) complexes, that are relevant to OLEDs, in order to understand how photoluminescent efficiency (quantum yield for emission) and energy (color of the emitting compound) is affected by aggregation. This is being explored by using the hydrophobic interior of a water soluble molecular cage to encapsulate the aggregate. To date, we have shown by NMR spectroscopy that a platinum stacking pair may be isolated within a cage. Unfortunately, the cage/aggregate solution is not emissive. 1-D and 2-D nuclear magnetic resonance spectroscopy data, synthesis of the components and their characterization will be presented.

Acetylenase Gene Detection in *Anaphalis margaritacea*

TIMOTHY BARR

Anaphalis margaritacea, commonly known as Pearly Everlasting, has been found to contain a 13 carbon-chlorine containing polyacetylene. Similar polyacetylenes have been found to be pharmacologically important due to antitumor, antibacterial, and immunosuppressant activities. Most research on the acetylenase enzymes has

focused on the biosynthetic pathways of compounds containing one triple bond. However, the compound isolated from *A. margaritacea* has three adjacent triple bonds. Given this, our research seeks to determine whether there is one or multiple acetylenases present in *A. margaritacea*. First, genomic DNA isolation followed by PCR amplification will be performed using degenerate oligonucleotide primers from acetylenase genes in related species. PCR product(s) will then be sequenced to determine the presence of acetylenase gene(s) in *A. margaritacea*.

Unconventional Electrophoresis: Separating Single Molecules

MIRIAM BARNETT

Gel electrophoresis and single molecule spectroscopy have been utilized in order to better understand the connections between charge and fluorescence intensity of a single cadmium selenide quantum dot. Blinking is an omnipresent single molecule phenomenon and is believed to be the result of a charging process. By simultaneously merging the two techniques, we gain a better understanding of this anomaly. This innovative approach will aid in reducing blinking behavior, a critical advance for technological applications.

1D • EDGAR FELLOWS WELLES 121

Edgar Fellows Miscellany I

FACULTY SPONSOR & SESSION CHAIR: OLYMPIA NICODEMI, MATHEMATICS

The Medium Voice in Opera

DEVON BOROWSKI

Today, the medium of opera is often seen as an antiquated art form suitable only for pretentious music enthusiasts. What this assessment fails to recognize are the sexy, violent, dramatic, humorous, and gripping plots that rival any Hollywood blockbuster. Central to the drama, aside from the soaring lines of the soprano and tenor, are the medium voiced characters: the baritone and mezzo-soprano. Not only do they act as the catalyst to the action, but they are our direct line into the world of the opera, inviting us in through their similar experiences. Mentors: ANNE-MARIE REYNOLDS. MUSIC and PAMELA KURAU, MUSIC

Femininity and the Color Pink; Biological Phenomenon or Social Construct?

GRACE HUBERT

To many, any serious discussion regarding color these days is usually limited to something like "What color do you think we should paint the bathroom, dear?" This is a shame, because the role of color in society has been immense for thousands of years. It's many connotations resound throughout the history of human culture, though it seems that most individuals today would be content in sitting back and accepting the current obvious and some not-so-obvious concepts that are associated with specific colors. For example, if one were to ask him or herself the question, "Why has pink been established as a 'girl' color?," would there be an obvious answer? As it turns out, pink is much

more complicated than it's simple feminine stereotype would suggest. For reasons both social and biological, colors such as pink have taken on a role that goes beyond hue. I will be discussing the color pink specifically and will be identifying both cultural and biological evidence that will shed some light on its feminine reputation. Mentor: TOM MACPHERSON, STUDIO ART

A Mind in Progress

BRIANNE ROSA

A creative autobiography; a 6'x 6' painting of a butterfly (a metaphor pulled out of Nabokov's autobiography, *Speak, Memory*) with numbers along the tips of the wings. The wing patterns are map-like, and each number represents a year of my life. An accompanying autobiographical interactive multimedia art piece, developed in PowerPoint, serves as the "destination" for the painting/map. The cover screen shares the picture of the butterfly, and the numbers can be clicked to take the onlooker to a loop of slides that incorporate creative writing, music, and other artworks that best represent that year of my life. Mentor: MELANIE BLOOD, ENGLISH

1E • EDGAR FELLOWS WELLES 123

Edgar Fellows Miscellany II

FACULTY SPONSOR & SESSION CHAIR: OLYMPIA NICODEMI, MATHEMATICS

Virtual Economies: The Real Impact of Play Money

LAUREN HANSON

We've all heard of games like *World of Warcraft* and *Second Life*, but they're just games, right? In reality, this question might not be easy to answer. Millions of American dollars are being used every year to buy and sell virtual houses, swords, and other goods without having a clear legal consensus about whether these goods even count as part of our economy. The virtual spaces opened up by the internet defy our existing notions of what makes property, trade, and even how we define an area as a "place" where meaningful interactions can occur. Using both theoretical and experimental economics, we can start having an informed conversation about whether property needs to be tangible to be real, and whether online games and virtual worlds should be considered a valid part of the American legal system. Mentor: SHUO CHEN, SCHOOL OF BUSINESS

A Guided Tour to A Guided Tour

MICHAEL VAUGHN

Michael Vaughn (Me!) has spent the last two years writing an autobiographical play dealing with issues of mental health, sex and sexuality, intimacy, and growth. This project has been a labor of love; *A Guided Tour* has been a means of synthesizing Michael's time at Geneseo, both in and out of the classroom, into one cogent statement of growth and development. It embodies the academic work he has done - specifically in the fields of English, Sociology, and Psychology - but it also speaks to the traditionally non-academic as well - memory, perspective, intimacy, and individual mental health. This play goes beyond intellectual masturbation

though. Michael's goal with this piece included personal development and a fitting end to his stay at Geneseo, but, first and foremost, *A Guided Tour* is a means of fostering a dialogue about issues which are typically taboo; Suicide, Depression, Sex and Sexuality. Intimacy. Health. All of these issues are present in *A Guided Tour*, just as they are a part of the human condition. Mentor: BETH MCCOY, ENGLISH

The Effect of 5-azacytidine on ATP Levels and Gene Expression in *E. coli*

SARAH CANTATORE

We have performed gene expression DNA microarray analysis of *E. coli* cells treated with 5-azacytidine to determine if cytosine DNA methylation influences gene expression. To our surprise, expression of all eight ATP synthase genes was up-regulated in response to 5-azacytidine. The effect was observed at early stationary phase, and not observed in logarithmic phase. To determine if cells treated with 5-azacytidine have altered levels of ATP, we used a luciferase assay to measure ATP levels in untreated and 5-azacytidine-treated cells. The change in ATP levels in response to 5-azacytidine is complex. At logarithmic phase, there are increased levels of ATP in 5-azacytidine-treated cells, but this increase subsides as cells reach stationary phase. The increase in ATP levels in 5-azacytidine-treated cells at logarithmic phase was observed in a cytosine DNA methylation deficient strain (*dcm* knockout). These data indicate the model of DNA methyltransferase trapping cannot explain the changes in ATP levels, as this strain lacks a cytosine DNA methyltransferase. These data also indicate that 5-azacytidine does not cause its effect on ATP metabolism through a loss of DNA methylation, and may occur via a novel mechanism. Mentor: KEVIN MILITELLO, BIOLOGY

Confronting Whiteness in the Classroom

JESSE GOLDBERG

Despite conversations currently circulating about how after the election of President Barack Obama the United States has become a "post-racial" society, the fact of the matter is that white privilege still exists and racism has not been eliminated, only mitigated. This means that our current social structure is not an ideally just one, and so we have a moral obligation to work towards a more fully realized system of social justice. As a (hopefully) potential future academic myself, I will focus on the ways in which whiteness manifests as the often uninvestigated subject and how teachers can open up spaces of critical conversation in classrooms to work out the problems of the unacknowledged and unearned privileges of whiteness. Such conversations are often met with resistance both overt and subtle, even in classrooms full of liberal young people. The goal of my presentation, then, is to investigate how whiteness works, and how we can work through resistances to critically study white privilege in a meaningful way. Mentor: BETH MCCOY, ENGLISH

1F • SCHOOL OF EDUCATION

SOUTH HALL 340

**Stories from the Geneseo
Storytelling Institute**

FACULTY SPONSORS: SHARON PECK, SCHOOL OF EDUCATION AND MICHELLE COSTELLO, LIBRARY
SESSION CHAIR: SHARON PECK, SCHOOL OF EDUCATION

Wolves in the Walls

ANNA HOYLER

The first storyteller in this session will perform the story, "Wolves in the Walls," adapted from the children's story by Neil Gaiman.

Mama's Long Hair

MAXINE NADLER

The second storyteller in this session will perform the story, "Mama's Long Hair." This is an original story based on a true experience.

My Lovely Little Blue Car

LUCIA ARAUABIA

The third storyteller in this session will perform the story, "My Lovely Little Blue Car." This is a true story based on the teller's experiences as a new driver.

I Hate the SATs

ANDREW MOWRER, MICHELLE MOSHEN

The fourth storyteller in this session will perform the story, "I Hate the SATs." This is an original story that all of us who have taken a test can relate to. A fifth teller will also share an original story.

1G • ENGLISH

WELLES 138

**"Is This the Promised End?" Three
Film Versions of Shakespeare's King
Lear**

FACULTY SPONSOR: JULIA WALKER, ENGLISH
SESSION CHAIR: MERCEDEZ HOLLISTER

King Lear is arguably Shakespeare's most difficult play. Kent's Act 5 question "is this the promised end?" brings into focus the question of what constitutes ethical action in a universe with no moral code. But it is a question which is asked only. Three film versions of the play -- with Paul Scofield, Laurence Olivier, and Ian McKellen as the Lears -- give us three different responses to the question that Shakespeare refuses to answer.

Paul Scofield Version

**SAM BOURNE, CHRIS CROCKER, KAITLIN FISHER,
MELANEY REBELLO, DANIELLE WOBLER**

Laurence Olivier Version

**LYDIA CAPPADONIA, TREVOR COURNEEN,
DANIELLA INSALACO, EMILY TIMMONS, MIKE
MOSHER, KATHERINE MENJIVAR**

Ian McKellen Version

**MARIA CHIAPPONE, CODY COTTRELL, MERCEDEZ
HOLLISTER, ALICIA LEWKOWICZ, ALEX WENDE**

1H • ENGLISH

WELLES 131

**Ancient Insights from the Greek and
Islamic Worlds**

FACULTY SPONSOR: GRAHAM DRAKE, ENGLISH
SESSION CHAIR: LAUREN AULET

The Importance of Family

DEANNA SAVARESE

Plato's *Republic* and Euripides' *Medea* display extremely different family values. In *the Republic*, Socrates is attempting to create a perfect society, the *kallipolis*, in which he describes a very specific idea of the family. Medea is going through a challenging time, and the actions she takes are due to a very different type of family structure. If the features of the "Platonic family" were implemented into Medea's society, the story of Jason and Medea simply would not have taken place. However, Plato's idea of familial relationships is certainly not perfect.

**The Demands of the Dissatisfied and
the Insights of a Sufi**

KATE WALLACE

In the essay, I apply aspects from assigned readings of Rumi to a news article by Robert Hardaway in which he compares the main points of both Occupy Wall Street and the Tea Party Movement. These two movements argue for an end to bailouts, no more corporate welfare, a change in taxation, and for increases in employment. Rumi, on the other hand, emphasized that nothing is stable except God, acting out of love, equality, and discipline.

A Dream and a Dialogue

DANTE TUFANO

It is a mock discussion between Pericles and Socrates where Pericles' ideals about Athenian society clash with Socrates' much more pragmatic observations about the city. They each discuss the four major flaws with democracy--the foolishness of the common man and his effect on government, unqualified leadership, the intoxicating quality of liberty, and the inevitability of tyranny. While Pericles continually argues that Athens is great because of its democracy, Socrates argues that the democracy will ultimately destroy Athens. Socrates ultimately wins the debate, and Pericles ends up sounding somewhat foolish.

1I • ENGLISH

BRODIE BLACK BOX

MacBeth Scenes and Workshop

FACULTY SPONSOR & SESSION CHAIR: MELANIE
BLOOD, ENGLISH

**JOSHUA HOROWITZ, JOSHUA LANG, ADAM
LASALLE, EMILY MCDEVITT, PAUL NARDONE, SAM
PLOTKIN, KATHERINE WONG, RACHEL TAMARIN,
KRISTINA TORTORIELLO**

Shakespeare's plays were written for performance and continue to engage us best when performed. However, all too often, our first encounters with Shakespeare are intimidating due to the language. Students enrolled in Shakespeare Acting Service Learning will present scenes from William Shakespeare's *MacBeth* and exercises from workshops with 12-18 year olds from Livingston County that

helped them to engage with the play by putting it on its feet and considering it in a theatrical context.

1J • HISTORY

STURGES 108

Early Modern British Isles

FACULTY SPONSOR & SESSION CHAIR: JOE COPE,
HISTORY

**Sir John Davies and the Ulster
Plantation**

CAILE MORRIS

When considering the attempt of the English to colonize Ireland through the Ulster Plantation in the early 17th century, historians often overlook the legal contributions of Ireland's Attorney-General of the time, Sir John Davies. This paper will explore various aspects of Davies' contributions and analyses of England's failure to execute the plans for the Ulster Plantation as well as more generally subjugate the Native Irish population. It will do so through analysis of current historiography on the Ulster plantation as compared to some of Davies' writings, writings of other men prominent in the British legal system, as well as English government papers from this period.

**The Formation of Central Banking in
Scotland**

TOM REUBENS

The formation of the Bank of Scotland in 1695, only a year after the English adopted central banking, was an essential component to the development of the Scottish economy. Coincidentally, the Bank of Scotland was formed in the volatile years between the Glorious Revolution and the 1707 Union of England & Scotland. This was an interesting time in Scottish history. The Scottish Parliament was more independent and influential during this period than at any other in its history. However, Scotland was also dealing with severe economic challenges, including a trade deficit, a seven year famine from 1696-1703, difficulty developing industry, the loss of foreign markets and deflation. The establishment of the Bank of Scotland helped to solve the deflation problem in the long run by expanding credit, but it was not an easy fix, and the Company of Scotland was simultaneously contributing to the deflation problem. In this presentation I plan to address the previous points in greater detail in addition to discussing some related issues, such as the coining of a single British currency in 1707 and the objectives of William Paterson, founder of the Bank of England.

**A Look at the Lunatic Fringe:
Sensationalist Press and Radical
Religion During the English Civil War,
1640-1660**

MEGAN PAOLONE

This paper aims to explore and evaluate the portrayal of emergent radical religious groups in the popular press during a period of 20 years in England, specifically the city of London. The failure of traditional English institutions like the monarchy and religious hierarchy following the execution of King Charles I and his advisors gave way to the breakdown of order and disintegration of

government censorship, ushering in a voluminous number of corresponding printed materials. Through the reading of these primary-source printed materials from this period of two decades, the rise of reactionary religious groups like the Ranters and Quakers becomes evident. Though religiously affiliated, these groups became indicative of the full-scale social, political and religious overhaul of the British Isles at this time. Written from a variety of perspectives - including the leaders of the religious sects and their critics - the collection of documents examined in this paper and the corresponding secondary sources present a wide array of problems associated with examining a history through sensationalist press. Overall, this paper will consider the varying portrayal of several emergent religious groups and their activities as a reflection of the political and social atmosphere of the time.

1K • HISTORY STURGES 109

On the Borders of Inclusion: Women, Dissenting Confederates, and Black Politicians in Nineteenth Century America

FACULTY SPONSOR & SESSION CHAIR: JUSTIN BEHREND, HISTORY

Jefferson Davis' Black Replacement: An Examination of Senator Hiram R. Revels' Election Through Periodical Sources

DAVIS PARKER

Senator Hiram Revels was the first African American ever seated in the United States Senate. As Senator from Mississippi, Revels was notable for the large amount of media coverage that he received because of his uniqueness among the leaders of the country and for the fact that he filled the seat vacated by Jefferson Davis when he became president of the Confederacy. While Revels' term was rather short (1870-1871), his inclusion in the running of the United States government was the subject of much controversy among the many newspapers in the United States during this time period, which were famous for being incredibly partisan towards the political party that they supported. Drawing on historical newspapers from all over the United States as well as modern scholarly articles and books about Senator Revels, this paper will attempt to understand how the people of the United States viewed the first black Senator.

Disheartened Rebels: Resistance to the Confederacy in Western North Carolina

JOSHUA SCHROEDER

Western North Carolina was the scene of widespread and active white resistance towards the Confederacy. This resistance grew from a broader dissatisfaction with the Confederacy that was rooted in an adverse relationship between poorer Western North Carolina and wealthier Eastern North Carolina. North Carolina, especially the West, was reluctant to secede from the Union and only

did so in response to President Lincoln's call for volunteers to suppress the secession of the Deep South States. Rampant inflation, perceived price gouging of nearly all goods, shortages of food and goods, and conscription policies that included loopholes for the wealthy caused many in Western North Carolina to rethink their continued sacrifice to the war. As frustration with Confederate policies and the realities of a protracted war mounted, Western North Carolinians began to desert the Army and evade being conscripted with many even forming bands that openly fought the militia and Home Guard units. Soldiers' wives and other women rioted against the shortages of food. Many more debated the wisdom of North Carolina's continued affiliation with the Confederacy. Western North Carolina's experience in the Civil War reveals the fragile bonds that existed within the Confederacy.

The Polarization of the Female Gender in the Antebellum South: How Stereotypes Impacted the Law, Medicine, and Criminological Theory

SAMANTHA MAURER

This thesis analyzes how the development of stereotypes pertaining to black and white women in the Antebellum South influenced women's daily lives. First, it identifies black women, particularly the enslaved, who faced a polarizing Mammy/Jezebel characterization, which both validated *de jure* and *de facto* segregation and supported the continuance of the ethically questionable slave institution. Second, it chronicles white women, both those in the poorer and the higher socioeconomic classes, who faced a similar polarizing dichotomy, the wench/lady categorization, which highlighted the extremes of white femininity. It lastly observes how each polarized archetype was developed, why each was enforced, and how, through legal, medical and criminological doctrine, each remained paramount in Antebellum Southern society.

1L • MATHEMATICS NEWTON 201

Algebra and Geometry

FACULTY SPONSOR & SESSION CHAIR: PATRICK RAULT, MATHEMATICS

Numerical Range: When is a Matrix Like an Ellipse?

DAN ROSSI

Let A be an n -by- n matrix. The numerical range of A , denoted $W(A)$, is a map from the set of square matrices to the set of complex numbers. We consider the set of 4-by-4 doubly stochastic matrices (i.e. matrices whose rows and columns each sum to 1) and their numerical range. We categorize the shapes that the numerical range of a 4-by-4 doubly stochastic matrix A may have. We then provide our new necessary and sufficient conditions on A for $W(A)$ to have some of these shapes, including ellipses and quadrilaterals. This talk will be accessible to students who have taken elementary linear algebra.

Geometric Algebra - A Unifying Mathematical Language

MICHAEL VAIANA

A great deal of mathematics and physics is built upon the simple concept of vector, which is a directed length. Geometric algebra extends this idea by introducing the concept of directed area and directed volume. Ultimately, these simple ideas result in a powerful unifying mathematical language. For example, the complex numbers and the quaternions are subalgebras of the geometric algebra. This talk will be accessible to students with a minimum of elementary linear algebra and multivariable calculus.

Contracting and Rotating Ellipses

WILSON CHEUNG

The correlation between the area of a region and the number of points with integer coordinates (called lattice points) contained within it has been an ongoing area of interest in the field of number theory. The problem arises from Gauss's Circle Theorem, which shows that the number of lattice points within a circle is approximately equal to the area of the circle. Previous results have determined an upper bound for the number of lattice points in the interior region formed by two hyperbolas. In this talk, we will generalize this result to the specific case of two ellipses and conclude that the area of the interior region formed by these ellipses has the same upper bound. We'll describe how the area and the number of lattice points change under contractions and rotations. This is a joint research project with Patrick Rault.

1M • MATHEMATICS 1 NEWTON 214

FACULTY SPONSOR & SESSION CHAIR: JEFF JOHANNES, MATHEMATICS

Guaranteed Victory in Zero-Sum Tournament Games

BERNADETTE ROUGHNEEN, MEGAN HURLEY

Is it possible to guarantee victory when engaging in zero-sum games? Most people rely on chance when playing these types of games, an example of which would be rock, paper, scissors. This talk will explore what happens when you apply game theory to simple games such as this one. No prior knowledge of game theory is necessary to understanding this talk.

The River Crossing Game: How Probability Shifts When Ties are Eliminated

MELANIE FRANCIOSA, DANIELLE SEICKEL

The River Crossing Game is a game of chance with no optimal strategy to win. Due to this, either player has a certain probability from the beginning of winning, losing, or tying. We are most interested in configurations where ties are possible because probabilities can shift drastically in favor of one player over the other when the tie is eliminated. We will show these probability shifts through calculating the probabilities in situations where ties are present and when they are no longer available. With a simple roll

of the dice, we will show that the game can shift in any direction and is extremely unpredictable.

Statistical Analysis of Card Counting in Casino Blackjack

JACKIE GUTHART, JOE STORM

Blackjack is the most popular casino table game in the world, but is it possible to guarantee a player's success? We will begin with an overview of Hi-Lo card counting and how it works. Then we will delve into the mathematics of Hi-Lo card counting used by strategic players to determine whether it truly gives the player an advantage against the dealer in a game of casino blackjack.

The Two-Move Matrix Game: I'm Bi-Winning

SARA SMACHER

This simple two-player math game has two stages. Each player first chooses how to allocate their resources, and then decides which pair of outcomes is more likely to give themselves the highest payoff based on the opposing player's actions. An important theorem will present us with a strategy which ensures that the expected value of a player's payoff will be nonnegative. This talk is accessible to everyone.

1N • PHILOSOPHY STURGES 112

The Animal Treatment Debate

FACULTY SPONSOR: CARLO FILICE, PHILOSOPHY
SESSION CHAIR: JUSTIN SHAPIRO

My Position Regarding Our Duties to Non-human Animals

KEITH INGALLS

My position regarding our duties to non-human animals

My Position Regarding Our Duties to Non-human Animals

EVE ANDERSON

My position regarding our duties to non-human animals

My Position Regarding Our Duties to Non-human Animals

RACHEL CURTIS

My position regarding our duties to non-human animals

My Position Regarding Our Duties to Non-human Animals

COLIN KEENAN

My position regarding our duties to non-human animals

1O • POLITICAL SCIENCE & INTERNATIONAL RELATIONS

WELLES 24

Continuity and Change in the Middle East & South Asia

SESSION CHAIR: EDWARD DRACHMAN, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

The Response of the Muslim Brotherhood to Egypt's Arab Uprising

THEODORE WILSON

FACULTY SPONSOR: EDWARD DRACHMAN, POLITICAL SCIENCE & INTERNATIONAL RELATIONS
The Muslim Brotherhood seemed to lie in shadow during Egypt's January 2011 revolution and the subsequent removal of the thirty-year Mubarak dictatorship. Yet, in the wake of this Arab Uprising in Egypt, the Muslim Brotherhood organized tremendous political support in the form of the Freedom and Justice Party and was able to secure a significant plurality in Egypt's parliamentary elections. Political representation of the initial Tahrir Square protesters' interests, on the other hand, is scant. In the midst of a deeply broken economy and the encroachment of religious Islamic fundamentalism into the political arena, the Muslim Brotherhood has begun a rapid and historic campaign to return stability and organization to the Arab Republic of Egypt.

