



APRIL 17-18

2015



**EASTERN**  
CONNECTICUT  
STATE UNIVERSITY



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# CREATE, April 17-18, 2015

## Schedule of Events

### Friday April 17<sup>th</sup>

- 2:30-3:00      **Registration:** Science Building Lobby
- 3:00-3:30      **Opening Ceremony:** Science Room 104
- Welcome:** *Dr Dickson Cunningham, CREATE Committee Chair*
- Opening Remarks:** *Dr Rhona Free, Provost*
- Presentation of Undergraduate Research and Creative Activity Mentor Award**
- 3:40-4:00      **Oral Presentation 1:** Science Building – see detailed program
- 4:00-4:20      **Oral Presentation 2:** Science Building – see detailed program
- 4:20-4:40      **Oral Presentation 3:** Science Building – see detailed program
- 4:50-5:30      **Poster Session I:** Science Building Lobby
- Photography Exhibit:** Science Building Rooms 114, 116
- 5:30-6:30      **Reception and Music and Dance Performances:** Lobby and Room 104

### Saturday April 18<sup>th</sup>

- 9:30-10:00     **Registration and Breakfast:** Science Building Lobby
- 10:00-10:20    **Oral Presentation 1:** Science Building – see detailed program
- 10:20-10:40    **Oral Presentation 2:** Science Building – see detailed program
- 10:40-11:00    **Oral Presentation 3:** Science Building – see detailed program
- 11:00-11:50    **Poster Session II:** Science Building Lobby
- 11:00-1:00     **Visual Arts Exhibition:** Student Center 223
- 12:00-1:00     **Lunch and Music Performances:** Science Building Lobby and Room 104

This year's inaugural CREATE event is a celebration of the breadth and depth of Eastern's undergraduate research, experiential learning and artistic talent. In support of the University's 2013 Strategic Plan, CREATE serves to 1) reinforce high-impact practices such as mentored research and creative projects, 2) increase the percentage of students presenting their research and creative work, 3) raise public awareness of Eastern's uniqueness and the accomplishments of its students, and 4) contribute to the intellectual richness of our campus community.

**Conference Organizational Committee:**

Theresa Bouley  
Carmen Cid  
Maryanne Clifford Co-Chair  
Amy Coffey  
Robert Collins  
Elizabeth Cowles  
Dickson Cunningham Co-Chair  
Dan Donaghy  
Jacob Easley  
Carlos Escoto

Mehdi Khorami  
Martin Mendoza-Bothelho  
Kristen Morgan  
Niti Pandey  
Nick Parsons  
Afarin Rahmanifar  
Kristalyn Salters-Pedneault  
Teri Toles-Patkin  
Nanette Tummers



# Oral Presentations, Exhibits and Demonstrations, Friday April 17, 2015

Time	<u>Science 104</u>	<u>Science 114</u>	<u>Science 116</u> Moderator: Miriam Chirico	<u>Science 117</u> Moderator: Stephen Nathan	<u>Science 132</u> Moderator: Nicole Krassas	<u>Science 134</u> Moderator: Mehdi Khorami	<u>Science 215</u> Moderator: Martin Mendoza-Botelho	<u>Science 231</u> Moderator: Sukeshini Grandhi	<u>Science 236</u> Moderator: Liz Cowles
<b>3:40-4:00</b>	<b>Panel Discussion: Labor and Monopoly Capital</b> <b>Amanda-Marie Goode, Miles Wilkerson, and Christopher Tilley (SOC)</b> Faculty Mentor: Dennis Canterbury	-	<b>Kristen Chonko (ENG)</b>  'Do not you love me?' : Wit, Deception, and Love in Shakespeare's Comedies  Faculty Mentor: Miriam Chirico	<b>Patrick Boyne (COMM)</b>  Eastern Explores  Faculty Mentor: Andrew Utterback	<b>Stephanie Madden (PA)</b>  Communicating in Alice's Wonderland  Faculty Mentor: Chase Rozelle	<b>Naomi Hurvitz (M&amp;CS)</b>  The Relationship Between Alcohol Consumption and Religion  Faculty Mentor: Peter Johnson	<b>Matthew Hicks (PSP&amp;G)</b>  The Perceptions of Online Courses and In Person Courses at Eastern Connecticut State University  Faculty Mentor: Nicole Krassas	<b>Laura Markley (EES)</b>  Evaluating Geologic or Anthropogenic Influences on Arsenic Contamination in Groundwater  Faculty Mentor: Meredith Metcalf	<b>Alice DiFrancesco (BIO)</b>  Expression and function of ODD-2 in the C. elegans germline  Faculty Mentor: Amy Groth
<b>4:00-4:20</b>		-	<b>Matthew Bossi (ENG)</b>  'Scrap It!': Creative Evolution through Disillusion in Shaw  Faculty Mentor: Miriam Chirico	<b>Hannah Giuffre (COMM)</b>  FYE-- A Comedy  Faculty Mentor: Denise Matthews	<b>Nathan Lafontaine (PA)</b>  An exploration into the presence and pervasiveness of the Noh theatrical tradition with respect to the works of contemporary Japanese film maker Takeshi Kitano  Faculty Mentor: David Pelligrini	<b>Emily Ayoubi (W&amp;GS)</b>  The Hijab: Resisting the Beauty Industry in a Colonized World  Faculty Mentor: Maureen McDonnell	<b>Je'Quana Orr (PSP&amp;G)</b>  How Does the Hartford Academy System Compare to the Other Choice Programs in Hartford?  Faculty Mentor: Nicole Krassas	<b>Brandi Borowski (BUS)</b>  Primary and Secondary