US Foreign Policy in a Dynamic Persian Gulf

MICHAEL FANDRICH

FACULTY SPONSOR: ROBERT GOECKEL, POLITICAL SCIENCE & INTERNATIONAL RELATIONS
The United States has strategic interests in the Persian Gulf characterized by the region's geostrategic location, natural resources and relatively friendly Arab leadership. US foreign policy interests have historically been hampered by the volatile nature of the region's politics. Since the official end of the Iraq War in 2011 and the Obama Administration's pivot towards Asia, US foreign policies towards the Persian Gulf region are in a state of flux. Furthermore, the Arab Gulf States have not been immune to the wave of revolutionary activity collectively termed the "Arab Spring." These uprisings have created issues for the United States' relationship with two vital allies: Saudi Arabia and Bahrain. Because these countries represent significant military, security and economic interests, the United States has been forced to choose between the stability of the ruling regimes and the promotion of democracy. Unlike in Egypt or Libya where US policies fostered regime change, the Obama Administration has chosen to promote the stability of the Al-Saud and Al-Khalifa regimes. The United States will continue to back the ruling monarchs in an effort to protect four vital interests: energy, counterterrorism, regional stability concerning Israel and Iraq and the containment of an increasingly aggressive Iran.

US Pakistan Relations since Partition

EMILY VOEGLER

FACULTY SPONSOR: JEREMY GRACE, POLITICAL SCIENCE & INTERNATIONAL RELATIONS
An examination of the U.S.-Pakistan relationship since Partition in 1947 reveals a link wrought with distrust and misunderstanding. This rocky relationship has contributed to the destabilization of the state of Pakistan, and helped mold it into a haven for extremist organizations. This has occurred as a result of U.S. support of illiberal

regimes and authoritarian practices in Pakistan, Pakistani ties with U.S. foreign policy initiatives, and the participation in the destabilization of Afghanistan beginning in 1979 amongst other factors. In order to understand the level of success of the policies of the Bush 2 and Obama administrations toward Pakistan, it is crucial to understand the historical and modern perspectives of both states. Once this is achieved, we can begin to find solutions to rebuild this relationship and work towards the goals of both states.

1P • PSYCHOLOGY WELLES 115 Studies Examining the Response to Threat and Challenge

FACULTY SPONSOR: MICHAEL LYNCH, PSYCHOLOGY
SESSION CHAIR: MOLLY WALSH

Modifying Physiological Response to Stress with One Session of Progressive Muscle Relaxation

Yael Massey, Molly Walsh, Sarah Freeze, Michelle Engleman

The purpose of the current study was to determine whether physiological stress responses could be modified to produce greater adaptation. Prior research in our laboratory indicates the existence of individual differences in physiological response to challenge. These differences can be seen in patterns of reactivity to and recovery from a stressor derived from recordings of participants' heart rates. The identification of individual differences in physiological profiles led us to question whether they could be modified. Progressive Muscle Relaxation (PMR) has been found to be efficacious in decreasing stress, anxiety, and physiological arousal, and to increase the rate of autonomic recovery from laboratory-induced stressful events. The aim of our study was to determine whether or not an individual's pattern of physiological reactivity and recovery in response to stress could be modified through the administration of an abbreviated session of PMR. Initial analyses revealed that a single administration of PMR resulted in more regulated physiological response to challenge compared to the control condition. If these findings can be replicated, they may suggest that a brief intervention such as a single session of PMR may help people deal with short-term challenges in physiologically well-regulated ways, thus facilitating more adaptive behavioral and emotional responses.

The Effects of Cyber and Traditional Victimization on Adolescent Well-Being

SARA WIGDERSON, NETTA ADMONI, BRIGID HEENAN, STEPHANIE EDWARDS

The purpose of this study was to examine how different forms of victimization affect the well-being and grade point average (GPA) of adolescents. This study assessed both traditional forms of victimization (relational and physical) and cyber-victimization, and how victimization experiences impact depression, anxiety, self-esteem, and GPA. Adolescent students completed questionnaires that were sub-divided into several sections, each

measuring a different construct. Three-hundred-ninety-six students (51.3% male) from a rural school district's middle and high school participated in the study. The data revealed a pattern of association among the various forms of victimization indicating that many participants experienced multiple forms of victimization, or polyvictimization. Linear regression analyses revealed that cyber-victimization uniquely predicted depression, self-esteem and grades. Additionally, interaction effects between cyber-victimization and traditional victimization uniquely predicted aspects of well-being. Overall, the links between depression, anxiety, self-esteem, and GPA, suggest that people who experience victimization may experience a depleted sense of well-being. These findings have the potential to inform issues that are especially relevant for secondary school students. These results can be used by school personnel to design bullying programs that address the full range of victimization experiences that adolescents may encounter, especially in regard to cyber-victimization.

1Q • SOCIOLOGY SOUTH HALL 338
SESSION CHAIR:

Envisioning a Localized Food System through Community Supported Agriculture

KRISTEN BALSCHUNAT

FACULTY SPONSOR: KURT CYLKE, SOCIOLOGY

Can sustainable farming change the world? Biting into a local apple, or roasting Adirondack Blue potatoes creates more of an impact than you might think. Our "grocery store" culture has lost touch with the origins of food and the system that bring it to our plates. This presentation will challenge the value of the current food system that solely focuses on production and efficiency, and will present community supported agriculture (CSA) as an alternative farming model that has the capacity to protect the environment and care for people while producing healthy, local, seasonal food. It will be rooted in the presenter's experience as an intern at Kindred Ground Farm, a CSA farm in Avon, NY.

Paul Made this Comment: Sociology of Language and its Religious Application

JOEL INBODY

FACULTY SPONSORS: STEVE DERNE AND BILL LOFQUIST

The Sociology of Language focuses on the effect of language on the society which uses it. The Jehovah's Witnesses, a Christian sect which is best known for its aggressive door-to-door proselytizing, employ a great variety of terms and phrases that are peculiar to the movement, and which convey concisely, if esoterically, their doctrines. In some cases, the terminology is obvious and explicit, and would be easily noticed by outsiders. In others, the terminology is far more subtle, and must be analyzed within the context of how other Christian groups would express the same concept to notice the difference. This language functions, through conscious or unconscious use, to establish the movement's legitimacy and create a connection

between the practices of 1st century Christians and those of the Jehovah's Witnesses.

1R • INTERDISCIPLINARY: COMMUNICATION & HISTORY

WELLES 26

SESSION CHAIR: BETSY COLON, GRANTS MANAGEMENT

Indonesian Tobacco: A Consumer Culture of Exploitation

FRANCIS MANDRACCHIA

FACULTY SPONSOR: MICHAEL OBERG, HISTORY

Many developing countries experiencing economic growth have also seen a rise in cigarette consumption. Multinational tobacco corporations are increasing their presence in these countries in the face of this strong economic growth. In Indonesia, firms have seen considerable growth in the tobacco market as the country continues to develop. With tobacco consumption increasing, Indonesian public health faces the threat of a smoking epidemic. The injurious effects of tobacco smoking not only harm public health but also reduce productivity and economic growth. Local conditions in Indonesia have primed the market for multinationals to exploit this market largely because of the lack of regulation in the tobacco industry. Assessing the culture of tobacco in Indonesia can render an accurate assessment of the growing problem--and possibly a solution for a healthy working economy for the future.

Smoke Like a Turk: The Development of the Industry and Images of Cigarettes in Turkey

AUDREY STEVENS

FACULTY SPONSOR: MICHAEL OBERG, HISTORY

As the American tobacco industry came under increasing domestic pressure in the 1980s and 1990s, cigarette companies increasingly capitalized on developing markets. Building upon existing political and economic trends towards Western ideas of liberalization, American tobacco companies promoted cigarettes as an avenue to modern, Western, economic development. Exaggerating such associations, advertisements sold the same images of Western modernity and wealth to Turkish consumers and Turkish policymakers. Persisting beyond advertising bans and increased smoking regulation, powerful associations still contribute to the complex and ambivalent attitude toward smoking in Turkey. Understanding and challenging manufactured portrayals of cigarettes through honestly depicting -and hopefully reducing - cigarette smoking in Turkey can be an important part of efforts to clear the air.

Pure Mythology: What "Good-for-the-World" Companies Tell The Socially-Responsible Consumer

KATE MCGUIRE

FACULTY SPONSOR: ATSUSHI TAJIMA, COMMUNICATION

You don't have to own a pair of TOMS or a Falling Whistle to know that socially-responsible

consumption is a popular movement among college students. Goods advertised as "socially-responsible" potentially offer global great social benefits, yet the actual benefits of these products can be unclear at best and completely fabricated at worst. This study identifies the discursive strategies socially-responsible companies employ to convince consumers that buying their product can change the world. Pure Citizen, an online marketplace socially-responsible goods, serves as a case study of promotional texts. Products on this website are marketed as luxurious impulse purchases that can eradicate global injustice. The ads construct a global consumer experience while sidestepping the paradoxical inconsistencies of a pro-consumerist movement aiming to tackle the problems caused by over consumption. Understanding the complex and sometimes contradicting messages of the socially-responsible consumerist discourse is the next critical step in furthering consumerist movements that effect positive social change

Marketing Hollywood Personalities

KATRINA INNAMORATO

FACULTY SPONSOR: ATSUSHI TAJIMA, COMMUNICATION

This paper critically examines how America has created a subculture based on the lifestyles of celebrity. In creating this field, advertisers have begun marketing these famous personalities to the point of exploitation. The creation of "celebrity" has been put into production due to the invention of reality television. Public figures are no longer considered a part of the human species but are the superhuman, manufactured products of advertisers. This creates a large subdivision between normalcy and celebrity whilst creating unrealistically high standards for American females.

1S • SOCIOLOGY WELLES 133
SESSION CHAIR: ELAINE CLEETON, SOCIOLOGY

Creating the Conversation: When The Classroom Tells All

DANA LIVINGSTON

FACULTY SPONSOR: ELAINE CLEETON, SOCIOLOGY

As the students of color became middle class the criticism of persistent American racist practices declined. In a mid-level sociology course originally designed to empower first-generation black women students evidence of discomfort with materials challenging racist practices provoked a redesign of the course structure allowing for in-depth understanding and acceptance of history and the present.

But I'm Not A Racist

DANA LIVINGSTON, JOBINA ALEXANDER, NICOLE ALIX, VICTORIA CURTIS, NAOMIE FRANCOIS, COLLEEN HALBOHN, CECORIA HARDY, HANNAH HUNTER, EUN SOPHIA HWANGBO, ELIZABETH JOHNSON, JESSICA JONASSE, MEAGHAN KELSEY, PAIGE LAURICELLA-PACK, XERIOUS LEWIS, CHRISTINA MARCONI, KIMBERLEY MELLE, CHEYENNE MIDI, TORI PRYOR, ASHLEY ROCCO, BELEM SANCHEZ, MICHAEL SENZER, AMY TRAN, KAWAI WONG

FACULTY SPONSOR: ELAINE CLEETON, SOCIOLOGY AND SUE ANN BRAINARD, LIBRARY

Giving access to the ways that racism is viewed in America, we explore Eugene Robinson's four classes of black America and expand on the fact that there

is no longer one black America. Interviews of the students family and friends were conducted to show how perceptions of race and ethnicity are

formed and how this influences our behaviors as a society.

CONCURRENT PRESENTATIONS 2 • 11:05AM – 12:20PM

2A • ANTHROPOLOGY MILNE 105
SESSION CHAIR: PAUL PACHECO, ANTHROPOLOGY

Multiple Maks, Unified Mind: The Nature of Online Identity

NATHAN THAYER

FACULTY SPONSOR: DENICE SZAFRAN, ANTHROPOLOGY

The advent of digital tribes and Internet communities has opened the door to new and interesting ways for the development of the self and the formation of groups. Online we are able to see the individual writ large in the ever-expanding formation of new identities on blogs, Internet communities, and message boards. By examining the formation of these identities online and how they interact with our offline selves we can better understand the development of the self and how that interacts with the larger population. The purpose of this paper is to explore the concept of identity and test the validity of the Multiplicity Thesis. The validity of Multiplicity will be tested against survey results and two case studies performed on two different people who have engaged in creating online personas on the microblogging website *Tumblr.com*. This study is a preliminary work which sets out to change the current view of how people form their online selves and what relation that online person has to the person on the other side of the screen.

Dumbledore's Army: The Transgressive Narrative of the Child Soldier in Harry Potter

SARAH ROSEN

FACULTY SPONSOR: BARBARA WELKER, ANTHROPOLOGY

The prevailing humanitarian view of contemporary child soldiers is that they are deviant products of adult abuse, unlawfully forced into armed conflict against their essential natures. This narrative has influenced contemporary literary conventions, reversing the images of child soldiers that once pervaded literature. Child soldier-heroes of yesteryear, such as Gavroche in Victor Hugo's *Les Misérables*, have been succeeded by figures like Agu, the battered victim in Uzodinma Iweala's *Beasts of No Nation*. The Harry Potter series derives some of its power from its counter-narrative of children with real agency. Harry and his peers assume the characterization of heroic child combatants with the formation of Dumbledore's Army. The brainchild of Hermione Granger, the D.A. functions in direct opposition to the will of the adult world, as a way for students to teach themselves magic necessary to fight Lord Voldemort. In a narrative that challenges humanitarian ideology, the students operate a combatant organization in opposition to adult authority figures. Harry Potter offers young readers a transgressive counter-narrative, in which children

have agency, courage and moral authority. We argue that this fantasy world seems real because it affirms a degree of autonomy for children that is, too often, denied by modern society.

Material Analysis of Buried Secondary Refuse Deposits at the Lady's Run Site: Implications for Ohio Hopewell Sedentism

SANDRA BENDER, ERIN STEINWACHS

FACULTY SPONSOR: PAUL PACHECO, ANTHROPOLOGY

Investigation at the Lady's Run site produced evidence of an Ohio Hopewell domestic settlement on the Harness Farm, located 10 km south of Chillicothe, in central Ohio. Excavations conducted during the 2007-2011 field seasons uncovered multiple secondary refuse deposits at the site. Density analysis of material remains recovered from these refuse deposits were conducted during the 2011-2012 academic year. Data interpretation coupled with diagnostic artifacts resulted in patterns indicative of sedentary settlements. These findings support the argument that sedentary, residential Ohio Hopewell complexes were present at the Lady's Run site about 1,700 years ago.

Middle Late Woodland Settlement and Subsistence in Central Ohio

ROBIN QUATAERT

FACULTY SPONSOR: PAUL PACHECO, ANTHROPOLOGY

The Jack's Reef Horizon, also known as the Intrusive Mound culture, is a little known aspect of the Middle Late Woodland time period in parts of Eastern Woodlands region and is the focus of this presentation which seeks to create a description of the settlement and subsistence patterns of these people in central Ohio. Excavations conducted at a series of sites in southern Ohio, six miles south of Chillicothe, Ohio will be the focus of this report. These excavations include the results of the Browns Bottom project as well as a handful of other excavations including the Edwin Harness Mound, and Ceplus. The Browns Bottom project has exhibited several features of the Jack's Reef Horizon which is the basis of this report. The objective is to create an accurate compilation of all data obtained to interpret what this data represents in regards to settlement and subsistence.

2B • BIOLOGY NEWTON 203
SESSION CHAIR: ROBERT O'DONNELL, BIOLOGY

Characterizing the Role of TMD-1/Tropomodulin in Intestinal Development

COREY HOFFMAN, JOE VOLLO

FACULTY SPONSOR: ABBI PAULSON AND HAROLD HOOPS, BIOLOGY

The mechanism of tube development is not well understood in the field of biology. Tubes play an important role in human development, since many organs such as the heart, liver, and kidneys develop as tubes. The soil nematode *Caenorhabditis elegans* is a great model system for studying tube development. The *C. elegans* intestine is made up of 20 cells with a fluid filled lumen that forms via a cord hollowing mechanism. Tropomodulins are actin binding proteins that regulate the slow growing end of actin filaments and can also nucleate the formation of new actin filaments. *C. elegans* with loss of function for *tmd-1* show multiple defects in their intestine, such as abnormal lumen shape, accumulation of acidified gut granules, and formation of enlarged non-acidified vesicles. These phenotypes may be the result of defects in vesicular transport. To learn more about this potential vesicle trafficking defect and to illuminate other roles that TMD-1 may play in the intestine, we have been examining the intestinal ultrastructure of *tmd-1* mutants using transmission electron microscopy. These studies should yield exciting new insights into the role that actin plays in shaping the development of biological tubes.

Prevalence of Epithelial to Mesenchymal Transition (EMT) Resulting from Ultrapotent Corticosteroid Treatment of Vulvar Disease

ARWEN TISDALE, CHOO-HYUN KIM

FACULTY SPONSOR: JANI LEWIS, BIOLOGY

Cells that become tumorigenic undergo an epithelial-to-mesenchymal transition (EMT), which is often characterized by a loss in epithelial cadherin (E-cad) and a gain in vimentin expression. These changes are linked with a more aggressive cancer phenotype, therefore E-cad and vimentin have become prominent markers in determining the stage of some cancers. Our studies show treatment of the vulvar cancer cell line, A431, with either dexamethasone and clobetasol, results in loss of E-cad and gain of vimentin expression. This is of particular concern because clobetasol and other ultrapotent corticosteroids are commonly used in the treatment of the vulvar disease, lichen sclerosis. Our studies are now examining if the loss of E-cadherin and gain of vimentin expression are commonly seen in vulvar cancer from patients previously diagnosed with lichen sclerosis and treated with clobetasol.

Epigenetic Effects of 5-Azacytidine on Breast Cancer

GREGORY ROLOFF

FACULTY SPONSOR: ROBERT O'DONNELL, BIOLOGY
KEVIN MILITELLO BIOLOGY

Cancer uses a variety of mechanisms to circumvent the normal cellular defenses against uncontrolled proliferation. Targeting the profoundly altered epigenetic patterns of cancer cells, especially DNA methylation, has developed as a promising therapeutic avenue. My research involves investigating the efficacy and potential of a drug known as 5-Azacytidine. The ability of 5-Azacytidine to induce apoptosis in breast cancer cells was demonstrated by a significant up-regulation of RNA coding for death inducing proteins via a gene expression microarray, and further validated by specific assays measuring apoptosis. Subsequent experiments involving RNA interference of the DNA Methyltransferase 1 enzyme are aimed to understand the specificity of the effects observed by this drug.

2C • CHEMISTRY NEWTON 204 Chemistry Honors Thesis 2

FACULTY SPONSOR: ERIC HELMS, CHEMISTRY
SESSION CHAIR: CRISTINA GEIGER, CHEMISTRY

Simultaneous Measurement of Charge and Fluorescence Intensity of CdSe Quantum Dots

ERIK SKIBINSKI

The unique optical properties of colloidal semiconductor nanocrystals, commonly referred to as "quantum dots" (QDs), have stimulated significant interest in their use in a variety of technologies, including biological imaging, photovoltaics, and quantum cryptography. However, the viability of QDs for such applications is significantly limited by the presence of fluorescence intermittency in these materials. Fluorescence intermittency, also known as fluorescence "blinking" describes the stochastic switching of fluorescence intensity from individual QDs between a bright fluorescent "ON" state and dark, nonfluorescent "OFF" state, all while under continuous photoexcitation. The microscopic origin of blinking behavior remains poorly understood. One piece of key data that would help better understand this phenomenon, but is currently missing in the research literature, is a simultaneous and direct measurement of electrical charge and fluorescence intensity from individual QDs. Combining gel electrophoresis and fluorescence imaging, we describe a novel experimental approach to perform such measurements. We will present recent results that demonstrate the viability and uniqueness of an integrated approach. To the best of our knowledge, this technique provides the first direct and simultaneous measurement of charge and fluorescence in a single QD and can be used to test conflicting theories that describe this prominent single molecule phenomenon.

Diffusion Rate Dependence Through a Size Controlled Nanoparticle Encapsulated Sol-Gel Matrix

JISU RYU

Various sized silver nanoparticle encapsulated sol-gel was studied to characterize the diffusion rate of aqueous solvent through the system. Under acidic conditions (pH<4) CdSe quantum dot (QD) starts to

degrade, and accordingly, its lifetime measurement changes. Utilizing this, QD was used as a probe, and was encapsulated along with the silver nanoparticle inside the sol-gel. The sol-gel sample was exposed to 1M HCl for about 40 minutes, and the diffusion process was analyzed by lifetime spectrometer in one-minute interval. Diffusion of acid was verified to be dependent on the size of encapsulated nanoparticle.

Investigation of the Compounds in *Anaphalis margaritacea*

LAUREN HEALY

Anaphalis margaritacea, more commonly known as Pearly Everlasting, has been used by as many as eight Native American tribes, mainly for upper respiratory problems such as coughs and colds. The Iroquois, however, were known to use the roots of Pearly Everlasting as a treatment for dysentery and diarrhea. Discovering the chemical composition of the roots may give rise to why they were so successful in treating these ailments. Specifically, the particular compound (E)-5-chloro-2-(octa-2,4,6-triynylidene)-5,6-dihydro-2H-pyran shows structural similarity to compounds exhibiting antibacterial and antifungal activity. Isolating and characterizing the compounds present in *A. margaritacea* will allow for further investigation into their properties and potential uses as pharmaceuticals.

2D • COMPUTER SCIENCE WELLES 128

SESSION CHAIR: DOUGLAS BALDWIN, COMPUTER SCIENCE

Experimentally Exploring Algorithmic Descriptions of Three-Dimensional Geometry

ELIZABETH SKIBA

FACULTY SPONSOR: DOUGLAS BALDWIN,
COMPUTER SCIENCE

Describing three-dimensional geometry is important in a number of application areas including scientific modeling and engineering. Our research team is interested in describing three-dimensional geometry for particle physics simulations. We've developed a Python module called pyMGeo for physicists to use to automatically generate geometry for the particle physics simulator MCNP. pyMGeo allows users to describe geometry algorithmically, for example, through the use of classes and loops. I designed and performed an experiment to test algorithmic description against already existing tools and methods for describing geometry. Other tools and methods include creating geometry descriptions by hand and using a visual editor. Since physicists working with simulators often make changes to their experimental set-up I measured the effort needed to make a change to a pre-existing geometry description. My results show that the effort needed to make a change using algorithmic description is less than with other tools and methods. I also found that algorithmic description works well in models that repeat a subset of the geometry.

Creating a Musical Instrument Using a Kinect Camera

STEPHEN KOWALEWSKI

FACULTY SPONSOR: HOMMA FARIAN, COMPUTER SCIENCE

Microsoft's Kinect Camera was originally designed to capture a person's position in space for console video games, but shortly after its release people began using it with computers for all sorts of things, including musical instruments. Current implementations of musical instruments using the Kinect (many of which have freely available source code) either jump between discrete pitches or slide between pitches but do not have a mechanism for incorporating both. By allowing for both ways of negotiating pitch change, I created a more versatile musical instrument. My presentation will cover how I incorporated discrete and sliding pitches into a single instrument as well as certain key design decisions that allowed me to overcome the inherent precision limitations of the camera. It will also include a live demonstration of the instrument in action.

Mobile Application Development-

1...2...3...Crossfit

CODY DUNCAN

FACULTY SPONSOR: CHRISTIAN SHIN, COMPUTER SCIENCE

Android mobile is a market which is increasing exponentially. Because of this, throughout this semester and last I have designed, implemented, and debugged an application for use on the Android platform. This began as an elective course, CSCI 380, and continued as a directed study this semester. My application attempts to fill a niche in the physical fitness market. It is used to track one's dietary and workout regimen, specifically for use with the Crossfit workout program. It takes advantage of XML parsing, the camera, Android's alarm and notification system, and many other technologies made possible through the Mobile medium. This application is the culmination of two semesters, and will, in the future, be submitted to the Android market. I will describe, in detail, my experience developing this application under the guidance of Professor Shin. Along with this, I will analyze the challenges of Android development, specifically those raised in creating a physical fitness application, and the solutions I devised.

2E • EDGAR FELLOWS WELLES 121

Edgar Fellows Miscellany III

FACULTY SPONSOR & SESSION CHAIR: OLYMPIA NICODEMI, MATHEMATICS

The Cultivation of Uncertainty: an Atheist's Experiences with Agnosticism

KIM HALL

That wasn't supposed to be the title of this presentation. It was supposed to have to do with human genetic or physiological factors influencing spirituality. But when trying to understand religious faith, are these really the elements we should address first? My work on this project leads me to think otherwise, and as the project has changed in scope, so has my attitude toward and understanding of

belief. I will discuss the factors that have led me away from a purely atheistic take on religion, such as the lack of a scientific language about spirituality, the New Atheism of those such as Dawkins and Hitchens and its counter-movements, and my own experiences with believers, nonbelievers, and their worldviews. I will also address questions faced by myself and anyone else going through a crisis of faith or of disbelief, including the definition of faith and what the most valid reasons to have it could be. Mentor: THEODORE EVERETT, PHILOSOPHY

Resveratrol: Red Wine and Beyond MARIE-JO NASSAR

Many health benefits of red wine are due to a particular substance known as trans-resveratrol. In an effort to profit on the growing popularity of resveratrol, a variety of dietary supplements containing the substance have been developed. However since resveratrol is considered a "nutraceutical," a naturally occurring food chemical, companies are not required to disclose the amount of resveratrol in the pills they manufacture. In an effort to determine the resveratrol content of these supplements, a method has been developed using solid phase extraction and high performance liquid chromatography. The positive effects of trans-resveratrol and the relative merits of analyzed dietary supplements will be discussed. Mentor: JAMES BOIANI, CHEMISTRY

Illuminating the Commedia: Botticelli Reads Dante

HANNAH SCHMIDT

Ninety-three drawings comprise the entirety of Sandro Botticelli's illuminated manuscript of Dante's Commedia. For the artist, Dante's text is a strong set of guidelines for reaching God. His illuminations then become the pictorial roadmap. Whether he is emphasizing one particular character, event, theme, or the relationship between all the cantos of a canticle as a whole, Botticelli is purposely leading the viewer to a deeper knowledge of the divine. This presentation examines several specific aspects of both the illuminations and the text, including the devils in the Inferno and the role of Beatrice in Paradiso, to understand how the artist read the poet. Mentor: RONALD HERZMAN, ENGLISH

Imaginative Geographies of Anwar Sadat's Egypt

ELIZABETH BARBER

All textual representations of foreign space are deficient; for a travel writer to give voice to all a place's nuances and complexities, to represent a place as it objectively exists, is an utterly impossible task. Instead, what emerges in travel writing are 'imaginative geographies' -or, subjective images of a country produced within the writer's particular socio-historical framework. My paper explores 'imaginative geographies' of Anwar Sadat's Egypt (1970-1981) in American travel writing, examining the development of such images of Egypt out of an interplay between numerous factors, most particularly the writer's self-conscious engagement with post-colonial and post-modern theories. My ultimate purpose, here, taking as a guide the efforts of travelers writing about Egypt in the 1970s to reconcile practice with theory, is to

submit an answer to the broader, always troubling question of how a travel writer can responsibly represent other people and places, a project that is by definition always to some degree hegemonic, always engaged in the discursive construction of place and people who do not speak for themselves. Mentor: ROBERT DOGGETT, ENGLISH

2F • EDGAR FELLOWS WELLES 123 **Edgar Fellows Miscellany IV**

FACULTY SPONSOR & SESSION CHAIR: OLYMPIA NICODEMI, MATHEMATICS

Subtle Shuttling: Identity and Representation in Jamaica Kincaid's Memoir My Brother

STASIA MONTEIRO

This capstone project analyzes the complexity of one's identity, as it is bound within Jamaica Kincaid's memoir, *My Brother*. My analysis shuttles between the implications of Devon Drew's identity as a black man dying of AIDS in his native island of Antigua, and the tensions present in the narrator's identity, which simultaneously serve as a bridge between the reader and the unfamiliar, yet also demonstrates a desire for distance between herself and the family that she is summoned to when news of Devon's illness is first revealed. This project confronts the subtle and not-so-subtle ways in which Devon's and the narrator's identities orient them within the memoir, and how they are positioned within the genre of memoir and practice of representation as a whole. Mentor: MARIA LIMA, ENGLISH

On the Record: Writers, Rights, and Rap in Post-Unification Germany

AUDREY STEVENS

Germany faced a medley of identity challenges after the fall of the Berlin Wall, including a growing chorus of voices contesting static notions of citizenship. Wrapped up in larger political and literary debates, Turkish German rappers gave voice and rhythm to new generations of non-Germans in 1990s Germany. As the 1999 citizenship reforms fell flat, Turkish language hip-hop posed sharp critiques. Not unlike French contemporaries and their counter-cultural rap postures, Turkish German rappers refrained from a passive acceptance of monolithic German narratives and crafted empowered, subcultural self-understandings through hip-hop. Often unnoted by scholars, policymakers, and the public, Turkish German rappers voice larger questions of transnational identities and agency which deserve to be on the record. Mentor: HELENA WADDY, HISTORY

Shakespeare and the Elements: Cosmology and the Forms of Human Limitation in the Plays

WILLIAM PORTER

Shakespeare wrote at a time generally thought to mark the beginning of a "modern" way of thinking--particularly, given proximity to the advent of the scientific revolution and an increasingly humanistic worldview--about individual selves and their relation to the cosmos. Of course, the transition in terms of breaks and continuities is never so clear: my project

explores various ways Shakespeare uses the tensions produced by changing and competing worldviews to create his works. I examine a variety of plays in terms of human possibility and limitation, particularly in relation to the natural world. For this presentation, I will give a general overview of my project as well as explain in greater depth one section, in which I look at the roles and significance of the pirates in *Hamlet*. Mentor: RONALD HERZMAN, ENGLISH

2G • SCHOOL OF EDUCATION

SOUTH HALL 340

L.I.V.E.S. Program

FACULTY SPONSOR & SESSION CHAIR: ELIZABETH HALL, SCHOOL OF EDUCATION

Strengths and Struggles of Being a Freshman

ANDREW SASS, PATRICK CHMELA, ELIMARY VASQUEZ, MARIELY VASQUEZ, CAITLYN FRIEDMAN, LAUREN DALY, KEITH HOLMES

Students in the Freshmen Class of the L.I.V.E.S. Program, a program for students with moderate to severe intellectual and/or other developmental disabilities on campus, surveyed more than 100 Geneseo college (freshman - seniors) students on "What were your strengths and struggles when you were freshman?" The students in the LIVES Program then compared their strengths and struggles to those of Geneseo's regular college students. The results of the survey showed that the both populations of students had many of the same struggles and few of the same strengths. The results of the survey will be shared.

The Next Step in College-Advocating for One's Self and Selecting the Right Path

TYLER GERACI, ANDREW MACDONALD, ELLEN BEISHEIM, NATHAN CLOUGH, FRED YOUNG, MELISSA PRICE, CHRIS SCHEIB, KRISTA COBURN

Students in the Sophomore Class of the L.I.V.E.S. Program, a program for students with moderate to severe intellectual and/or other developmental disabilities on campus, surveyed more than 100 Geneseo college (freshman - seniors) students on "Life After High School: Determining the Next Step in College". Students developed a survey about advocating for oneself and how to determine the next step in college, what classes to take, how to be successful in college classes, what strategies helped them to be successful learners, etc. The Sophomores will share their experiences about auditing some of Geneseo's college classes, how they selected the classes and strategies that were successful for them. Next they will share the results of their survey, are some of the strategies they use(d) the same as Geneseo's regular college students and how they selected their classes with the help of some of their college mentors and peers.

What the Future Holds: Looking Ahead to Life After Graduation

JOHN FEIDNER, DUSTIN FREDERICY, JEWELLY SPARKS-SPENCER

Students in the Junior Class of the L.I.V.E.S. Program, a program for students with moderate to severe intellectual and/or other developmental disabilities on campus, surveyed more than 100 Geneseo college (freshman - seniors) students "Employment and Advocacy". The Juniors are beginning their internships around campus. They will discuss employment opportunities available to them both on and off campus, their hopes and dreams, and how the L.I.V.E.S. Program has enabled them to expand job opportunities to them. They will also share how they have advocated for their choices, strengths and struggles in their employment decisions and that the future holds for them job wise. The students in the LIVES Program surveyed over 100 Geneseo students to see how they set about determining what career path they wanted and how they went about making that path a reality. The L.I.V.E.S. students will provide tips and suggestions based on their experiences and what they gathered from their research.

My Journey Through L.I.V.E.S.

FACULTY SPONSOR: DANIELLE EVERTS
KALEB KING

In the presentation, he will be discussing himself, who he is, and what he did before he joined L.I.V.E.S. program. He will discuss about why he joined the L.I.V.E.S. program. He will discuss what he experienced through the L.I.V.E.S. program. He will also discuss what he will pursue after leaving the L.I.V.E.S. program.

Preparation for Obtaining a Job

FACULTY SPONSOR: DANIELLE EVERTS
HANNAH BROWN, JUSTINE DELUCA

I want to discuss the process of how myself and my peer have gone about to prepare for our future. I want to discuss surveys I took of the student body of the SUNY Geneseo campus, of how they prepared for their future and what they did. I want to share ideas of how to set yourself on the path to success of finding a job.

2H • ENGLISH MOVED TO 4T

2I • ENGLISH WELLES 132 Between Centuries: Where Medieval Literature Comes From

FACULTY SPONSOR: GRAHAM DRAKE, ENGLISH
SESSION CHAIR: CLARISSE BIRKBY

Ovid's "Tale of Philomena" According to Gower's Medieval Sensibilities

GABRIELLE TIEDE

This paper discusses various changes Gower made to Ovid's "Myth of Teresius, Procne and Philomene" in his *Confessio Amantis*. In Medieval culture, the nightingale was understood to be a symbol of innocent, romantic love. With this in mind, Gower has to dance around the fact that this symbol crops up in a myth filled with violence, rape and cannibalism. To this end, in Gower's version of Ovid's myth Philomene does not participate in the butchering of Teresius' son thus making her align more closely with the innocence of the nightingale.

Additionally, Gower grants Philomena's transformation much more attention than the other two, expressing her sorrow at the loss of her virginity but also her joy that she is now a nightingale and does not have to endure shame and censure from society. Another change Gower made to Ovid's original was to inject the story with allegory, which was at the time extremely popular literary device. Specifically, Gower in his telling, shifts the focus from gory description to the moral discourse and symbolic meaning.

The Beowulf and Arthurian Tragedy: A Literary Analysis of the Death Scenes of Lancelot, Arthur and Beowulf Within the Works *Le Morte Darthur* and *Beowulf*

ASHLEY ALLEN

Based on the concept of Fortune's Wheel, as presented Beothius's *Consolation of Philosophy*, the unknown author of the epic poem *Beowulf* and Thomas Malory (within *Le Morte Darthur*) both used the upturning of fortune to display the tragic event of a beloved hero lost. Using the elements of fate, praise, and betrayal, both authors play up tragic feelings within the death scenes of three heroes: Sir Lancelot, King Arthur and Beowulf. All three men came from immense nobility, riches, and popularity within their ruling kingdoms. Yet in their last moments of life; each man was alone, without their prized possessions and without an army or battalion behind them. By analyzing the death scenes of both the epic poem *Beowulf* and the work *Le Morte Darthur*, each character is signified by their high fortune and status as well as their descent towards the "bottom rung" in the event of their death.

2J • ENGLISH WELLES 133

Heard@Geneseo

FACULTY SPONSOR: BETH MCCOY, ENGLISH
SESSION CHAIR: MICHAEL ROFF

Singing Hero: Solutions to American Aging

MICHAEL ROFF

We are not able to transcend time. Nevertheless, the social isolation, disengagement, and depression that accompanies aging in America is no immutable fate. This presentation will identify the myths, biases, and assumptions typical to American aging, and how Heard@Geneseo--a student organized oral history project--is transforming Geneseo's aging climate, one story at a time. Attendees can expect to learn more about American aging and how Heard@Geneseo's grassroots initiatives can be modeled at a smaller scale.

The Making of a Narrative

MELISSA VETRANO

Courage was originally defined as "to tell the story of who you are with your whole heart." Yet for many senior citizens, their stories go unheard. This presentation is an opportunity to listen. It will focus on the life stories from of citizens in the Geneseo community recorded by Heard@Geneseo, as told by the students who interviewed them. Attendees can

expect to hear more than just stories, though. Presenters will demonstrate, through narratives of their own, how generational, educational, and situational gaps can be bridged through storytelling.

From Page to Pixels, with Terabytes Between

CHELSEA BUTKOWSKI

Most of us are used to reading stories from printed pages, yet the digital media revolutions offers new and exciting ways to access narrative. This presentation will focus on how narratives recorded from Heard@Geneseo have been adapted to different audio and visual mediums. Presenters will describe the drawbacks of digital media, specifically generational gaps, and how to navigate around them in digital media endeavors. Attendees can expect to learn about internet liability and copyright, how to preserve stories and voice through digital media, and how Heard@Geneseo has applied these tools to their own audio recordings.

2K • HISTORY STURGES 108

Fracking and Its Consequences: Part 1

FACULTY SPONSOR & SESSION CHAIR: JORDAN KLEIMAN, HISTORY

The Hydrofracking Process and its Effects on Public Health: The Unaddressed Human Impact of Unconventional High Volume Slick Water Hydraulic Fracturing

MATTHEW BOWER, ALLISON HOPPE

Although Governor Patterson issued an executive order stating that both the environmental and health impacts of hydraulic fracturing should be covered by the Department of Environmental Conservation's (DEC) Supplemental Generic Environmental Impact Statement (SGEIS), the human health aspect has been largely neglected. Unconventional natural gas extraction has been touted by the hydrofracking industry as a clean and efficient bridge fuel to facilitate the transition from traditional coal and oil-dependent energy production to carbon neutral sources (e.g., wind and solar technology). However, independent scientific research has provided convergent evidence that the hydrofracking process is highly correlated with negative human health effects ranging from rashes to asthma to cancer. The results have shown that the negative health consequences correlated with hydrofracking have been associated with various stages of the procedure, including gas and water transportation, water and air pollution, gas extraction, and waste management. Before high-volume slickwater horizontal hydraulic fracturing is allowed to proceed under minimal regulation in the United States, further research on the human health impacts resulting from all activities associated with the process must be conducted. Our presentation will address the growing debate regarding the hydrofracking procedure and its impact on public health.

The Potential Cost of Fracking Traffic on Affected Communities

BRIDGET KELLY, AMANDA LANIK

Geologists have long known about the existence of vast quantities of natural gas trapped within black shale formations, however it was not until recent technological advances that it has become economically profitable to extract this shale gas. The main technological advance that enables the extraction of natural gas from deeply buried shale units is the combined usage of horizontal drilling methods and hydraulic fracturing, which has been termed high volume slickwater hydraulic fracturing or fracking. One way in which this unconventional drilling differs from conventional vertical drilling is that it requires far greater volumes of fracking fluids. These new developments in shale gas extraction require approximately 4,000 truck trips per well. According to recent estimates by the New York State Department of Transportation, this increase in heavy truck traffic could cost the state and local communities up to \$378 million annually. In addition to these monetary costs, communities may experience additional detrimental side effects due to traffic increases. Road use agreements and laws negotiated between oil industries and communities offer an opportunity to minimize this socialization of costs. How effective these are in protecting local communities can be examined through case studies in areas that have already undergone fracking.

The Impacts of Hydraulic Fracturing on Air Quality

MELANIE WIEDERHOLD, LAUREN BOMEISL

Our presentation will be on the effects of hydraulic fracturing on air quality. We will address the issues of what chemicals from gas drilling operations can pollute the atmosphere, and the human health and ecological impacts associated with these chemicals. We will explore the mechanisms of how these chemicals can enter the air, such as from wastewater evaporation pits. Many of the chemicals used in fracking fluid are highly toxic, even at low concentrations, and have the potential to inflict devastating and irreversible harm on those who are exposed to them. One specific example that we will address is the emission of ground level ozone, which is known to burn lung tissue and cause asthma and other chronic respiratory diseases. We will also treat carbon dioxide and methane emissions as air pollutants and look at their implications in global climate change. This presentation will show that hydraulic fracturing in has the potential to ruin air quality for Western New Yorkers on multiple levels.

2L • MATHEMATICS 2 **NEWTON 201**
 FACULTY SPONSOR & SESSION CHAIR: JEFF JOHANNES, MATHEMATICS

The Competitive Map Coloring Game

SIM SIRIPHANH

The map coloring game was created by a game theorist named Steven J. Bram and published in 1981. Within this game, two players take turns trying to color a map without having two adjacent regions be the same color, while only using a

limited amount of colors. One player will try to color the map properly, while the other player will try to reach a bad partial coloring, in which the map cannot be colored another further without coloring two adjacent regions the same color. The game was designed to try to prove the Four Color Theorem, but the game was unsuccessful. But it has brought up another question, "What is the fewest number of colors needed to be able to win the competitive map coloring game?" Within this talk, I will be discussing strategies to reach a proper coloring of the map and the findings and questions raised by the game.

The Implications of Computers on Mathematics

AARON WOHL

In recent years, computers have helped aid mathematicians prove past theorems that were thought to be impossible to prove. In this talk I will discuss the first computer aided proof, the four-color theorem, and how it changed the notion of a proof. We will consider whether or not a theorem has been proven even if no one can read its proof.

The Mathematics of Moneyball

THOMAS GORDON

Statistical analysis has become quite commonplace in the world of baseball. This talk will go behind the numbers and explain the mathematics behind the Moneyball Theory.

An Analysis of Polynomials of Degree 4 and of Degree 5

BENJAMIN PATRZALEK

In beginning to intermediate levels of Mathematics, much emphasis is placed on Quadratic and Cubic Polynomials. While such is worthwhile, it is through the analysis of the Quintic and Quartic that one is able to begin to fully comprehend their scale. We will go through the patterns of both degrees; ultimately our goal is to discover what makes Quintic polynomials so especially unique from the rest.

2M • PHILOSOPHY **STURGES 112**

The Problem of External World Skepticism

FACULTY SPONSOR: WALTER SOFFER, PHILOSOPHY
 SESSION CHAIR: MATTHEW CORDELLA, PHILOSOPHY

G.E. Moore's Anti-Idealist, Common-Sense Philosophy

OSCAR BALLOVERAS

In response to the problem of external world skepticism, G.E. Moore's common sense philosophy shifts the burden of proof from philosopher whose position is being attacked by the skeptic, to the skeptic. This response to the epistemic problem of external world skepticism also has important implications for arguments surrounding epistemic idealism.

Heidegger's "Being-in-the-World" and the Problem of External World Skepticism

CAMERON PERRY

Heidegger's philosophy stressed the primacy of the question of Being. His phenomenological argument for Being as "Being-in-the-World," -- if we accept it, has important ramifications for epistemology, and dissolves the problem of external world skepticism.

No(zick's) New Solutions to the Problem of External World Skepticism

MATTHEW CORDELLA

Robert Nozick argues that, by denying knowledge to be closed under known logical entailment, it is possible to formulate an externalist epistemology that solves key elements of the problem of external world skepticism. I argue that Nozick's non-justificational epistemology actually commits him to a more global version of skepticism, and that it is ultimately unmotivated, offering no new insights.

2N • moved to 3T

2O • POLITICAL SCIENCE & INTERNATIONAL RELATIONS

WELLES 24

Health Care Policy in the United States

FACULTY SPONSOR & SESSION CHAIR: MARILYN KLOTZ, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

Planned Parenthood's Fight for Funds

SOPHIE FITZSIMMONS-PETERS

This thesis will take a look at the role that federal funding plays in the functioning of non-profit organizations, with a focus on Planned Parenthood as a necessary recipient of such funding. While state funding and private donations both play a large role in supporting Planned Parenthood, they are insufficient to ensure that affordable health care services continue to be provided by Planned Parenthood. The influence of the economy and politics on such funding sources create an unstable base of support, and many Planned Parenthood affiliates have been forced to close. As the nation's leading reproductive health care provider and advocate, Planned Parenthood has become too important to risk further closures. While the national government has no constitutional authority over health care, federal government funding is necessary to ensure these services based on gender theory, rather than on ideology alone. In order to establish gender equality and equal participation in government, equality of health care must be provided, and therefore advocates of women's health, such as Planned Parenthood, are vital to the goals of our democracy.

Medical Liability Reform in the United States: A Comprehensive Approach to Medical Error

JAMES MULLER

For decades policymakers have been unsuccessful in their attempt to create reform in the medical

liability system. Failed attempts in statutory reform derive from a lack of consensus on defining the problems in need of reform. Additionally, for every identified problem, there is no agreement on the policies that should be adopted to minimize medical error and handle compensation. This paper clarifies misconceptions about medical liability; considers points of agreement among scholars and policymakers; and evaluates some of the popular contending reform options. Finally, this paper concludes by offering a recommendation to policymakers on what statutory reform ought to resemble if it is to adequately protect patients and reduce healthcare costs.

The U.S. Food and Drug Administration's Regulatory Role: Reconciling Pharmaceutical Industry Interests with Public Health Needs

DONNA HANRAHAN

The American public is rapidly losing faith in the pharmaceutical industry. This paper sets forth to analyze the relationship between the Food and Drug Administration (FDA) and the U.S. pharmaceutical industry, particularly the dissonance between commercial profit and public health good. Bearing in mind the primacy of public health to industry demands, the FDA must undertake sweeping changes to restore public trust, to ensure greater access to medicine, and to guarantee safe use of pharmaceutical products for America.

2P • SCHOOL OF BUSINESS 1

SOUTH HALL 338

SESSION CHAIR: LEONIE STONE, SCHOOL OF BUSINESS

Corporate Governance and Equity Performance: Do Shareholder Rights Matter?

ZUBAIR DAWOOD

FACULTY SPONSOR: LEONIE STONE, SCHOOL OF BUSINESS

The study creates a composite measure of corporate governance, based on a dataset provided by Institutional Shareholder Services. The composite measure encompasses four categories: Audit, Board, Compensation, and Shareholder Rights. The composite is related to operating performance and valuation for 3912 firms. The literature shows that good governance, as measured using compensation is most highly associated with positive equity performance. Firms with stronger shareholder rights had higher firm value, higher profits, and higher sales growth.

Impact of Intrinsic and Prosocial Motivation on Creativity

EVAN PALMER, ORLA KERR, TALIA CHILLEMI, KRISTIN CLAUSS

FACULTY SPONSOR: AVAN JASSAWALLA, SCHOOL OF BUSINESS

Motivation is a problem faced by all members of society. It is how we push ourselves and others we work with that helps innovation and creativity to flourish. Looked through a management perspective, this presentation will look at how

managers can increase employee creativity and performance through intrinsic and prosocial motivation. These two critical types of motivation focus on empowering the employee and generating internal motivation. By fostering prosocial motivation in the workplace, intrinsic motivation will result and creativity will follow.

Fed Challenge Presentation

PATRICK DANIELS, EMMETT O'BRIEN, RAJAN BURATHOKI, NAM VU, ANTHONY PROEITTI, MIKE TENENBOYM, MATTHEW HAYES, CAROLINA LLANOS, DAVID CEELY

FACULTY SPONSOR: LEONIE STONE, SCHOOL OF BUSINESS

The Fed Challenge Team will be giving a presentation on Policy (fiscal/monetary), Housing, Labor, International, Occupy Movement (why people are mad/does it matter?), Debt/Entitlements, GDP and Inflation

2Q • SOCIOLOGY MILNE 109

Studies in the Sociology of Religion

FACULTY SPONSOR & SESSION CHAIR: STEVE DERNE, SOCIOLOGY

Interactions Between the Religious Sphere and the Sphere of the State

KATIE DUKARM

Sociologist Max Weber argues that the religious sphere of life conflicts with other spheres of life, like the state. Weber believes that the religious ethic of neighborliness clashes with the sphere of the state, which causes an internal conflict for many people. Weber describes the religious sphere as peaceful and loving, whereas the state is a harsher, more rational entity. Because these two spheres of life are opposites for Weber, it is often difficult to understand how they may be able to intersect. Weber defines the state by its pursuit of a monopoly of the legitimate use of violence. Since the military is controlled by the state, it is easy to assume that its primary mission would be to pursue a monopoly of the legitimate use of violence. The Civil Affairs branch of the United States Army focuses on civil-military operations, and its primary mission is to work with civil authorities and civilian populations overseas to lessen the impact of military operations on them during peace, contingency operations, and declared war. My analysis of the Civil Affairs branch of the United States Army shows that the religious sphere and the sphere of the state can indeed intersect without causing conflict.

The Disenchantment of Our World - Do Religion and the Intellectual Sphere Coexist?

CONNOR HUGHSON

Max Weber theorizes that religion conflicts with the intellectual sphere of a society. He states, "The fate of our times is characterized by rationalization and intellectualization and, above all, by the 'disenchantment of the world'." (McIntosh p.155) He is saying that intellectualization has made religion an irrational thing, and that because it is

irrational the values associated with religion are also pushed aside. However, Weber neglects those who may be scientifically minded, such as doctors or scientists, but are also religious. Is it possible to be rationally minded, and still believe in God? A biography of Stephen Hawking, a prominent scientist of our time, shed some light on this question. I read a biography about his life, making note of any reference to religion or God either in his life or people close to him. I found that Stephen Hawking provides support for Weber's theory. Hawking does not believe in any sort of God. In fact, he works to disprove the idea through his scientific research. Although support for Weber is provided in this instance, it is important to note that my research consisted of one case study only.

Disaster in Japan Leads to the Formation of Religious Convictions

KIMBERLEY GALLUCCI

Clifford Geertz argued that the rituals that people engage in are what generate religious conviction. One thing that he did not take into account was that there are other possible ways for religious conviction to be formed. For instance, disasters in an individual's life could lead to the formation their religious conviction. The Tsunami in Japan was a terrible disaster that was all over the news. While reading about the disaster in articles I found on the internet, I came across the article "After Tsunami, Japanese Turn to Ancient Rituals", written by Barbara Hagerty. In the article, Hagerty discussed how in those terrible times, many Japanese people found comfort in ancient Buddhist beliefs. This article provided information that proved disaster could play a role in forming one's religious conviction.

Religion, a Source of Disunity?

ALI ROHAN

To Durkheim, religion's purpose is to unify people. It may be true that religion unifies in some cases, however, it seems that Durkheim neglects to mention the fact that religion may not unify in all cases. In fact, religion may actually divide some people. In studying Durkheim's potential disparity about religious unity, I conducted a study using the method of personal introspection. I utilized a journal-type document I had created a few years earlier. I analyzed the document, looking for anything related to my feelings of being part of a group or of being outcast from one. Overall, I found that during the course of my study, any mention of unity in the document relating to religion referred to me feeling like I was not unified. The results of my study corroborated the idea that religion doesn't always unify people. My study was beneficial insofar as a single personal introspective study can be, and the topic would benefit from further study.

2R • INTERDISCIPLINARY: CHEMISTRY, MATHEMATICS, PHYSICS & ASTRONOMY

NEWTON 209

SESSION CHAIR: BETSY COLON, GRANTS MANAGEMENT

Quantum Dots: Lighting the Future

MICHAEL RUGGIERO

FACULTY SPONSOR: JEFFREY PETERSON, CHEMISTRY
Quantum dots (QDs), spherical inorganic particles with sizes ranging from 2-50 nanometers, are a popular class of nanomaterials, with unique optical and electrical properties as compared to traditional luminescent materials. These properties are a strong function of the QDs size and enable their use in a wide variety of applications, including solid state displays, biological imaging, and quantum computing. Cadmium selenide (CdSe) and lead selenide (PbSe) QDs of various sizes were synthesized and optical characterization was performed. Methods were investigated regarding various reaction reagents and conditions in order to produce high quality, monodisperse samples with high reaction yields. Samples were characterized at room temperature using absorption and fluorescence spectroscopies. Detailed studies of their electronic structure were completed by obtaining photoluminescence excitation (PLE) spectra at cryogenic temperatures. The results, as well as an overview of QDs and nanotechnology, will be discussed in detail.

A Tale of Two Geometries: A Comparison of Euclidean and Spherical

MEGAN CULLEN

FACULTY SPONSOR: EDWARD WALLACE, MATHEMATICS

Most of us learned geometry based on Euclidean's theories of geometry. One such theory is that the sum of the angles in a triangle must add up to 180 degrees. Our basis for this is the Euclidean Parallel Postulate, as reworded by Playfair, "For every line and every point P not on, there exists a unique line that contains P and is parallel to." But what happens if we assume that there are no parallel lines? We enter a new realm of geometry, an example being that of the sphere. Will the sum of the measures of the angles in a triangle on a sphere still add up to 180 degrees? My presentation will compare these two geometries and zero in on surprising results of spherical geometry.

Ongoing Meteorite Studies Using Proton Induced X-ray Emission and Scanning Electron Microscopy

COLLIN STILLMAN

FACULTY SPONSOR: DAVID MEISEL AND CHARLES FREEMAN PHYSICS & ASTRONOMY

Meteorites from around the world show an amazing variety of types. Among these are claimed to be samples of lunar and Martian rocks most of which, until recently, have been found in Antarctica. At least one verified Martian meteorite has been found in Morocco along with other suspected meteorite varieties. Such objects are designated broadly as Northwest Africa (NWA) types including very rare specimens that sell for up to \$15,000 per ounce. But in every lot of "NWAs" imported "big-bags" there seem to always be terrestrial rocks mixed in among the meteorites. Available at Geneseo are two complimentary techniques [thick target Proton Induced X-ray Emission (PIXE) on the

Pellatron accelerator and EDS (Energy Dispersive Spectrometry) on the SEM, scanning electron microscope] capable of separating meteorites from pseudo-meteorites. We are working on a donated set of imported objects from Morocco and once a sample is confirmed as extraterrestrial, it will be analyzed for heavy element abundances using thin target PIXE as well as specifying its precise mineral content using the SEM.

Human Gait Analysis

JOHN DRAZAN, ADAM SCHNACKENBERG

FACULTY SPONSOR: STEPHEN PADALINO, PHYSICS & ASTRONOMY

An experiment was performed to develop metrics to analyze the human walking gait. Two Vernier FR-BTA force plates were used to take force vs. time data as subjects walked across the two plates. This process was repeated multiple times for each subject. Video was taken of each walking trial. Using Tracker video analysis software, the positions of the subject's toes, heels, knees, and the nearer shoulder were recorded for each frame. Using a HeNe laser and a Vernier LS-BTA light sensor a photo gate was created. The photo gate allowed for the synchronization of the force data with the video and positional tracked data. Using Matlab, a stick-figure animation of the subject was created from the positions of the tracked data. This stick figure was synchronized with the force vs. time data acquired from the force plates. This new visualization method allowed for deeper analysis of the relationship between the force profile of the step and the physical movement of the body. Funded by the Department of Physics.

2S • SERVICE LEARNING & GLOBAL AWARENESS

WELLES 134

SESSION CHAIR: CELIA EASTON, RESIDENCE LIFE

Too Young to Wed: The Impact of Child Marriage Around the World

KLARISSA GARCIA, KAWAI WONG, MAYA SHAH, MARYSABEL GOMEZ, KARINA MORALES, NANCY BRITO, SHANNON BUTERA, SHAINA SMITH, MARIA-GRATIAS SINON, BRIANNIE CASTILLO, LEYDI BASILIO, TENZIN CHOEDON, NIA GUMBS, CYNTHIA JAQUEZ, CHIKAMSO ODUME, AMY GALEANO, REBECCA TOY, RACHEL KEHI, RACHEL KEHINDE, TIFFANY STEPHENSON, TARYN BURRIS, ARIEN TUCKER, AWA GAYE

FACULTY SPONSOR: PATRICIA GONZALEZ, ACCESS OPPORTUNITY PROGRAM

Over the next decade, 100 million girls under the age of 18 will marry. Child marriage impacts girls throughout the world, including the United States. While child marriage is caused by cultural, social, economic, and religious factors, the impact on girls is detrimental. According to the UNICEF Convention on the Rights of the Child, all children should have the right to an education, the right to be protected from physical and mental violence, injury or abuse, and the right not to be separated from parents against the child's will, among other rights. Child marriage often violates these rights. The Women's Leadership Institute (WLI) advocates for women and girls locally and globally, and has chosen Child Marriage as its advocacy issue for this year. WLI will

present public service announcements to create awareness on the impact of child marriage around the world.

Humanities and Service Learning in Nicaragua

JENNIFER GROM, LAUREN WHITE

FACULTY SPONSOR: WES KENNISON, STUDY ABROAD

This session will offer two presentations featuring Geneseo's partnership with El Sauce, Nicaragua. The first presentation will focus on Humanities II in Nicaragua. The second will explore the development of our service learning experience. The discussion will draw connections between the reading of great books in the developing world and the discovery of appropriate strategies for service in building long-term global partnerships.

Service Learning in Haiti: An Inside Look at Grassroots Community Development

GRACE TROMPETER, STEPHANIE KELLY, HAYLEY MARTIN, MICHAEL MATTIUCCI, TYLER SCHWAB
FACULTY SPONSOR: WES KENNISON, LANGUAGE AND LITERATURES

This presentation follows the experiences of five students who travelled on an inaugural service-learning trip to Borgne, Haiti, a community partner of Geneseo. Borgne is a rural and mountainous community on the Northern coast of Haiti and faces many problems that stem from its geographic isolation and lack of basic infrastructure. We worked with a grassroots community development organization, called Haiti Outreach Pwoje Espwa (H.O.P.E.), which partners with community organizations in Borgne to help serve the needs of the community. We met with organizations working on projects in health, education and economic development. We will be presenting a collaborative paper, which includes reflection on how we fit into the community, education and the mobile teacher program, health behavior change, community health and the mobile clinic program, and the role of undergraduate students in community development work.

Geneseo Interfaith Service Project: Diversity, Dialogue, and Sustainability

SARAH DZARA

FACULTY SPONSORS: CELIA EASTON, GENESEO INTERFAITH SERVICE PROJECT AND THOMAS MATTHEWS, GOLD

GISP, The Geneseo Interfaith Service Project, is part of a national conversation called by the White House to encourage interfaith dialogue and community service. Rooted in Geneseo's Center for Community, GISP has involved many students, faculty, staff, and community members over the 2011-12 academic year in gatherings that address the diversity of religious and non-religious traditions on campus. GISP has also sponsored talk and action on Geneseo's particular interest, the environment and sustainability. This presentation will describe GISP's goals and several of the events that students

have worked on to meet those goals this year, from theatrical productions to a dialogue about environmentalism and Islam, Judaism, Christianity, and Native American traditions.

2T • THEATRE AND MUSICAL

THEATRE BRODIE BLACK BOX

Senior Projects

FACULTY SPONSOR & SESSION CHAIR: MELANIE BLOOD, ENGLISH

Bringing to Life the Art Form of *Commedia Dell'Arte* in

Contemporary Musical Theatre BRIAN CLEMENTE

One of the first precursors of modern theatre as we know it is the *Commedia Dell'Arte* which roughly translated means "comedy of the craft" or "comedy of craft of improvisation". Rarely performed anymore, this art form is the basis for not only contemporary theatre but the concept of "comedy". In the modern musical *The Glorious Ones* by Ahrens and Flaherty, the art form is explored through the formation of the earliest known *Commedia* troupe, led by real life impresario Flaminio Scala. Discussions will include and be followed by selections from *The Glorious Ones*, with the following cast: Flaminio: Taylor Walders Armanda: Alyssa Conte Columbina: Erin Donovan Pantalone: Greg Maddock Dottore: Sean Leigh Francesco: Jacob Stewart Isabella: Ali Marshall Pedrolino: Shawn Ward

Be Your Own Person

PAUL NARDONE

Nardone will perform a section of *I Am My Own Wife* by Doug Wright, recently performed as part of the Queer Theatre Festival, in which newscasters are hounding Charlotte and she proclaims her famous words "I am my own wife" and she discusses the furniture in her museum collection. Regarding furniture, she explains why she doesn't throw anything away or repair anything broken; the pieces are valuable for their history. Nardone will also talk about the challenges of performing forty characters, and discuss the influence of topics from Anthropology meshing with the script and his research on it.

Student Musical Direction: Challenges and Rewards of Creating a Show with Limited Resources

KATELYN HEARFIELD

Hearfield will discuss the challenges faced as a first time Musical Director of a staged musical (*The Glorious Ones* by Ahrens and Flaherty) and how it compared and contrasted with previous experience teaching and creating music with other groups. More specific challenges included the variety of levels of experience within the cast regarding learning music and singing, adapting the show to a small stage, meaning a full orchestra was not possible, and finally finding a way to enhance the concept and the story through the music.

2U • CULTURAL EXPLORATION

(moved from 3S)

STURGES AUDITORIUM

SESSION CHAIR: TAYLOR SOLANO

Iaido – The Art of Japanese Sword Fighting

CALLA GOEKE

FACULTY SPONSOR: CLINT CROSS, PHYSICS & ASTRONOMY

Iaido is an ancient Japanese sword art based on drawing, cutting, and returning the sword in one smooth motion. It has a very long and interesting history, and is one of the oldest martial arts still in existence. Practitioners of Iaido are exposed to cultures and values of a people not their own, and practice Iaido to improve their own selves. The SUNY Geneseo Iaido Club is a relatively recent development, but every student that has so far joined our club has not walked away unchanged.

Sláinte Irish Dance

MEAGHAN KELSEY, MARIA BLATNER, CARA HALLAHAN, BETHANY MARTONE, EMILY MECI
FACULTY SPONSOR: PAUL MCLAUGHLIN, SOCIOLOGY

Sláinte Irish Dance is a new Irish dance performance group on campus. The girls performing for GREAT Day are accomplished dancers on the regional, national, and international level. Our goal is to mix traditional Irish culture with modern cross-cultural influences to develop a unique performance style of Irish dance. For our GREAT Day performance we would showcase our Irish heritage and talent for dancing.

CONCURRENT PRESENTATIONS 3 • 2:55 - 4:10PM

3A • ANTHROPOLOGY MILNE 105

Bridging Theory and Practice in Museum Studies: High Impact Learning Experiences and the Six Big Ideas

FACULTY SPONSORS: PAUL PACHECO,
ANTHROPOLOGY AND CATHERINE ADAMS, HISTORY
SESSION CHAIR: BRANDON ENG

Restoration and Research: Student Experiences at the 1941 Historical Aircraft Group Museum

DANA BESMANOFF, NICHOLAS FENIK, IAN
MACPHERSON

Student interns at the 1941 Historical Aircraft Group Museum work to manage the museum's collections, and interpret them to create effective exhibits. Tasks include registering items into a database and then storing them in decisive locations, researching items via the internet and through telephone conversations with donors, designing and creating displays with relevant information to each exhibit, and doing aesthetic restoration tasks on the museum's C-119 cargo plane. This project has

allowed students from various majors, including History, Anthropology, Communication, English, Art History, and Geology, to combine the skills they have each learned in the classroom with one another's, as well as to enhance a shared skill set in museum studies. It is intended that participants will leave the program with knowledge of how to work with historical material, design informative displays that are accessible to both the public and aircraft enthusiasts, and work as a community of self-starters in order to effectively complete all the tasks. This unique, hands-on opportunity affords students the opportunity to explore the practice of museum studies in a way that lets them bring the theoretical knowledge they have learned in the classroom to life.

From Milk Bottles to Lady Livingston: Intern Experiences at the Livingston County Historical Society

BRANDON ENG, JENNA FABRIZIO

The Livingston County Historical Society is an important local institution and repository of regional history. Two students including an Americorps worker and an intern will discuss their work in collections management, research, and education. The experience of inventorying,

cataloguing, and transferring records into the PastPerfect system combined with forays into object conservation synthesized a multifaceted work environment. The size and community education focus of the institution allowed involvement in public programming that exemplifies the goal of Strategic Community Partnerships. Such visitor outreach programs have brought Geneseo students in contact with the local community and educated them about their college town. A new exhibition this semester offered a chance to write wall texts and create new interpretive materials for docents. Establishing new pedagogical material for educators and docents demonstrates the interdisciplinary research opportunities in material culture and history offered by the institution. By bringing history, anthropology, and interdepartmental classes into the museum we've worked to promote local history, museum studies, and use and presence of the museum as a resource for academic research.

Historic Archeological Iroquois Artifacts: Intern Experiences at the Rochester Museum of Science Center LINDSAY GALL

I have devoted coursework to the anthropological study of Native American people. During an

fieldwork experience last summer, I applied my coursework to the excavation and preservation of artifacts recovered in the field. Artifacts eventually find their way to museums, where curators and collection managers care for them. I decided to follow the path of the artifacts, but also the path of Dr. Arthur C. Parker, the Seneca native and New York State Archaeologist who in 1924 became Director of the Rochester Museum and Science Center. He stressed a multidisciplinary approach to the "common man's university" and set the museum on both a social science and a natural science tract. As an intern working in the Historic Native Archaeological archives in the RMSC, I am able to put into practice my coursework in anthropology, museology, history, and geology. This hands-on internship has provided me with practical experience that will be a valuable tool for future employment.

3B • BIOLOGY & MATHEMATICS

NEWTON 203

Biomathematics and Modeling 2

FACULTY SPONSORS & SESSION CHAIRS: GREGG HARTVIGSEN, BIOLOGY AND CHRIS LEARY, MATHEMATICS

Modeling the Effects of Dynamic Disease Avoidance Strategies on Networks

NOAH DUKLER

Individuals exhibit the behavior best suited to preserve their well-being in a given situation. During an epidemic an individual may change their behavior to reduce the chance of infection based upon how severe they perceive the risk of infection to be. This model examines the consequences of individual's dynamic adoption of disease avoidance strategies based upon knowledge of their neighborhood's conditions. The precise conditions under which this occurs is contingent upon an individual's clustering coefficient (how well their neighbors know each other) and their degree (how many neighbors they have). The results suggest that all individuals must adopt highly effective disease prevention measures and be highly vigilant for there to be any change in the dynamics of the epidemic. The health policy implication of this model is that educating the public, while moderately useful with specific population structures, should not be counted upon as a public health measure to prevent disease transmission.

Population Dynamics Between Cape Fur Seals and White Sharks around Seal Island, South Africa

JOSEPHINE CHAMPLIN, JOSEPH BISCARDI, JILLIAN WOLF

In this study, we explore the interactions between Cape Fur seals, *Arctocephalus pusillus pusillus*, and great white sharks, *Carcharodon carcharia*, around Seal Island, South Africa. Our study assesses the predator-prey dynamics of the two species by examining factors that affect these populations, such as predation rates, growth rates and death rates. We created a differential equations model to simulate these populations; then, we utilized this

model to determine which parameters are most significant in affecting the stability of the system. By analyzing the Jacobian matrix, we found that the two populations possess a stable equilibrium point and that inclusion of overfishing of sharks caused instability of the equilibrium. By performing a sensitivity analysis to determine which parameters are most significant to the flux of the system, we can find a way to minimize the effects of overfishing on the white shark population through the implementation of conservation efforts. It is not practical to consider the possibility of eliminating overfishing; thus we focused only on the predator-prey interactions between the seals and sharks.

Coral Reefs, Algae, and Herbivores: Returning to Prosperous Stability

JOHN CUSHMAN, HANNAH MILLER, TREVOR PEGLOWSKI

Coral reefs are among the most productive and complex ecosystems on Earth. Algal growth on the surface of corals harms the corals, but the sea urchin species *Diadema antillarum* and the redband parrotfish species *Sparisoma aurofrenatum* consume these algae, which promotes coral growth. From 1982 to 1984, a disease decimated the population of *D. antillarum*, causing the algal population to rapidly increase, while coral area plummeted. Today, in Jamaica's coral reefs, overfishing of *D. antillarum* and *S. aurofrenatum* has again dramatically reduced the coral cover. Using past recorded interactions among coral, algal, *S. aurofrenatum*, and *D. antillarum* populations, we have developed a difference equation model, which predicts that, given the current fishing activities and the population size of the species, coral cover will be driven to an unrecoverable state without introducing herbivore species and reducing overfishing. The model suggests that coral and algae cover can return to a stable equilibrium if a larger population of herbivores is introduced. Along with reduced fishing, this intervention could return coral reef ecosystems worldwide to biological stability and economic prosperity.

Zombie Ant Graveyards: Modeling the Spatial Distribution of Ants Killed by the Fungus *Ophiocordyceps Unilateralis*

JARROD LAFOUNTAIN, MICHAEL ARCURI, BRYAN RIDALL

Ophiocordyceps unilateralis is a fungus which affects tropical *Camponotus* ants by altering their behavior pre-mortem to benefit the fungus post-mortem. A 2009 study measured the locations of ants killed by this fungus in several 100 m² plots. High density regions, deemed graveyards, were observed and were attributed to specific environmental factors i.e. humidity, vegetation density, and proximity to host nests. A stochastic model was developed to test the interplay of these environmental factors. Healthy ants walk along a path in a two-dimensional world populated with fungal spores. If parasitism occurs the ant randomly wanders, dies, and further disperses spores. The model landscape incorporates heterogeneity in habitat quality for both fungus and ants. Our results

were found to match the densities found in the paper, suggesting that environmental factors drive the production of these densities. It was also found that the fungus and ant relationship is consistent with Lotka-Volterra dynamics, indicative of a stable biological parasite-host system. This model helps to explain the odd relationship between a fungal parasite and an insect host and could be applied to understand slave/slavemaker behavior in other relationships.

3C • COMMUNICATIVE DISORDERS & SCIENCES

WELLES 26

Language Sample Analysis

FACULTY SPONSOR & SESSION CHAIR: ROBERT OWENS, COMMUNICATIVE DISORDERS & SCIENCES

Language Sample Analysis

CAROLYN MAHON, STEPHANIE HALVAX, MARGARET WAYNE, SARA CARVER, ALYSSA CAVALLARI, MARY COBLE, KRISTIN DIDONATO, ALANNA EGAN, ANNE HALSTEAD, SAMANTHA HARTNETT, KELSEY HOGEL, KATELYNN IMAGNA, NICOLE KENNEY, SARA KORMAN, ALEXIS MAZZEO, KAITLYN RAFFE, KAITLYN RISBERG, JYL RISTAU, LAUREN SMITH, MARY-CLARE STOKES, ERIC TYLER, KRISTINA WHELPLEY

The present study sought to compare the time it takes to administer a standardized language test to the time it takes to collect and analyze a language sample. The test used was the CELF (Clinical Evaluation of Language Fundamentals) Preschool-2. Twenty-two students administered subtests of the CELF, including Sentence Structure, Word Structure, Expressive Vocabulary, Concepts and Following Directions, Recalling Sentences, Basic Concepts, and Word Classes to typically developing children ages 36 to 72 months. The same students collected and analyzed fifty-utterance language samples. They calculated total number of words (TNW), mean length of utterance (MLU), words per sentence (Wds/Sen), and clauses per sentence (Cl/Sen). These properties of samples were chosen based on previous studies and represent five years of SUNY Geneseo student research. The purpose of this study is to encourage the use of language sampling rather than relying on standardized tests for assessment of children with language impairments. Sampling provides a more in-depth description of a child's language capabilities in a more natural setting. The collection and analysis of language samples was on average twelve minutes faster than the administration and scoring of the CELF Preschool-2. This proved to be a significant difference, which reinforces the viability of language sampling.

3D • EDGAR FELLOWS WELLES 121

Edgar Fellows Miscellany V

FACULTY SPONSOR & SESSION CHAIR: OLYMPIA NICODEMI, MATHEMATICS

Simulation of Hexagonal Ceramic Armor

JACOB DESHAIES

My project involves exploring the advantages and disadvantages of a ceramic bead armor built out of hexagonal-shaped beads over an armor made up of cylindrical beads. This involves simulating an armor-piercing bullet hitting a section of the armor, both built in LS-PrePost, and reviewing the results. In particular, I will be examining the final kinetic energy of the bullet, the eroded mass of the beads, and the eroded mass of the bullets. Pictures of the different armors will be presented and highlighted, and the results will be overlaid in order to show the weak and strong points of each of the armors. Also, graphs of the resulting final kinetic energies, eroded masses, and possibly more will be provided to further examine the differences in the armor. I hope to show where the various energies involved in the collision went; specifically where, when, and how some of the energies were 'dissolved,' and which parts of the armor the rest of the energy ends up in and in what form. Ideally, the hexagonal armor will show fewer weak spots, as highlighted by increased bullet erosion and decreased bullet final kinetic energy at those locations. Mentor: JAMES MCLEAN, PHYSICS & ASTRONOMY

The Major Histocompatibility Complex: The Blessing and Curse of Immunity

CLARK DRISCOLL

The major histocompatibility complex (MHC) is a segment of DNA in vertebrate genomes that regulates how an individual recognizes self from non-self and the pathogens that infect it. Often, these parasites evolve new strategies to confuse or bypass the host, and in response the MHC has evolved in tandem to become the most diverse set of genes in vertebrates. With this diversity, hosts have a better chance of finding and obliterating parasites. Immunity comes with a cost, however. Great diversity in the MHC, most notably in humans, can result in various self-destructive autoimmune diseases, such as rheumatoid arthritis, Graves' disease, and even narcolepsy. A literature-based study was conducted to understand the effects of differential MHC variability on vertebrate species, as well as the instances of autoimmune diseases in populations relative to MHC diversity. With a greater understanding of the patterns of MHC and immunity in vertebrates, one might be able to extrapolate future patterns of disease in animal populations, especially in human populations, as the Earth's climate continues to warm. Mentor: ROBERT W. O'DONNELL, BIOLOGY

The Molecular Mechanism of the Catch Response in *Mytilus*

AARON IUPPA

Have you ever wondered what makes it so difficult to open mussels, oysters, and clams? The resistive force that often thwarts our efforts arises from a unique muscle state called "catch". When in the catch state, these organisms' muscles are able to maintain tension for several hours without expending much energy. This presentation will discuss the molecular mechanisms that underlie this phenomenon in *Mytilus*, a genus of mussels, and will present research investigating a hypothesized component of this mechanism - a particular

neurotransmitter receptor. Additionally, the practical significance of understanding this mechanism and the evolutionary and pharmacological implications that the identification of this neurotransmitter receptor would have will be discussed. Mentor: DUANE MCPHERSON, BIOLOGY

Toil and Trouble on the Trail of a Specifier Protein

BENJAMIN PETERSON

The myrosinase-glucosinolate system is a secondary metabolite pathway responsible for several defense mechanisms found in the plant family *Brassicaceae*, which includes broccoli, kale, turnips, and mustard seed. The products of this pathway also have important nutritional benefits, and is the basis of the nickname "functional foods" given to this plant family. Specifier proteins (SPs) are largely responsible for directing the type of product formed during this pathway, thus directing the plants defenses, as well as determining the nutritional value of the plant. In this project, I identified two putative SPs from the *Brassica rapa* genome database and cloned them into *E. coli*. Using the transformed bacteria and Gas Chromatography/Mass Spectroscopy, the directing effects of the SPs on the hydrolysis reaction were determined. The presence of the SP affects how the plant defends itself against various external evils, setting up future experiments that will be able to look at how the plant uses this protein under different environmental stressors in its fight to survive. Mentor: GEORGE BRIGGS, BIOLOGY

3E • EDGAR FELLOWS WELLES 123

Edgar Fellows Miscellany VI

FACULTY SPONSOR & SESSION CHAIR: OLYMPIA NICODEMI, MATHEMATICS

Ethics of Informed Consent in Difficult Medical Decisions: Spina Bifida Diagnosed before Birth

MAX JACOBSON

Spina Bifida is the most common birth defect in the United States. It involves improper formation of the neural tube early in gestation, normally causing severe handicapping below the waist, incontinence, and some mental limitations. In this presentation, we will examine a scenario in which a third-trimester fetus is diagnosed with *Spina Bifida*. The physician will be responsible for informing the mother and father in a meeting scheduled for the next day, and giving them the option of abortion or continued pregnancy. We will discuss the physician's responsibility as he or she discloses information to the parents, exploring some interesting ethical questions along the way. Must the physician tell every detail to the parents? Can the physician deceive or lie to the parents in any way? How can the physician comfort the parents as they face an extremely difficult decision? In addition, we will examine the major variables in the prognosis and address how the physician should convey them to the parents. Ideally, the physician's role is to help the parents make the best decision for themselves and for their potential child. We will

discuss a strategy for a physician to attain this result. Mentors: STEPHEN BEIN, PHILOSOPHY AND DAVID LEVY, PHILOSOPHY

Mathematical Model Creation for Tumor Growth in Advanced Neuroendocrine Pancreatic Cancer

KAITLYN GAYVERT

Advanced neuroendocrine pancreatic cancer is a rare form of cancer that has very limited treatment options. Recently two new, promising drugs were approved by the FDA for its treatment. These new treatments raise the need for identification of the right combination and scheduling of therapies that will have the best effect for the patient. Optimal control is often utilized to identify improved drug administration protocols through the use of validated mathematical models of the infection. Recent literature proposes ordinary differential equation models of malignant tumor growth and presents methods for parameter estimation and analysis of treatment options. These models are adapted to represent neuroendocrine pancreatic tumor growth through the addition of new terms to the differential equations and modified parameter values specific to this type of cancer. The parameter values are estimated using data available from clinical trials. Through the use of this model, an optimal treatment regimen with a specific drug combination and schedule is found that produces the greatest effect on the tumor size, while controlling harmful side effects. Mentor: CHRIS LEARY, MATHEMATICS

The Hunt for the Halogenase Gene within *Anaphalis margaritacea*

EUNWOO SHIM

Anaphalis margaritacea, also known as pearly everlasting, is a common plant found within North America. Native Americans have traditionally used its roots and leaves for their medicinal value. In recent years, researchers have isolated a curious thirteen carbon halogenated compound from *A. margaritacea*'s roots. Interestingly, halogenated compounds are rarely found in terrestrial plants; those found in other organisms, however, have demonstrated antifungal and antitumor properties. Because of the recent interest in halogenated compounds, halogenase genes, which are the "blueprint" for the enzymes that halogenate compounds, have become a new focus of interest. This project focuses mainly on isolating and extracting the halogenase gene from *A. margaritacea*. Mentor: ERIC HELMS, CHEMISTRY

Social Issues of Pharmacy

DANIELLE DAVIDE

Can you imagine a world in which even the most simple surgeries are considered too risky due to postsurgical infections? How about one in which all pharmacies have armed guards and metal detectors at every entrance? Or can you envision being counseled by your pharmacist on the proper way to take a medication so that it will end your life? These possibilities are not as far from reality as you might think. This talk will address these and other issues relevant to the future of health care. Mentor: DAVE GEIGER, CHEMISTRY

3F • SCHOOL OF EDUCATION

SOUTH HALL 340

Pre-service Teachers' Research on Literacy in the Classroom, Part 1

FACULTY SPONSOR: MARIA PERPETUA LIWANAG AND ANN MARIE LAURICELLA, SCHOOL OF EDUCATION
SESSION CHAIR: LAUREN FONTE

Learning about Reading through Eye Movement Miscue Analysis (EMMA)

LAUREN FONTE, ROSE HENDERSON, NICOLE SWIFT, MARIAH MARIENFELD, JESSICA CARL

This session will focus on pre-service teachers' understanding of eye movement miscue analysis (EMMA) methodologies in examining how people read various texts. Insights will be shared based on qualitative and quantitative analysis of eye fixation patterns and what these indicate about readers' reading strategies.

Drawing to Represent Meaning: A Multimodal Approach to Learning

ALEAH MARCAITIS, EMILY MURPHY, CAITLIN SULLIVAN, MARY SHEEDY, MEGAN KNITTER,

This presentation will describe an approach to understanding students' comprehension of a selected instrumental song as selected students represent their meanings through drawing. Results from this study and recommendations on how to incorporate creative forms of expressions in the classroom will be shared.

Insights on Using Miscue Analysis in the Elementary Classroom

MEGAN EISENBACHER, JENNA THEOFIELD, RACHEL KOSOFF, KATY GERBER, COURTNEY PAYNE, CHRISTINA MARCONI, HANNAH HUNTER, MATTHEW SOLIMANO, KATHRYN DROZDIEL, BRITTANY BOEHM

Miscue analysis as an approach for assessing reading will be described, and specific instructional strategies will be presented to better use miscues to understand readers' strengths and needs.

3G • ENGLISH MOVED TO WELLES 111

Katie, Katie, and Katie's Senior Reading

FACULTY SPONSOR: RACHEL HALL, ENGLISH
SESSION CHAIR: KATIE PETERSON

Exile

KATE JORDHAMO

"Exile" is a story about the type of disasters that can happen in the wrong. Ranging from large scale problems that change the lives of whole communities to small incidents between two people, the story touches upon what constitutes a disaster and whether it really is relative. Using the setting to highlight the similarities between two seemingly unrelated events, the story seeks to analyze the magnitude of tragedies in day-to-day life.

Dependence

KATIE NOTTKE

Katie Nottke will be reading short fiction that reflects the way in which the structural issues of our society affect actual people. Her goal is for the characters to exemplify our society's dependence on flawed systems by holding a lens up to these situations on an individual level.

Tsa

KATHERINE PETERSON

I will be reading "Tsa", a fiction piece about a rather unusual - but factual - interaction between the Kalahari bushmen and baboons, told from the perspective of a baboon. My hope is that the piece will prove to be informative, unexpected, entertaining, and will also offer insight into our own human interactions with one another and with our environment. This reading will be my required Senior Reading for the Creative Writing major.

3H • ENGLISH WELLES 132

Language, Image, and Space-Time

FACULTY SPONSOR & SESSION CHAIR: GILLIAN PAKU, ENGLISH

The Clockwork of Dante's Cosmos: Some Thoughts on Time in the

Paradiso

WILLIAM PORTER

This presentation will deal with Dante's *Paradiso* from the starting point of a well-known clock metaphor in *Canto X*, often credited as being the first description of the newly-invented mechanical clock. Dante was at the exact time and place necessary to observe this monumental technological development, and uses the image as a means of bringing together different thinkers, from Plato to St. Augustine, as well as different concerns in the poem. I will explore the ways the clock, for Dante, serves as an instrument for a deeper understanding of human time, for moral development, and for reaching his ultimate goal in accessing and understanding the eternal.

Like Clockwork: The Pavlovian Sex Drive in *Tristram Shandy*

MATTHEW CORDELLA

While Dante uses the image of the clock in *Paradiso* to map the workings of space and time in the external world, Sterne uses the image of the clock in *Tristram Shandy* to map the workings of the internal world of the mind. Drawing on Lockean associationist psychology in his description of the sexual relationship between characters Walter and Elizabeth, Sterne explores how the relationship between time, events, and objects gives order and definition to mental life.

The Short Story, Masculinity, and President Nasser's Egypt

ELIZABETH BARBER

In 1956, Egyptian writer Yusuf Idris published one of his most overtly political short stories, "Farahat's Republic." It is a story that - in its sinister images of paralysis, its almost surreal, nightmarish quality - expresses the mood of the decade, during which the euphoria of the 1952 revolution and the end to seventy years of British occupation dulled into a nation-wide malaise. Indeed, these were years

during which President Gamal Abdel Nasser's almost utopian promises were increasingly gutted as his government took on the contours of an oppressive police state in which Egyptians found little more respect for their aspirations, rights, and freedom than had they from the British occupier. In my paper, I explore this disappointment as it is specifically registered as a crisis of masculinity in Idris' work. Ultimately, I am interested here in how the story's male characters engage in an unsatisfying effort to reclaim the masculinity denied to them previously by the European occupier, now by the authoritarian and patriarchal Egyptian state.

Shining a Light in the Darkness: Understanding the Central Role of White Supremacy in Charlotte

Perkins Gilman's *Herland*

GRETCHEN BARKHUFF

The primary reading of Charlotte Perkins Gilman's argument in her 1915 feminist utopian novel *Herland* is that women are capable of independently creating a fruitful society. This seemingly universal feminist reading pervades Gilman scholarship and is generally taught in classrooms. However, a reexamination of the text reveals that this dominant understanding misses the dangerous complexity of Gilman's *Herland*. That is, Gilman was not merely asserting that women were capable of being independent, but rather that white women have the ability to regenerate the (white) American race. Drawing upon Toni Morrison's thesis in *Playing in the Dark: Whiteness and the Literary Imagination*, it is the very fact that Gilman does not make *Herland* absent of people of color, but rather writes them into the novel's shadows, that reveals that Gilman's (white) feminism relied on contrasting whiteness against people of color. White women are valuable, she argues, because they will save the white race. In essence, white supremacy is where Herlanders come from, where they are, and where they are going. Without this white-supremacist framework, the novel would fall apart. Ultimately, to ignore the text's whiteness is to ignore and perpetuate the often unspoken pervasiveness of whiteness in America's radical history.

3I • ENGLISH WELLES 133

Mind over Manners, Morals, and Modesty: Considerations of Gender, Society and Decorum in Plays of Shaw, Wilde, and Coward

FACULTY SPONSOR & SESSION CHAIR: THOMAS GREENFIELD, ENGLISH

The Oppressive Institution of Victorian Sexual Morality as Represented by the Women of Wildean and Shavian Drama

EMILY WEBB

Through their portrayals of women in late-nineteenth century drama, Oscar Wilde and George Bernard Shaw exhibit divergent perspectives on Victorian sexual morality as informed by their views

of contemporary social conventions. In the wake of the social purity movement, Wilde explores sexual politics among men and women in such a way that correlates with his own behavior as a sexually deviant dandy. Expressing his penchant for hedonistic pleasures through the discourse of amoral characters, Wilde restrains the development of his female protagonists - specifically Mrs. Arbuthnot in *A Woman of No Importance* (1893) and Lady Windermere in *Lady Windermere's Fan* (1892) - within a binary code of ethics that only questions oppressive demands for feminine purity and maintains arbitrary decorum in high society. Conversely, Shaw scrutinizes discriminatory standards of Victorian morality in support of sexual equality, which reflects his adherence to Fabian socialist doctrine. Through the empowered, self-reliant characters of Vivie Warren in *Miss Warren's Profession* (1893) and Gloria Clanton in *You Never Can Tell* (1897), Shaw explores their moral conflict to contest the social construct of ideal womanliness and assert their dominance within the public and domestic spheres.

The Friend Zone: Implicit and Explicit Sexuality in the Plays of George Bernard Shaw and Noel Coward

ALANNA SMITH

In my paper, I contrast the veiled sexuality in George Bernard Shaw's *Mrs. Warren's Profession* and *Candida* to the overt sexuality in Noel Coward's *A Song At Twilight* and *Private Lives*. In many ways, Shaw's reluctance--and in the case of *Mrs. Warren's Profession*, downright refusal--to directly address sexuality perverts it in ways that are even more uncomfortable as a result of his avoidance. Because Shaw's characters aren't allowed to talk about sex, they have to find stranger, almost pseudo-incestuous avenues around it. The outright addresses of sexuality in Noel Coward's plays take away the stigma and the shock value and allow him to discuss things in a manner that is much more natural. His frank and overt discussions were received in a positive way and paved the way for open discussions of sexuality later on. I also explore how the differences in time period also affected this difference between Coward and Shaw, especially after the moralistic backlash prompted by the non-explicit sexuality of *Mrs. Warren's Profession*. For my argument, I focus on dialogue and stage directions from both authors as well as various theater reviews and scholarly articles.

Noël Coward: A Celebration of A Style All His Own

EMILY MCDEVITT

There are two spheres of Coward's critics: one believes Coward's success relies purely on his fine-tuned personality and dandyish eccentricities to create entertaining characters; a second argues that his frivolous playful style reaches beyond itself, making his plays notable their insight into how people truly are behind closed doors. However, to call him a social commentator would be a stretch. Coward admitted to little pre-meditation in the construction of his plays: "(My) motives [are] always far less noble...To give myself a whacking good part...or the main motive was to entertain the

audience." Coward concealed his homosexuality from the public, and, thus, might have concealed deeper societal commentary in his works. But excavating such criticism would mean ignoring the daring frivolity of his masterfully woven plays. Coward's comedies begin by establishing the expected picture of life and just as quickly subside to reveal characters reveling in their own plot-less realities of cigarettes, parlor games, and extravagant self-expression. At the center of *Private Lives*, *Hay Fever*, and *Fumed Oak* is the struggle for individuals to be themselves despite the restrictive circumstances that fight to silence them.

3J • ENGLISH WELLES 134 Prescriptions from Langland, Dreams from Malory

FACULTY SPONSOR: GRAHAM DRAKE, ENGLISH
SESSION CHAIR: JOSEPH FLYNN

Lancelot and Guinevere: Courtly, Virtuous, or True?

KERRY CONLEY

It is hard to reconcile Thomas Malory's portrayal of Lancelot and Queen Guinevere with the traditional ideas of courtly and virtuous love. How can he seem to imply that Lancelot is the true hero in *Le Morte Darthur* while having the knight commit such an act against his King and country? This paper posits the idea of "true" love between Lancelot and Guinevere as the answer to this contradiction, rather than the much discussed virtuous love. Their devotion to each other, and struggle to remain loyal to Arthur at the same time, is what redeems them in death. Malory's personal feeling toward the characters is important to consider when looking at their relationship, and must be considered when interpreting the romances. While the lovers fail in virtuous love, the idea of Lancelot and Guinevere as "trew" lovers seems to fit with both the definition of courtly love and Malory's depiction of these two characters.

Rage Against the Machine: A Look into the Authority of Identity in Sir Thomas Malory's "The Tale of Sir Gareth"

SHEA FRAZIER

We are all cogs in the social machine, but knights, with their adherence to chivalry and the social hierarchy, fit within that definition, perhaps, more than others. But who can really determine that? Who is the true master of a person's identity? Looking at Sir Thomas Malory's "The Tale of Sir Gareth" and using the essay "Ideology and Ideological State Apparatuses," we attempt to answer that question by analyzing Sir Garth and Lady Lynet: two characters who, despite the importance they place on themselves and individual identity, are nothing but objects for greater social forces to express themselves. In the end, we must wonder if the answer of who, in society, possesses the authority to dictate identity can only be everyone, and no one at all.

Doctor Piers Plowman: A Poet's Prognosis of Post-Plague England

ILONA FISHKIN

This paper argues that William Langland's B-text of *Piers Plowman* (ca. 1377-9) provides an etiology of the social sickness of post-plague English society. Written almost thirty years after the onset of the bubonic plague in England the B-text reflects a society that is still reeling from the consequences of the plague, in which prideful, and therefore sinful, self-preservation rather than sworn duty has become the tenet of the clergy, the nobility, and the medical profession. With its biblical overtones rooted in Adam's curse and the story of Piers the Plowman, *Piers Plowman*, postulates that the continued corruption and idleness of the upper echelons of society has created an imbalance between Englishmen and God. This paper postulates that this imbalance lies at the root of the social turmoil in England as Langland, in accordance to the medical practice at his time, derives his etiological explanations from the humoral theory of disease. The search to restore this balance, therefore, is the guiding moral of the text and I argue that the perpetuation of idleness seen in *Piers Plowman* offers England a grim prognosis.

3K • GOLD

GOLD LEADERSHIP CENTER CU 114

GOLD Diamond Certificate

Presentations

FACULTY SPONSOR & SESSION CHAIR: THOMAS MATTHEWS, GOLD

Community Engagement Structured Reflection - Martin Luther King Jr. Day of Leadership and Service

ELIZABETH LAWRENCE

This presentation will discuss my reflection of involvement with the 2011 and 2012 Martin Luther King Jr. Day of Leadership and Service. As a member of the 2011 planning committee, I worked with students and professional staff members to plan and execute the event. The 2011 planning committee focused on making this event intergenerational and incorporated service projects that would directly impact Livingston County residents. I assisted with compiling feedback from the 2011 event and remained involved with the 2012 planning committee to evaluate and implement suggestions. This annual event is a great way for students and community members to come together to honor Dr. King and serve the community in which they live.

Diamond Project Paper

GABRIELLE GOSSET

As the capstone project for the Diamond Certificate Program, this paper connects my own community engagement experience with existing literature on leadership and community engagement. With this reflection, I have developed a better understanding for my leadership experience, techniques, and style as well as the connection between leadership and community engagement.

**Leadership in Community
Engagement - The Development and
Achievements of the Community
Health Alliance**

GRACE TROMPETER, MICHAEL MATTIUCCI

The Community Health Alliance is a service learning organization dedicated to serving the health needs of local and global communities, while helping its members to gain experience in the health care field. Since its conception, CHA has become a recognized and funded student organization and has developed partnerships in Geneseo, Livingston County, and abroad. Our efforts are focused in achieving a better understanding of our surrounding communities and exchanging knowledge and resources to help improve the wellness and health of the people we serve. Locally, our projects include shadowing doctors and educating patients at the Geneseo Parish Outreach Center, nutrition education in afterschool programs, and partnering with the town of Mt. Morris to perform a community health assessment and institute programs promoting wellness. Abroad, we partner with H.O.P.E., a grassroots community development organization in Borgne, Haiti and to educate the Geneseo community about Haiti, its people, and its needs. This presentation follows the formation and growth of the Community Health Alliance as it has worked to find its niche in promoting public health and wellness in the Geneseo community and beyond.

3L • HISTORY STURGES 108

Fracking & Its Consequences: Part 2

FACULTY SPONSOR & SESSION CHAIR: JORDAN KLEIMAN, HISTORY

**Evaluating Oil and Gas Industry
Claims Regarding the Benefits and
Safety of Hydrofracking**

ALEX BELENSZ, EVE ANDERSON

American oil and gas industries stand to reap massive profits from the availability of shale gas. However, the high-volume horizontal hydraulic fracturing (hydrofracking) technique used by the oil and gas companies is highly controversial, as are the perceived effects of natural gas as an agent of climate change. These companies and their supporters rely in large part on two arguments to rally public support. The first argument is that natural gas is a clean fuel than can be used as a "bridge fuel" while more environmentally-friendly means of producing energy are being developed. The second argument is that natural gas drilling would boost the local economies surrounding the drill sites, and could boost the national economy as well. The improved economy and domestic source of energy would then contribute to the United States' energy independence and national security. In our presentation, we will discuss opposing viewpoints of these arguments using factual evidence and peer-reviewed scholarly publications. Many current studies suggest that natural gas is not as "clean" a fuel as the oil and gas companies purport. Additionally, reports advise that the

economic and energy-independence benefits of natural gas drilling are likely overstated.

**The Impact of Shale Gas
Development on Public Health**

BETHANY KWARTA, MELISSA GRAHAM

With the topic of hydraulic fracturing being prevalent to our area, this presentation looks to focus on its effects on public health. We will begin by focus on the different health issues related to hydrofracking, with a focus on the endocrine system and various forms of cancer. Then we will be discussing the difficulties in protecting the public from health risks associated with hydrofracking. We will finish by discussing possible solutions for dealing with these health issues.

Hydrofracking and Human Health

LISA JOHNSON, JEN BENSON

As a significant point of tension between friends, neighbors, and politicians alike, the process of hydraulic fracturing is both a highly complex, and highly controversial issue. Massive Slick Water Horizontal Hydraulic Fracturing is an extremely invasive, unconventional form of natural gas drilling. This highly industrial process involves millions of gallons of water, thousands of gallons of chemicals, thousands of truck trips, and shale fracturing explosions to release the gas. With a myriad of claims being used by each side of the debate, it becomes difficult to ascertain the difference between fact and fiction. This presentation will present and evaluate the potential health implications of hydrofracking on human health. We will present both scientific data as well as firsthand accounts of people living near areas affected by drilling.

**The Potential Impact of
Hydrofracking on Wildlife and Their
Habitats**

CHRISTINE DONOVAN

While the affects of hydrofracking remain largely unknown, unconventional gas extraction will be effecting many animals' habitats in the coming years if it continues to progress. This presentation deals with some of the potential damage that could be done to ecosystems by hydrofracking. As animals' habitats, air and water quality, predators and prey are altered, the potential stands for a huge amount of harm to be done to wildlife in New York State.

3M • HISTORY STURGES 109

**"To Elevate Our Race": The Black
Experience During the American Civil
War**

FACULTY SPONSOR & SESSION CHAIR: JUSTIN BEHREND, HISTORY

**Why They Fought: Perspectives and
Memories from Those Who Shaped
the Civil War**

JUSTIN SHAPIRO

The intersection of race, memory, and experience in personal accounts from the Civil War provides a

wealth of information for those who are interested in understanding the meanings of the war for individuals of multifarious backgrounds. In studying the memoirs of Susie King Taylor, a black nurse, and Elisha Hunt Rhodes, a white colonel, one can elucidate the transcendent meanings of the war for two people who actually shaped the conflict's direction. The perspectives offered in the two aforementioned accounts also illuminate many of the racial outlooks and worldviews that served to inform opinions on the meaning of American Civil War for others who fought or provided support during the struggle. Taylor and Rhodes reveal that race was inseparable from the conflict for many of its participants. Today, the Civil War exists in popular memory as an event somewhat removed from the racial outlooks that influenced many of its contemporary witnesses; yet the students of the histories offered by Rhodes and Taylor must be prepared to place the Civil War in its proper social perspective as a result of comparing these individuals' intimate details of both the physical war and their personal beliefs about that war's underlying purpose.

**Hearts in the Right Place: The
Relationship Between White Officers
and Black Soldiers During the Civil
War and Reconstruction**

ROBERT TERRERI

During the American Civil War, 180,000 black men fought with the Union Army serving in various capacities from soldier to surgeon. Because of this large influx of men, 138 black infantry regiments were mustered into service by 1865 necessitating the enlistment of an additional 5,000 white officers. These men who received their commissions with the United States Colored Troops came from a variety of backgrounds but generally had ties to the abolitionist movement. The black soldiers with whom they served played a significant role in the late war period and contrary to turn of the century beliefs were not used as pawns due to a supposed childlike ignorance. In reality they were actively engaged in politics and in the protection of their rights during Reconstruction. The white officers who created bonds and learned from their enlisted men in many cases traveled south after the war as carpetbaggers, and used their experiences to fight alongside blacks to protect the civil liberties of their former comrades. The relationships that transcended across the Civil War and Reconstruction eras gives evidence that activities by radical republicans in the south were jointed efforts with blacks built upon matured networks of communication.

**Black Powder: The Impact of Fugitive
Slaves on The Civil War**

PATRICK STEGEMOELLER

When it comes to great conflicts, it is almost impossible to point to one event or action that determines the outcome of the struggle. This is especially true in the case of the American Civil War, in which there were several instances that could be considered the seminal moment of the conflict. While battles like Gettysburg or Atlanta come to mind as the essential event in the Union

victory, the decision to employ African Americans in the Union Army indisputably belongs in the same conversation. Using fugitive slaves to bolster their own fighting ability while simultaneously weakening the South's, the Union was able to gain the decisive victories it needed to win the war. Lincoln himself wrote that to throw away the potential of black soldiers and laborers was to throw away the Union as well. At the start of the war, it was illegal for blacks, even northern blacks, to enlist in the Union Army. Yet by the war's end, there were over 350,000 African Americans fighting or laboring for the Union Army and Navy. How and why this change occurred is essential to the understanding of the war and to the nature of its outcome.

3N • MATHEMATICS 3 NEWTON 201
FACULTY SPONSOR & SESSION CHAIR: JEFF JOHANNES, MATHEMATICS

The History of Squaring the Circle

RUSSELL LARSON, AMBER BALCERZAK

Squaring the circle is a problem proposed by ancient geometers which is accepted to be impossible. It is the challenge of constructing a square with the same area as a given circle by using only a finite number of steps with compass and straightedge. Many mathematicians and geometers have spent many years trying and failing to find a solution. The talk will cover the history of the problem as well as the different attempts towards its solution.

Progression and Analysis of Various Epidemic Models

SHEA NAJUCH

In this presentation, we will explore various epidemic models capable of predicting the future of numerous diseases, including SARS, HIV, measles, etc. We will also see just how these models are used to predict the future of these many diseases using calculations of all different sorts. As the presentation goes on, we will observe the progressions of models, and how they came to be perfected through minor calculation adjustments throughout the years.

Running the Numbers Behind

Natural Selection

PHIL MARK

The evolution of complex life forms is often thought of as a mathematical anomaly. After all, how improbable is it that the diverse and complicated organisms that cover our planet all arose from single celled organisms? The surprising answer is that it is completely possible and reasonable when we account for the math hidden behind natural selection. I will take a simple example of a population of organisms to answer questions such as how long evolution takes to occur and how population size and variance affect the results.

Analyzing Mathematics in Music Through Mathieu and Messiaen

ALYSON BITTNER

We are looking at the correlation between mathematics and music. We consider the mathematical properties of sequences used in music.

Specifically, we are focusing on how aspects of group theory correlate to the sequence of durations used in Messiaen's composition *Ile de Feu 2*.

3O • INTERDISCIPLINARY NEWTON 204

The Hidden Court Street

FACULTY SPONSORS OLYMPIA NICODEMI, MATHEMATICS AND WES KENNISON, STUDY ABROAD

SESSION CHAIR: WED KENNISON, STUDY ABROAD

Mapping Court Street

TOBIAS SCOTT-KILLIAN

Our panel will discuss the project of recreating a lost part of Geneseo through mapping.

Business on Court Street

LUCIANO SCALA

Our panel will discuss how commerce evolved on Court Street and its surroundings through time.

Hidden communities

JACOB BOUTTE

Our panel will discuss the communities of Court Street--communities that are lost and communities that are hidden.

3P • PHILOSOPHY STURGES 112

The Occupy Movement, Dido, and New Testament Fragments

FACULTY SPONSOR: CARLO FILICE, PHILOSOPHY
SESSION CHAIR: MEGAN CHAPIN

God and the 1%: Socio-economic Justice in the Judeo-Christian

Tradition

ANDREW PERRY

Dido and the New Testament: The Queen of Carthage's Opinion of the King of Kings

KATHERINE JOYCE

This paper explores a hypothetical situation in which Dido of Virgil's *Aeneid* has, through some series of events, come to be in possession of a fragment of the Bible that amounted to the New Testament only. The ways in which Dido may have reacted to this fragment are explored, as well as the possibility that Dido may have regarded the Bible very differently at different points in her life. It would be impractical to try to cover the New Testament in its entirety, so the sections discussed are those that would have most directly reflected upon the life and actions of Dido as she is represented in the *Aeneid*.

Jesus and Moses Occupy Wall Street

SAMANTHA SMITH

For many people, a code of ethics entails no more than instructions from the Bible. Any interpretation of these instructions necessarily requires modernizing some of them. However, individual interpretation becomes problematic as it introduces personal biases and assumes insight into the intent of the text. And there are, of course, issues that

exist today that aren't addressed in the Bible for which our best guesses will have to suffice. The Occupy Wall Street movement certainly falls into this category: the opinions of Jesus and Moses on financial equality can only be inferred from their judgments in analogous cases in the Bible. If these two patriarchs could be brought back to life, what would they say about this and the moral state of America's economy?

3Q • POLITICAL SCIENCE & INTERNATIONAL RELATIONS

WELLES 24

Political Science and International Relations Honors Theses

FACULTY SPONSOR: JEREMY GRACE, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

SESSION CHAIR: VICKY FARMER, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

Redrawing Borders in Africa: Norms and Exceptions

ANDREW KUNTZ

Taking into account the unique nature of African borders and state formation, there is a significant disparity between the expected number of secessionist states and actual, successful number of secessionist states, the only two of those being South Sudan and Eritrea. Yet it is unclear whether these cases are exceptions, or they represent a shift in the regional and international norms governing secession and partition. Analysis of different failed secessionist efforts and ongoing movements across the continent and comparison with the two successful cases, in conjunction with relevant historical information and international legal theory reveal that South Sudan and Eritrea represent exceptions rather than shifts in the governing regional and international norms. This paper offers observations regarding the conflicting principles of self-determination, sovereignty and territorial integrity in international law and the nature of their application, analysis of policy relevancy, and recommendations of areas for further research.

Leadership Transition in North Korea: A Chance for Change?

JARED DORMAN

The death of Kim Jong-il marked a pivotal moment for North Korea. With a new leader, came renewed optimism about the country adhering to international norms, and becoming a less destabilizing influence in East Asia. There also came the fear that the succession would not go smoothly, causing an international crisis. This paper examines the only previous succession in North Korean history: when Kim Il-sung died in 1994, and compare it to how the current succession was supposed to succeed, as well as how Kim Jong-il attempted to protect Kim Jong-un from those around him. I highlight the differences in experience between Kim Jong-il and Kim Jong-un at the times they respectively took power, as well as the internal threats that faced both. I describe the recent economic calamities the country has faced,

the weakening of the state's control over the population, the state's ideological foundation, and China's influence, and show that these forces serve to resist large, sweeping changes. By referencing prominent defectors and scholars that specialize in the Korean Peninsula, I demonstrate that the likelihood of imminent collapse in North Korea is small, and that instead of progressive reforms, North Korea is likely to pursue more oppressive policies.

Higher Education in the BRIC Countries: Promoting Democratic Development

JULIE WILLIAMS

Brazil, Russia, India, and China, collectively known as the BRIC countries, are considered to be the four fastest developing economies in the world. Rapid economic development presents new social and political issues that must be addressed by the governmental institutions that oversee such growth. Higher education has a historic reputation for promoting the independent thought that is considered a tenet of modern liberalism, as well as providing educational services that benefit a state economically, politically, and socially. Institutions of higher education within the BRIC countries face unique internal and external challenges that range from indigenous students to global competition. How these states confront questions of autonomy, access, quality, corruption, equality, and resources will have an impact on their liberal or illiberal development as influential economic players on a global scale. This paper examines the systems of higher education in the BRIC countries to assess how the existing institutions will affect democratic development in the future.

The Legal and Non-Legal Barriers to Return for Turkey's Internally Displaced Persons: An Analysis of Turkey's Resettlement Policies

SOPHIA HUTNIK

In 1978 the Peoples Workers Party (PKK) was formed as a response to the Turkish state's long-standing policy of repression of Kurdish identity within Turkey's borders. From 1984 on the State has been embroiled in a conflict with the PKK that has resulted in grave human rights violations by both parties as well as a culture of social trauma. In an attempt to reorganize the space in which the conflict was being fought, the Turkish military began forcibly expelling villagers and burning down villages and fields so that they would not return. During the 1990s somewhere between 300,000 and 3 million Kurds were displaced in Southeastern and Eastern Turkey. To this day the majority of the displaced live in poverty, a burden to their relatives and the cities they settled in. This paper will analyze the barriers of return found in the underlying rhetoric and policies of the State from its inception, relevant international and Turkish laws, programs of return, and some of the general social issues stemming from the repercussions of the key tenants found in Turkish nationalism and the restructuring of Kurdish life in the conflict zones.

3R • INTERDISCIPLINARY: LANGUAGE & LITERATURE, ENGLISH WELLES 138

SESSION CHAIR: KODJO ADABRA, LANGUAGES & LITERATURE

HER AFRICA

DAISY LUMA-HADDISON

FACULTY SPONSOR: KODJO ADABRA, LANGUAGE AND LITERATURES

From the peak of the pyramids and the heart of the Sahara, Owami and Kalahari to the shores of the coast of South Africa, there have been cries for freedom, for *uhuru*. In a continent where many long gone witnessed imperial invasion and suffered dismemberment, a culture [the African culture] was oppressed. Liberation rings from within the hearts of the once imprisoned souls. As children of that land seek to be reborn, challenges from the past and of the future constantly emerge. Cautiously, many intellectuals from Africa and from the African Diaspora embarked on revolutionary journeys yet to be redefined in the eyes of a little black girl. The fruits from these vulnerable journeys are assorted: for many, they're called acceptance, liberation, sense of identity, inspiration, inner peace and call for greatness, greatness associated with the song of victory and liberation, the *Tuko na uhuru*. So, what is it that is spreading freedom to the shackled, through the warm yet evolving mind of the little black girl? The poem, "HER AFRICA," unveils her myriad challenges and thoughts about the motherland sunk in a horizon once blurry still unfolding with guilt of a past unpacked, but with hopes of tomorrow within reach.

WITHDRAWN Pulling Chestnuts from the Fire: Yeats's Traverse Between the Physical Body and the Dance of One's Imaginative Soul

KYLE SKOVIRA

FACULTY SPONSOR: ROBERT DOGGETT, ENGLISH

In short this presentation will be a detailed analysis of WB Yeats' Poem, "Among School Children". At the age of sixty, a man carries upon his tired back years of labor. W.B. Yeats is a man that has labored all his life in writing, in thought, and in passionate and innumerable pursuits of his beloved, Mr Donne. In his poem, "Among School Children," Yeats finds himself reflecting on his travels through a life where a substantiated meaning has evaded him. The poem's complex structure reflects Yeats's thoughts as they are representative of a man at sixty coping with the felt absence of his youth. He is looking back on his life as a whole, struggling to accept the cyclical nature of the biological world and the speed at which the anticipated future becomes the experienced past. Entangling the cruel and arduous nature of the physical world's effects on the body with the fluid nature of the ever changing self, "Among School Children" echoes the exhausted yet brightening imagination of Yeats as he copes with life once more in his senescence.

Rewriting Whiteness: Redefining Ethnic Identity in Post-Apartheid South African Life Writing

KATELYN HARLIN

FACULTY SPONSOR: MARIA LIMA, ENGLISH

The genre of life-writing is an elusive and amorphous category of texts that is somewhat difficult to describe and define adequately. It serves many varied purposes, especially in a post-colonial context; this includes not only an attempt to write the self, but in many instances an attempt to write the historical, social, and cultural contexts in which the self is located. As a country, South Africa has had a unique struggle with the concept of cultural identity in the two decades following the end of the racist Apartheid regime. The white minority, the historical colonizer in the country, has since lost power to the black majority and had to struggle to find its place in an evolving society. This paper will examine how in this "New South Africa", white life-writing has retreated from traditional white identity, and aimed to write a post-racial culture for South Africa. It will also suggest that this self-conscious effort to reform ethnic identity has not yet been successful. It will consider two texts: *Summertime* by JM Coetzee, *Portrait in Keys* by Ivan Vladislavic, each of which is an example of life-writing from a white South African in post-Apartheid society.

3S • CULTURAL EXPLORATION (moved to 2U)

3T • POLITICAL SCIENCE & INTERNATIONAL RELATIONS

WELLES 119

Topics in American Politics

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

Access to Legal Representation for Low-Income Americans

CLAIRE BOULD

Indigent Americans receive unequal access to affordable legal representation for settling civil legal issues. This inequality arises from decreasing levels of federal and state funding for legal assistance organizations and declining support for programs such as Legal Services Corporation and Legal Aid Association. Consequently, more low-income people are forced to self-represent their cases in court, known as *pro se* representation, which invariably decreases the likelihood of achieving a favorable outcome. Cases involving home foreclosures, divorce and family law, and unemployment insurance attainments are among the most common that go unrepresented because of the unavailability of legal representation for the defendants.

The Political Views of American Jewry

DAVID MYERS

Although only 2% of the American population of the United States is Jewish, American Jews constitute an important political bloc for ambitious politicians. My paper explores the factors that shape American Jewish public opinion. I examine the role historical heritage plays in influencing public opinion, and variation among American Jews in their views on foreign policy, social welfare programs, and

"cultural issues." The goal of the paper is to shed some insight on a group often noted for its seemingly paradoxical behavior within the American electorate.

Indigent Defense in the United States: Looking into the Mandate and How to Reform Public Defense

ROSAMOND DORAN

This paper examines the judicial mandate of providing counsel to those who cannot afford it. There are many different systems of indigent defense in the US; I will examine them and determine what additional reforms, if any, are needed to meet the mandate to provide counsel.

CONCURRENT PRESENTATIONS 4 • 4:20 - 5:35PM

4A • ANTHROPOLOGY WELLES 24

From Theory to Practice in Anthropology 307: Student-designed Grassroots Organizations to Promote Sustainable Community

Development in Pakistan and Liberia

FACULTY SPONSORS: ROSEMARIE CHERICI, ANTHROPOLOGY AND KIM HOFFMAN, LIBRARY
SESSION CHAIR: ROSE-MARIE CHERICI, ANTHROPOLOGY

RYKochet: Community Development through Rural Ties between Rahim Yar Khan, Pakistan and Geneseo, NY

ALEXANDRA CASEY, HUI MIN CHIA, LIANA CLEMENTE, NAOMIE FRANCOIS, KEVIN FELTER, ZEBEDIAH GALLAGHER, SHANICE GUZMAN, MICHAEL MATTIUCCI, MATHIEU PAFUNDI, ELIZA STOLTZ, GRACE TROMPETER, NICOLE TSIEN, CHRISTINE TURNER, MICHAEL VENTURIELLO, EMILY VOEGLER, CAROLYN WOLFRAM

RYKochet is a grassroots organization committed to sustainable community development through rural connections between Geneseo and the Rahim Yar Khan district of southern Pakistan. Subsistence farming and pastoralism are the main source of livelihood in this primarily rural, Muslim area. Yar Khan's proximity to the Indus River makes it vulnerable to recurrent flooding, as demonstrated by the devastating floods of 2010. These floods result in significant loss of life and damage to already shaky infrastructure and exacerbate existing problems in health and education. RYKochet collaborates with the people of Rahim Yar Khan to build and maintain community-initiated projects that lead to self-sufficiency, alleviation of poverty, and quality of life improvement. Working in small groups, our team has researched conditions in Yar Khan and evaluated initiatives used by NGOs working in the developing world to design our own visions of projects that tackle health, education, economic development, capacity building, and micro financing that would best address conditions in our area of intervention.

Designing Innovative Sustainable Solutions: Community Development in Nimba County, Liberia

BRADLEY ARCHIBALD, JACLYN BEHORIAM, BENJAMIN CONTI, MAKENZIE DELMOTTE, KERRY FERRELL, ANNE-CARINE FREDERIQUE, MATTHEW HAYES, FELIPE HOYOS, ALYSSA LEPKOWSKI, CHRISTINE LODATO, LINDSAY MONIN, PAUL

NARDONE, SCOTT NEVINS, BENJAMIN SAPADIN, MARIA SIGALAS, IRINA YAKOVLEVA, JONATHAN YOUNG, SOPHIA HUTNIK

Nimba County, located in the central-northern part of Liberia bordering Guinea and Cote d'Ivoire, is the second most populated county in Liberia. A large number of residents fled the county during the two civil wars and most of the already weak infrastructure was destroyed, further affecting the productivity and social structures of the region. Currently, the region lacks adequate infrastructure to support development of such roads, health care, and schools and slowing the region's recovering from the destructive civil wars. This situation is further aggravated by the recent influx of refugees from Cote d'Ivoire who have been resettled in refugee camps along the border. Our NGO is composed of 5 groups that address maternal health in relation to child marriages, sanitation in refugee camps, the effect of the mining industry on the local inhabitants, skill training, and the lack of trained doctors in the county. We have utilized the programs and reports of various local NGOs in order to develop programs that we believe will help to create a more economically and socially sustainable environment.

4B • EDGAR FELLOWS WELLES 121

Edgar Fellows Miscellany VII

FACULTY SPONSOR & SESSION CHAIR: OLYMPIA NICODEMI, MATHEMATICS

Imperialism under the Microscope: an Examination of the Colonial Microbe

EMILIE O'NEILL

The discussion of microscopic organisms is framed by anthropomorphic metaphors--those of colonization, culture and war--that present single-celled existence as a microcosmic version of human exchange and conflict. What does this discourse reveal about the ideology that animates our understanding of microbes? As a tool in the language of science, metaphor performs key conceptual functions for the generation, extension and comprehension of theories. Early in the history of bacterial and microbiologic research, the metaphors "colonization" and "culture" became affixed to the behavior of groups of microbes, and, though their roots are agricultural, these terms began to take on more political tones as the germ theory of disease transformed the perception of microbes. Consequently, bacterial colonization assumed military and xenophobic aspects that brought it closer to the version of colonialism operating on an international scale; terms like "foreign" and "invasion" began to abound. This talk

will cover some of the nationalist origins of the germ theory of disease and present a case study of how the two mindsets, biological and imperial, merge in the field of tropical medicine; it will also consider how primitivism and nationalism remain stubbornly ingrained in our medical understanding of disease, epidemic and the self. Mentor: CAROL LONG, PROVOST

But It's a Cinch for Batman! The Hidden Intricacies Behind the Making of an Original Graphic Novel

SHEA FRAZIER

Comics: for many of us, the word brings up fun memories of colored cartoon spreads in the Sunday papers. But have you ever considered what goes into creating these five panel punch-line generators? As it turns out, there's a lot. Each is a carefully balanced piece of art consisting of a deliberate harmony of color, composition, style and story. Everything, from the panel sizes to the spaces between panels, take preparation, thought and a surprising amount of time. Now, imagine applying all of that time and thought to making not five panels but five hundred. Welcome to the painful and wonderful process of making a graphic novel. In this discussion, learn about the ups, downs and many considerations that I experienced as I worked to create my own full-length graphic novel, drafted from its earliest stages of development into a completed work. Mentor: KEN COOPER, ENGLISH

Creating and Revising Children's Literature

JUSTINE ROSEN

This capstone project is my first foray into creative writing--I am writing a mystery novel aimed at a 3rd-5th grade audience. The novel follows 4th graders Ellie and Rose, best friends who have to uncover which of their classmates stole the class hamster, Oliver, all while planning Ellie's birthday party and practicing for the biggest basketball game of the season. The presentation will juxtapose the reading of short excerpts from the novel's latest draft with explanations of the process through which the draft has gotten to where it is. Specific focus will be placed on how I have created and revised the subplot and characters (and what I plan to do next) in order to lay out a mystery that children can follow that is also dynamic enough to make them keep reading. Mentor: ELIZABETH FALK, SCHOOL OF EDUCATION

4C • EDGAR FELLOWS WELLES 123

Edgar Fellows Miscellany VIII

FACULTY SPONSOR & SESSION CHAIR: OLYMPIA NICODEMI, MATHEMATICS

Adult Attachment and the Big 5 as Predictors of College Students' Romantic Relationship Functioning
VANESSA LOBO

Researchers have examined various personality factors in an attempt to understand how individual differences affect romantic relationship functioning. Two personality factors in particular--adult attachment and the Big 5 traits--have been linked to romantic relationship satisfaction. Both attachment avoidance and attachment anxiety have been correlated with lower relationship satisfaction, and several relationship processes have been found to mediate this relationship. Furthermore, the Big 5 trait neuroticism has been found to negatively predict relationship satisfaction, whereas extraversion, agreeableness, and conscientiousness positively predict this outcome. The current study was designed to extend past research by examining the potential mediating role of positive and negative affect, self-disclosure, attributions about one's partner, perceived conflict, and perceived quality of social support from one's partner in the relationships between attachment and/or the Big 5 and relationship satisfaction. To my knowledge, this study is the first to test all of these specific mediators of attachment styles and relationship satisfaction together in one study, and the first to ever test these mediators with the Big 5. A comprehensive model of some of the major factors that predict relationship satisfaction was created by systematically analyzing the unique contributions of two principal predictors and their individual mediators. Mentor: MONICA SCHNEIDER, PSYCHOLOGY

Pension Reforms in Haiti

VISHAL RAJPUT

Haiti is the poorest country in the Western Hemisphere. The current pension system in Haiti provides very minimum security for the old age. The presentation will analyze the existing pension systems and suggest reforms that will provide more options and security for the work force in Haiti. Mentor: HARRY HOWE, SCHOOL OF BUSINESS

College Students' Perceptions of Sarcasm Use in Adolescence

ZACHARY GOLD

This discussion will focus on the aggressive or playful nature of sarcastic language use by adolescent boys and girls. Past studies have suggested that boys and girls have different interaction styles. Boys are more task-oriented, and girls are more conversational. Consequently, they have difficulty interpreting interactions of the opposite sex. The same may be true regarding sarcastic language. Geneseo students were asked to view short video clips of sarcastic exchanges between 17-year-old adolescents and make judgments based on first impressions of each exchange. I will seek to answer questions about gender differences in perception of sarcasm, and I will try to explain the nature of sarcasm and its underlying

purpose in dominance hierarchies and social groups. Mentor: GANIE DEHART, PSYCHOLOGY

Efficacy of a Brief Mindfulness-Based Intervention for College Student Stress and Rumination

ANDREW FROHN

Mindfulness-based interventions utilize meditation exercises to improve mental and physical well-being through increased awareness and nonjudgmental acceptance of momentary experience. Various mindfulness interventions have been shown to be effective for promoting a variety of indicators of psychological and physical well-being, including reduction of stress and ruminative thought. The aim of this project was to adapt the structured 8-week Mindfulness-based Stress Reduction program into a less formal 2-week mindfulness education course for college students in which mindfulness meditation techniques are learned, practiced, discussed, and applied specifically to reducing college stress. Preliminary data show that the mindfulness course was associated with stress reduction, though a more traditional stress management course was as well. Mentor: JENNIFER KATZ, PSYCHOLOGY

4D • SCHOOL OF EDUCATION

SOUTH HALL 340

Pre-Service Teachers' Research on Literacy in the Classroom, Part 2

FACULTY SPONSOR: MARIA PERPETUA LIWANAG, AND ANN MARIE LAURICELLA, SCHOOL OF EDUCATION
SESSION CHAIR: MARISA SHUMAN

Multicultural and International Literature Resources for Use in Elementary School

KYLE HUBBLE, JENNIFER DAVIS, CYNTHIA MORGAN, HALAYNA IVERSON, STEPHANIE BERLAND, STEPHANIE TOTH, KAITLYN MAMAY, ELISE MURREL

Presenters for this session will describe numerous resources for engaging elementary students in reading diverse literature from diverse cultures. Strategies for selecting quality resources and how to use these in the elementary classroom will also be included in the presentation.

Investigating Basal Reading Programs Used in the Elementary Classroom

NICOLE ZITO, HANNAH-RUTH CIVITA, CAITLYN DOWELL, MEGHAN GOSLINE, ANNIE O'NEILL

Presenters will share qualitative and quantitative data from survey conducted on pre-service teachers' perceptions and evaluation of selected basal readers. Instructional approaches will also be shared to address issues identified in the study.

Multicultural and International Literature Resources for Use in Middle School

MEGAN WHITEHURST, SINDY PARK, FELICIA VANACORE, ALEXIS RYTEL, BRIANNE LYNCH, AMELIA HOLDING

This presentation will focus on sharing strategies for selecting multicultural and international literature to help readers engage with stories. Specific resources and recommended instructional strategies will also be discussed.

An Afterschool Program on Teaching Foreign Language to Elementary Students

MARISA SHUMAN

Presenter will share instructional approaches to developing and designing an after school curricular program for teaching foreign languages to elementary students. Bilingual book resources will also be shared with the audience.

4E • ENGLISH

WELLES 131

Renaissance Literature and the Bible

FACULTY SPONSOR: GRAHAM DRAKE, ENGLISH
SESSION CHAIR: ERIC MALDONADO

Genesis and the New Testament in *The Faerie Queene* Books I & II

CHRISTINE O'NEILL

The Bible has had more impact on Western civilization than perhaps any other text; Edmund Spenser's *The Faerie Queene* (1596) is the longest poem in the English language. The connections between these two remarkable works of literature run deeper than just basic allegory. With the precision of an architect, Spenser planned out and wrote six books addressing Christian virtues while tying in biblical concepts, paralleling structure, and at times artfully departing from scripture for impact. The major links between the Bible and *Faerie Queene* appear to be Old Testament allusions and New Testament themes. Spenser's blend of patriarchs and knights, pilgrimages and epic quests, and Genesis and Elizabethan England result in an innovative perspective on Christianity as the Renaissance came to a close.

God's Influence on the Will of a King: Explicitly Known, Implicitly Nameless

JOANIE DRAKE

This paper focus on the use of King Ahasuerus and his role driving the plot in the Bible's Book of Esther and Racine's play, *Esther*. There is a brief informational section on his possible historical identity. The fictional king in both works is driven by his emotions, a character trait that works as a plot device in creating momentum in scenes. In addition to the characteristics that help develop the plot is the explicit and implicit intervention of God, as applies to each text. Within the Book of Esther, God is present in an understated form, underlying the actions of characters and the progress of action. In Racine's *Esther*, His presence is much more definite.

The paper explores God's presence through Ahasuerus' interactions with other characters, and finally it analyses the omission of God's name. The book and the play both emphasize the imperfection of humanity as it relates to God's influence. He created man to be imperfect, to be either kind or mean, good or bad, just as the tale of Esther illustrates.

4F • ENGLISH

WELLES 132

The Dandy and the Aesthete in the British NovelFACULTY SPONSOR: BILL HARRISON, ENGLISH
SESSION CHAIR: CAILIN KOWALEWSKI**Corruption and Conversion: the Artist and the Dandy in *Brideshead Revisited***

CAILIN KOWALEWSKI

In *Brideshead Revisited*, Evelyn Waugh presents the role of the dandy as an explorer of the self through the experience of transient beauty, creating a search for the fleeting, the impressionable, and the alarming. To reach "art" and beauty in the form of experience, the dandy must navigate his mundane surroundings, remaining necessarily aware of the commonplace, insufficient habits of culture while isolating himself and seeking out the unique. Crucial to this process is the preservation of his sense of creative autonomy. To do this, the dandy establishes degrees of separation from reality and creates his own sub-spheres, lenses of behavior through which he can interpret social codes. In *Brideshead*, this process is directly threatened when the dandy's distancing behavior is reconnected with reality. The dandy is challenged by the existence of the artist, who attempts to 'fix' each occasion or 'scene' of the art that is the dandy's behavior. In this context, Waugh presents the threat to dandy figures as a stagnancy of normalcy; a re-imposition of cultural ennui that perverts the immediacy of experience that characterizes the dandy's "life" art.

The Aesthete's Faulty Method

MARGARET CRAFT

Dandyism is a reactive lifestyle that protests against the common social precepts of the time period the dandy resides in. The aesthete form of the dandy seeks to develop individual expression through assembling collections of objects, food, and sometimes people that represent his or her excellent sense-related taste. Characters such as Dorian Gray in Oscar Wilde's *The Picture of Dorian Gray*, Lady Aldwinkle in Aldous Huxley's *Those Barren Leaves*, and des Esseintes in J.K. Huysmans's *Against the Grain* unsuccessfully attempt to live in their own versions of a properly selective and thus aesthetically pleasing world. When these characters who adopt aestheticism choose to take it to the extreme in some form of withdrawal from society, the very social aspects dandyism rebels against are no longer present to reinforce the dandy's sense of alienated purpose. This method separates them from the social backdrop against which their lifestyle and individualism interprets itself and thus counter-productively makes their selectivity

purposeless and therefore their quests for self-identity through aesthetic development unachievable.

Raison d'Être: The Dandy, Society, and Symbiosis

ADAM LASHINSKY

In his critical *Sartor Resartus*, Thomas Carlyle famously pegged the dandy as a "clothes-wearing man" with a "thinking-principle in him." Such is the most common conception of the dandy as both a social and literary phenomenon: he is the brave soul who distinguishes himself from the crowd for reasons unknown, seemingly elevated and enlightened in some peculiar sense. Yet, how dependent is the man on the crowd, or the crowd on the man? Through inspection of the works and lives of the most prolific and highly-reputable English dandies, the relationship between society and dandyism is shown to be a symbiotic one: The dandy needs a context; his personality is a consumptive one, for "while still respecting the conventionalities" of his society, he "plays with them" in such a way that they become his own. In this sense, the dandy is a lens; he is something through which the scattershot light of society is focused into a beam of Culture. So we see that without the man, society would be lesser, and without society, the man would be useless.

4G • ENGLISH

WELLES 133

Paper-Writing on YouTube and Two Town/Gown Issues -- The Riviera Theatre and Feral CatsFACULTY SPONSOR: JULIA WALKER, ENGLISH
SESSION CHAIR: MIKE GATTUS**Ferocious Feral Felines**

ANNA GOYZUETA, MELISSA NOLAN, RACHEL HASTINGS

The feral cat population of Geneseo is an on-going problem. These students examine the problem, the responsibility that SUNY Geneseo students have for creating much of this problem by leaving their pets behind in May, and offer some solutions. Showing their video and their "making of" wiki, the panel will illuminate the problems and pleasures of engaging with Village residents and the challenges of writing a college paper as a YouTube video.

What? No Brass Band to Greet Us?**The Politics and Etiquette of Town/Gown Projects: The Riviera Theatre Restoration**

TIMOTHY RUSAW, JAIME ZAHL

Restoring the Riviera Theatre on Center Street is a collaborative community project with many Village groups and individuals working together. The missing group was college students. This panel will discuss not only the Riviera project itself and the challenges of writing a college paper as a YouTube video, but also the reasons why getting involved with the Village project wasn't as easy as they expected it to be. <http://www.youtube.com/watch?v=u-9Fsi-6TXA>

4H • HISTORY

STURGES 108

The Unsettling of America: Competing Narratives on the Civil War and Emancipation

FACULTY SPONSOR & SESSION CHAIR: JUSTIN BEHREND, HISTORY

The Other Side of the Struggle: Freeborn Northern Abolitionists, Communication, Perseverance, and Brotherhood

SARAH AHEARN

The history of abolition in the United States is rich, involving many different points of view and stories that are intricately woven together to define the struggle for freedom in America. By focusing on the experience of black slaves and freed people in the South, one will undoubtedly come to realize a rich and intriguing history of a people struggling for their basic rights as humans. However, the personal and public experiences of those blacks who were born free in the North help to fill in the holes of the history of abolition. Those men and women lived in a time where it was only a matter of chance that they had not been condemned into a life of slavery; it was simply a matter of location that had spared them their lives. This particular circumstance cultivated a group of people who were heavily invested in the abolition movement decades before Civil War erupted in America. Aside from being historically relevant, the personal struggles of those in the North to free their brothers and sisters in the South is an intriguing story of perseverance and unity, one that is characteristic of America as a whole.

The Post-Civil War Appeal of the Republican Party to African American Women: Why Support a Fragmented Party?

ANTONIA OVIEDO

African American women's devotion and support for the Republican platform is of importance in defining their ascension into society after the Civil War. The reasons for this support extended far beyond the Republican Party being the party platform that abolished slavery. To them it was more than merely an abolitionist, racially progressive party, but the party that offered to increase their socio-economic status. While African American women were dwelling in Republican politics, Southern white women were quite silent during this time, not just in politics, but also in their submission to the patriarchal aspects of the South. Despite being arguably progressive in terms of race, the Republican Party was also plagued with corruption by entrepreneurs and politicians seeking economic advantages. Ultimately, however African American women supported the Republican Party because despite it's fragmented, and sometimes corrupt tendencies, the party's drive for civil and political equality was not a result of the party's interest in Congressional power, as they gained very little from African Americans in this respect, but the sincere ideology that there should be civil and political equality.

Mistress of Disguise: Understanding How Mildred Lewis Rutherford

Operated as a Lost Cause Ideologist

GRETCHEN BARKHUFF

Mildred Lewis Rutherford is often cited as a leading voice in Lost Cause ideology--a white supremacist ideology that glorified the antebellum south as a way to control the direction of the post-antebellum future. But, while she is rightly noted as a historical figure embedded in a white supremacist social project, an important question remains largely unexplored: How did Rutherford, as a woman, become a major public figure and thinker for a cause that not only desired to maintain a racial hierarchy, but also a gender hierarchy? Her very presence as a public speaker contradicted her own Lost Cause argument that white women's lives were best spent in the home. Taking a step back from Rutherford's words and focusing instead on her actions solves this paradox. Rutherford, who understood the extreme power of image and narrative, literally disguised herself as an old-time southern belle. Through this belle-hood performance she not only secured her social standing as white, upper class individual but also clandestinely broke into the male-dominated public sphere. Essentially, delegitimizing African Americans' claims to freedom allowed Rutherford to exercise elite white female agency and shape the course of history in a society largely controlled by white, wealthy, men.

Burned in Effigy: How the Lost Cause Allowed for Reconciliation through Cultural Performances of Surrogation

JESSE GOLDBERG

In the fifty years following the American Civil War, the very national and cultural identity of the United States was on the brink of deconstruction. The white supremacist narratives on which the country's cultural identity was built were being forcibly challenged by the emancipation of millions of black people from slavery. While some Americans wanted to remember the war as a war fought over slavery - a memory eventually called the emancipationist account of the war, others violently fought to enshrine a different memory into the American cognitive landscape. The continuum of narratives responding to emancipationist accounts of the war came to be collectively known as Lost Cause ideology. The Lost Cause was used to keep white supremacy central to American identity, thereby doing the cultural work of setting the stage for Jim Crow legislation, and allowed the South to engage in multiple complex performances of surrogation in order to cope with the Confederacy's defeat at the hands of the Union. A common identity narrative for white people was forged and bolstered by the literal hanging and burning in effigy of black people. Thus, the lynching of black people following the American Civil War was a cultural performance of surrogation.

4I • HISTORY STURGES 109
Upstate New York Black Freedom Struggle

FACULTY SPONSOR: EMILYE CROSBY, HISTORY
SESSION CHAIR: JOSEPH COPE, HISTORY

"We Spell Black Power in Rochester with Capital Letters – F.I.G.H.T.": Community Organizing and the Black Power Movement in Rochester, NY

DAVID O'DONNELL

This project focuses on the development of FIGHT (Freedom, Integration, God, Honor, Today) an organization that was created in 1965 to organize against racial inequality in Rochester, NY. FIGHT's activism was centered on the issues of employment, poverty, housing, police harassment, and inclusion in decision-making institutions in Rochester. Using Black Power ideology and community organizing tactics, FIGHT attempted to break down structural barriers that prevented racial equality in Rochester. In its early years, FIGHT argued for community representation in Action for a Better Community Inc. (Rochester's community action program), fought to be included in the urban renewal decision making process, created a program to prepare members of the community for civil service exams, and organized for employment opportunities. FIGHT's activism contributes to new understandings of the Black Power Movement and helps refute common myths that Black Power was solely based on violent rhetoric and reverse racism.

The 1971 Attica Prison Rebellion

KEVEN ADAMS

I will present a portion of my thesis on the Attica Prison Rebellion, contrasting inmate demands with the greater black freedom movement. For my presentation I will read an edited version of my thesis, providing brief background on the rebellion itself, while focusing primarily on the demands of the inmates, offering a comparison between prison conditions and urban conditions.

Educational Inequality in Rochester - The Failure of the Rochester City School District to Desegregate

DANIEL BAILEY

The project aims to make sense of the dismal state of the Rochester City School District today by uncovering and evaluating the district's many attempts to reorganize and integrate its schools during the 1960s and early 1970s, as well as the structural and political forces that impeded these efforts. I found that despite the unyielding support of the city's black and white liberal community, which included a very progressive Superintendent and a majority of the school district's principals and teachers, desegregation ultimately failed as a result of a resistant, separatist segment of the white community and a volatile and recurrently conservative Board of Education eager to satisfy the city's conservative power structure. Although numerous comprehensive reorganization plans were proposed, they faced fervent, often hysterical opposition in the predominantly lower and middle class white areas of the city, and were repeatedly reduced by the school board to diluted compromises under pressure from politicians and increasingly powerful anti-busing associations that

fought aggressively to preserve the existing neighborhood school system. By examining the political forces that obstructed integration in Rochester, my project also explains the black and Spanish-speaking communities' eventual desertion of integration to pursue community control of their predominantly non-white schools.

4J • LANGUAGES AND LITERATURES

WELLES 26

La Cultura Moderna de España / Modern Spanish Culture

FACULTY SPONSOR: LORI BERNARD, LANGUAGE AND LITERATURES
SESSION CHAIR: SARAH DZIEKONSKI

The Spanish Civil War and Contemporary Film

MALLORY LONG

Mallory is going to research contemporary films whose subjects deal with the impacts of the Spanish Civil War. She will explore the impact that these films have had on the generations born after the end of the Civil War and after the end of the Franco dictatorship, respectively. She will focus on *Pan's Labyrinth*, *Carol's Journey*, and *Butterfly Tongues*.

Art and Society in Modern Spain

SARAH DZIEKONSKI

Sarah is going to investigate the relationship between social and artistic movements in contemporary Spain. She will speak about movements of the twentieth and twenty-first centuries, including surrealism, cubism, and works created during the period known as *La Movida*.

Contemporary Spanish Television

ANDREA BUSH

Andrea will explore the history and importance of television in Spain. She will look at how television has changed over the course of the twentieth century. Andrea will look at how television and society have mutually influenced one another over the course of the twentieth and twenty-first centuries. She will focus on public television shows.

Spanish Food

KEVIN FELTER

Kevin will look at Spanish food and how gastronomical variety manifests itself as an extension of the distinctive 'Spanish' identities. He will explore several dishes from the different regions of Spain and will examine why each region so fiercely defends their signature dishes.

4K • MATHEMATICS NEWTON 201

Applied Mathematics

SESSION CHAIR: AARON HEAP, MATHEMATICS

Forecasting Time Series Using Multivariate Regression

JAKE BARROTTA, TIM JONES, RYAN COLUCCI

Through an exploration of advanced statistical methods from multivariate regression to autoregressive models the revenue for several businesses was analyzed. Nearly a decade's worth of financial data was used to develop a model for forecasting future revenue. These models attempt to incorporate several business trends including seasonal, cyclical, and secular trends which varied from company to company. While predicting an exact value of future sales is difficult using only statistical methods, we are able to forecast results within a certain confidence interval for each quarter. With this in mind, caution must always be taken when forecasting a result outside of the range of data from which the model was generated. This talk will be a co-presentation between Jake Barrotta, Tim Jones, and Ryan Colucci.

Elasticity Analysis in Populations with Low Birth Rates

RAY COOK

In population biology, age-structured models can be used to study population growth. By various methods of analysis, population biologists seek to determine the impact of individual age-classes on overall population growth. One such method examines changes in survival and fertility between age-classes in proportion to overall trends in the population. This proportional response is called the elasticity and is a measure of the sensitivity to change within an age class. In populations with low birth rates, as is the case with wolves, it becomes difficult to calculate this sensitivity due to low fecundity. One solution to this problem is to simplify the age-structure of the wolf population and then perform an elasticity analysis on the simplified model. The results of this analysis can then be compared to simulated data in the presence of mange to assess the proportional sensitivity of overall population changes to changes in individual age classes. Using this method, we find that young wolves make up the most sensitive age group.

Wavelet Based Pan-Sharpener Techniques

MINCHUL KANG

Pan sharpening is an image sharpening technique that is essential to applications in geosciences, national defense tasks, and even in medical imaging. Pan sharpening is widely used in remote sensing satellites, which use spatial data from a panchromatic image and the spectral characteristics of a multispectral image to create a single image with high spatial and spectral resolution. Four common methods include the Hue-Saturation-Intensity (HSI) Method, the RGB Wavelet Method, the Brovey Method, and the HSI Wavelet Method, which integrates HSI with the RGB Wavelet Method. We examine and present several wavelet and non-wavelet based techniques to determine which method produces the highest fidelity image based on quantitative analysis using Matlab.

4L • PHILOSOPHY STURGES 112

Eastern Philosophical Reflections

FACULTY SPONSOR: CARLO FILICE, PHILOSOPHY
SESSION CHAIR: JEFF HANDY

A Happy Man: Reflections on Chinese Thought and the Individual

SAM PREMINGER

This presentation will offer meditations on the Chinese philosophical traditions of Moism, Confucianism, and Taoism as explored through creative fiction. These historic ideologies will be articulated not merely as a reflection in the abstract, but as an interpretation of how they interrelate; both adding to and amending one another in their application to an individual life. However, as one can only truly write what they know, these Eastern traditions – their perceptions of value, the self, and the ideal way of life – will here be examined through a lens of Western culture, allowing local minds to more easily perceive how such philosophies play out naturally in their own lives while still maintaining and accurately representing core beliefs of the rich and enormously influential traditions of Chinese thought.

A Philosophical Dialogue Over Our Shared Reality

MATT MCNEILL

Poohdism

JEFF HANDY

Benjamin's Hoff's book *The Tao of Pooh* seeks to uncover the ostensibly mysterious principles of the Taoist Eastern philosophy by using Winnie the Pooh as an allegory for the ideal Taoist. However, I think the allegory struggles to translate to the human experience accurately. Hoff doesn't seem to consider the differences between the shallow and deep free wills in Pooh and humans respectively. Pooh's shallow free will makes it impossible for him to do anything other than act in the way an ideal Taoist should by following his Tao (his path or way). Humans, however, have a deep free will that allows them to self-shape, or reprogram, their inborn wants and values. Perhaps it is a fundamental problem of Taoism that it doesn't consider this uniquely human ability. Buddhism, on the other hand, acknowledges our deep free will, encouraging its followers to rid themselves of suffering by actively choosing to eliminate desires. I believe Taoism would more accurately capture the human condition by incorporating some aspects of Buddhism. Let's call this blend of the two philosophies "Poohdism."

Here and Gone: Value in an Impermanent World

ANNA BATTAGLIA

Central to *Hinayana* Buddhist philosophy is the claim that existence necessarily includes suffering. The source of this suffering is attachment to the transitory things of this world. Freedom from suffering and the achievement of *nirvana* must be brought about by developing an "aversion" to all

worldly, impermanent things. The assertion that things in the physical world are transient is difficult to deny; it seems fairly obvious that most if not all worldly objects and experiences will come to an end at some point. However, complete detachment doesn't seem to allow for a lot of what we'd call a healthy enjoyment of life. In this paper, I will advance the position in Filice's *Purpose of Life* which states that things and experiences within the physical world have intrinsic value that demands recognition from us. From this, I will argue that the recognition of value-carrying entities in the physical world inevitably leads to some form of attachment to them. The right kind of attachment would recognize their transience in addition to their possession of positive value, allowing us to enjoy the experiences the physical world has to offer, aware of but unburdened by the knowledge that these things will soon be gone.

4M • POLITICAL SCIENCE & INTERNATIONAL RELATIONS

MILNE 105

State and Society in Comparative Perspective

FACULTY SPONSOR & SESSION CHAIR: VICTORIA FARMER, POLITICAL SCIENCE & INTERNATIONAL RELATIONS

The Internet and the Sociopolitical Development of Nation-States

BENJAMIN JAY

Over the past two decades, the Internet has revolutionized the spread of information across the world. Much like the printing press of the Renaissance, the Internet has enabled access to a wealth of ideas and facilitated greater communication across larger communities than had previously been possible. As Benedict Anderson has argued, Gutenberg's press and the ideas it spread in vernacular languages played a major role in establishing the states of Europe. The Internet has similarly broadened opportunities for social communication and access to information. For example, in India, rapidly expanding mobile networks connect people in remote areas to each other and to their government officials. In China, the Internet can be used to create social networks that give citizens a voice against an autocratic regime. This paper explores the possible effects of Internet technology on state-society relations.

Economic Interests and Working- Class Authoritarianism

STEVEN FISHER

Understanding voting behavior in democracies is difficult, particularly since it is not uncommon for people to vote for outcomes that are directly opposed to their economic interests. Political scientist Seymour Martin Lipset has argued that it is often those lowest on the economic ladder who are most skeptical of the liberal institutions that would offer them the greatest opportunity for upward mobility. This paper analyzes the implications of the theory of working-class authoritarianism in comparative perspective.

National Identities and the State in

Yugoslavia

MATHIEU PAFUNDI

The fall of communism in 1990 throughout the Eastern Bloc and Russia had profound effects on political stability across the globe. Yugoslavia, which had been held together and ruled by the strong hand of its own Communist Party since 1946, quickly broke apart and degenerated in to a series of violent ethnic conflicts. The break up along ethnic lines can be linked to the strong ethnic based nationalism that had existed in the region for over a century. The Communist Party and the strong leadership of Josip Tito had repressed the expression of ethnic nationalism, and prevented nationalist tensions from exploding. This paper investigates the relationship between the state and national identities through a case study of Yugoslavia.

4N • SCHOOL OF BUSINESS 2

SOUTH HALL 338

School of Business

FACULTY SPONSOR & SESSION CHAIR: AVAN JASSAWALLA, SCHOOL OF BUSINESS

Causes and Consequences of Abusive Supervision

JENNIFER HOFFMAN

Factors Contributing to Abusive Behavior a) Displaced aggression- Displacement operates in the mind unconsciously and involves emotions, ideas, or wishes being transferred from their original object to a more acceptable substitute b) Personality/Cultural Conflict Recommendations a) Any work criticism that a boss/supervisor makes to an employee should be legitimate and constructive. b) Managers should acknowledge and recognize employees as full and complete adults who have skills and abilities. Moreover, managers should empathize and understand that employees also have personal life and needs outside the organizations. c) Make sure everyone in the company understands the policies on abusive behavior and what things the company will not tolerate. d) For the bosses/supervisors throughout the company also make sure it is clear the type of punishment that will ensue if they should participate in abusive behavior

Target Corporation: Social

Responsibility, Diversity,

Environmental Responsibility

BRITTANY JORGENSEN, KYLEIGH CARPENTER, KELLY MARKOWIT

Target approaches health and wellness through different programs that incorporate the physical and emotional aspects of employee's health. These programs include health care, adoption assistance, and legal services. Coalitions like the Alliance to Make US Healthiest help to create a common goal of helping U.S. citizens. Target focuses on safer communities, healthy living, and commitment to education. For recruiting, Target maintains relationships with organizations including the National Black MBA Association. Target offers classes like Effective Communication with Overseas

Officers. The number of Hispanic workers has increased. Target has created a website, target.com/espanol. Target employees complained of cultural insensitivity and racial discrimination. Target was sued by the EEOC in February 2002 and NFB in 2006. Recommendations for Target include more direct anti-discrimination policy, training in employee perception, and adhering to lawsuit agreements. Target has excelled in two major environmental areas: utilization of reusable bags and implementing in-store environmental efforts. Despite these successes, proper waste disposal requires much improvement. Target was accused of dumping hazardous materials in trash compactors instead of approved waste disposal areas which cost over 22.5 million dollars in the state of California lawsuits. We recommend that the company provides a better training program for its employees.

Human Resource Management for Chipotle Mexican Grill

ELIZABETH JERABECK, PETER CONLEY

We will describe the steps taken by Human Resource Management of Chipotle in regards to environmental responsibility, corporate responsibility, ethics, eliminating discrimination in employment, sustainability and human rights.

Employees and Organizations

Handling Surprises and Unexpected Events

KAREN SCHVARTZMAN

This presentation will provide an overview of the procedures, course of actions, and precautions that organizations and employees can take in order to better prepare themselves for unexpected events. It was found that observing and learning from organizations that deal on a regular basis with surprises can provide insightful ideas to the upper management of any area. Besides, companies need to accumulate the appropriate resources and have them readily available as needed. We also found that when the knowledge of the task to be completed is shared between employees and everyone has common work flow expectations, the ground is set for the organization to respond to unexpected events and to surprises by making use of organization bricolage. The concept of organization bricolage will be further discussed. Mitroff also proposed a six steps model that allows for organizations to face and overcome surprises and unexpected events.

4O • SOCIOLOGY

STURGES 114

"Yeah, a Cereal Bar is Pretty Healthy."

FACULTY SPONSOR: ELAINE CLEETON, SOCIOLOGY
SESSION CHAIR: ZACHARY DUBOIS

MAKENZIE DELMOTTE, ALEXANDRA DIETZ, ZACHARY DUBOIS, BRITTANY FIATO, DEMIANNA ISKANDAR, CAITLIN MAHER, KATHERINE MURPHY, RHIANNON CARRIER

An ethnographic study of college student food decisions was conducted. 15 students were interviewed, reporting on their daily food choices,

what they believe to be healthy food, and the impact the setting has on what they eat. Analysis of the interviews revealed multiple contradictions challenging intentions to eat well.

4P • THEATRE/DANCE

WADSWORTH AUDITORIUM

The Metamorphosis of Dance- A Reflection of the 20th Century Social Liberation Movement

FACULTY SPONSOR & SESSION CHAIR: JONETTE LANCOS, THEATRE/DANCE

ERIN GIRARD, CAROLINE GERARD, EMMA PORTER, STEPHANIE WILLMARTH

This presentation will outline the historical transition of the dance art form from the classical ballet tradition of the 19th century to today's American modern dance. In our investigation we will examine the particular contributions of American modern dance forerunners, Loie Fuller and Isadora Duncan, to the dance community, as well as the influence of their liberated ideologies and lifestyles on the social liberation movements of the era- the feminist movement in particular. The development of dance transcended artistic boundaries into the social scene, and a progressive American identity was established through dance. This presentation will also incorporate small dance performances in order to demonstrate ideas discussed.

4Q • WOMEN'S STUDIES WELLES 138

Women's Studies Senior Project Presentations

FACULTY SPONSOR & SESSION CHAIR: MELANIE BLOOD, WOMEN'S STUDIES

Becoming Velma: Women in Children's Television

COLLEEN WILSON

Inspired by my own experience of bearing a shocking resemblance to Velma Dinkley from *Scooby Doo*, this presentation will discuss my senior project research about female characters in children's television shows, paying special attention to cartoon representations of females. I will analyze subtle messages expressed in the portrayals of these characters, begging the question, what does TV teach children about gender?

Cross Cultural Comparison of

Sanctioned Partnerships

Yael ROSENSTOCK

While specific partnerships are sanctioned legally, socially, and religiously within a culture, others are still being negotiated as to whether they are acceptable or not within the framework of their culture. I will examine the United States as a starting point to compare sanctioned partnerships found in other cultures.

An Intimate Conversation with Bearde Gavis (Beard-ee Gay-vis) and Nick Allen: Stripped

NICHOLAS BECHT

A presentation by the author and performer(s) of one of the Queer Theatre Festival pieces. A reflection upon some of the ways in which a personal biography can be examined through and engaged with the intersecting lenses of feminist, gender, and queer theory, and how that exploration was then transformed into a staged performance. Some points of interest include: Patriarchy and Gaytriarchy; Coming out of many closets; Beauty myths; Gender expression and transgression; "Performance" anxiety; and Bearded lady drag.

Comparing the Impact of Bystander-Themed vs. Provocative Posters on Sexual Assault Awareness and Willingness to Help Peers

CATHERINE HERMAN

This study will discuss the impact of a poster campaign on Geneseo's campus that specifically targeted sexual assault. The effectiveness of bystander-themed and provocative posters will be analyzed for student's increased awareness of sexual assault as an issue on our campus, willingness to intervene in a situation to help peers, and their overall receptivity to having these types of posters in their residence halls

4R • INTERDISCIPLINARY: GEOGRAPHY & ANTHROPOLOGY

WELLES 115

SESSION CHAIR: DARRELL NORRIS, GEOGRAPHY

Legacies of Colonialism: Retrospect and Prospect in Namibia's Ghost Town Mining Landscape

BRIDGET KELLY

FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY
Post-colonial scholarship conventionally focuses on the persistence of systems of economic activity, power structures, social frameworks and cultural norms, including language. In large part, while important, these systems lack material expression in the landscape. Economic exploitation through mining activity, however, has always been accompanied by striking landscape modification, often subsequently abandoned owing to factors such as depletion, technology, outside competition and fluctuations in market prices. Coastal Namibia, formerly German Southwest Africa, is one such landscape. My presentation focuses on the human landscape infrastructure of diamond mining by German interests in the early 20th century and the subsequent decline of the industry by 1950, leaving ghost and near-ghost towns scattered throughout the Namib Desert. A striking neoliberal legacy of early European exploitation has been evident in the re-visioning of the ghost town landscape as a high-end international tourist experience and the revival of the diamond industry through increased offshore activity. Whether these initiatives will thrive or give in to the stresses of one of the world's most inhospitable landscapes remains to be seen.

Combatting an Invasion of Tastes: A Case Study of French Behavior Toward the Influx of Foreign Cuisine

MARISSA KONIECZKO

FACULTY SPONSOR: ROSEMARIE CHIERICI, ANTHROPOLOGY

In the past century the French gastronomic arena has witnessed a growing influx of foreign and ethnic food. This trend has been linked to increasing globalization and large-scale immigration due to the decolonization movements of the 1960s. While the French have accepted the inevitable inclusion of foreign food into their country, their valuation of these foreign cuisines and the distribution of ethnic restaurants in their cities indicate the power of past prejudices, the formation of a definite culinary hierarchy and a defensive resistance to change. This paper is based on research I conducted during a 5 month study abroad experience in Montpellier, a city on the southern Mediterranean coast of France. The data utilized in this paper was collected from informal discussions with residents, material in the primary literature, my personal observations, and responses to a survey that I administered to a sample of residents. Information from restaurant distribution maps that I created was also included. The data reveal that the native French tend to value their cuisine more highly than any other and increasingly shun the cuisines of immigrant groups, most especially those of the Maghreb peoples from North Africa.

Israeli-American Children: Split Between Two Cultures

ELIZABETH SHENN

FACULTY SPONSOR: ROSEMARIE CHIERICI, ANTHROPOLOGY

Offspring of Israelis who have grown up in the United States often feel that they do not belong fully to either the American or Israeli community. Through interviews, both formal and informal, with and observations of such individuals, mostly between the ages of 17 and 23, it was clear that they explore their identity through language. This can be seen through both code switching and word choice. Based on the data, I argue that the process of identity exploration for Israeli-Americans is dynamic and a pattern has developed which expresses itself through language use.

Toponymic Elements in American Country Music

ELIZABETH RECK

FACULTY SPONSOR: DARRELL NORRIS, GEOGRAPHY

This paper details my study of the past fifty years of American Country music in which many titles of released singles include allusions to geographic place names. The main website where I derived the lists of song titles was Billboard.com, which displays the top Country singles charts from the current week back to around 1960. I recorded the titles with toponymic allusions from every month in that time-span and then analyzed the data according to categories such as the actual place of reference (within the United States), the occurrence of such allusions over time, and artists' gender and geographic origin. The chronological record

suggests that place-specificity in titles enjoyed a strong height when Country "went mainstream" but has lapsed in recent years. My analysis shows that places have historically been an integral element of American country music. However, deeper research has revealed that what appears on the surface to be a steadily increasing occurrence of allusions may actually be evidence of a changing culture of Country music in which place names do not play as major a role.

4S • INTERDISCIPLINARY: BIOLOGY & HISTORY

WELLES 119

SESSION CHAIR: CATHERINE ADAMS, HISTORY

Modelling the Rise and Fall of Empires

HERBERT SUSMANN, ELLIOTT REGAN, NICHOLAS COLLISSON

FACULTY SPONSOR: GREGG HARTVIGSEN, BIOLOGY
Computer modeling has been applied to such diverse fields as molecular biology, epidemiology, and economics. Our presentation will discuss how computer modeling can be applied to the study of history and the reasons for doing so. We implemented a dynamic model of civilizations over time in which empires rise and fall due to endogenous forces. Each empire has levels of assabiya, or social solidarity, that vary over space, increasing near borders and decreasing in the heart of the empire. The ability of an empire to expand is partly determined by its average assabiya over the area of the civilization. This method of modeling lead to complex emergent behavior in which empires went through cycles of expansion, stabilization, and collapse. We compared such an approach to modeling civilization growth with an alternative method based on population growth. This approach, based on the theory of historical secular cycles, models the behavior of an empire based on the relationship between population size and the carrying capacity of the environment. Modeling empires based on population growth also lead to emergent cycles similar to that of the model based on a theory of collective action.

Questions of Authorship and (Mis)attribution in *The Story of Mattie J. Jackson*

STEPHANIE IASIELLO

FACULTY SPONSOR: CATHERINE ADAMS, HISTORY

The concept of authorship is particularly relevant in understanding *The Story of Mattie J. Jackson*. Even keeping with the title page's indication that this narrative is "a true story," "written and arranged by Thompson," "as given by Mattie," there is a third authorial presence that is unacknowledged. That voice belongs to Frances Ellen Watkins Harper, a prominent African American abolitionist and author. While the narrative is replete with allusions to Harper's early work, no attribution within the narrative indicates her contribution-- this applies to all editions of the text, from its original publication in 1866, to the Oxford Press edition (1988), to the most recent reprint in 2010. This essay will explore

the various sites of overlap between *The Story of Mattie J. Jackson* (1866) and *Harper's Poems on Miscellaneous Subjects* (1854). These myriad unattributed instances of borrowing raise numerous questions regarding the authorship of the narrative, which complicate the previous way in which the narrative has been interpreted by scholars.

The Destruction of the HMS Gaspee: The First Attack of the American Revolution

TOBY RING

FACULTY SPONSOR: CATHERINE ADAMS, HISTORY
In 1772, the men of Rhode Island attacked the HMS Gaspee, shot the captain, and destroyed the ship. This marked the first attack on a British Officer and first destruction of British Navy Ship in the American colonies. While the British, infuriated by this direct attack investigated, they were unable to find a guilty party. However, the investigation produced a wave of fear across the colonies which resulted in the committees of correspondence. The Gaspee Affair, although commonly overlooked, contains many important themes and displays the struggles and frustrations of a merchant community outside of Boston on the eve of the Revolution. This presentation looks at the history of the attack, how it fits into the current historiography of the American Revolution, why it is not more commonly known, and how we can teach it.

St. Francis of Assisi: Depictions in Art and Literature in the Thirteenth Century

HANNAH SCHMIDT

FACULTY SPONSOR: BILL COOK, HISTORY

In the decades and centuries following his death and canonization, Francis was for many another kind of savior. His sanctity is almost unparalleled; he was canonized only two years after his death. But it is the accessibility of his holiness that made and continues to make him so popular. Francis demonstrated that sainthood, or at least deep spirituality, was achievable despite one's circumstances. This presentation examines how biographies and painted dossals depicting the saint developed in the century following his death. As teaching tools, they were enormously influential in cementing Francis' legend while instructing others in how best to follow him. This paper was made possible by the 2011 Geneseo Foundation Undergraduate Summer Fellowship.

4T • ENGLISH MOVED TO WELLES 111 A Reading of Poetry and Fiction by David Alliger, Walter Murphy, and Greg Sorin

FACULTY SPONSOR: RACHEL HALL, ENGLISH
SESSION CHAIR: GREG SORIN

Insomniac Chair (Collected Poems from Oct 2008 - Feb 2012), by Walter Murphy

WALTER MURPHY

I am reading a collection of 8 poems written over the course of my SUNY Geneseo career. The themes dealt with are art itself, nature, the social and psychological issues being dealt with by our so called 'post-9/11' generation, and love, of course. Here is one brief poem as a sample: *Seconds Have*

The Time Seconds have the time to guide the words that years can not revise. The wall surfaced over again to hide what might be tethered by any passing mind. I found a scorekeeper's pencil in a gap between the bricks and was written underneath, in a hand retraced and missed--"Rubble" The earth never blinks.

Corduroy

GREG SORIN

"Corduroy" follows Harold, a man now in the later years of his life, as he struggles to accept that he is alone. Even now that he has moved in with his daughter, granddaughter, and son-in-law (whom he can't stand) in a New York City apartment, he must find a way to keep going now that his wife is gone and his life as he knew it has ended.

Different Girl

DAVID ALLIGER

"Different Girl" is a short story in which a young man named Shawn attempts to reconnect over pizza with an old friend from high school named Vera. As the story continues, it should become clear to the reader (or listener) that Vera is a transgendered female, that Shawn is struggling to adapt to his friend's new expression of her identity and that things have been awkward since they kissed last year. After lunch, the two friends go back to Vera's apartment and Shawn's announcement that he will be moving to New York City doesn't invoke the reaction he expects. This story is mostly about Shawn and his inner struggles as his attraction to Vera forces him to face questions about his sexuality, identity, and even his place in the world.

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**GREAT Day 2012
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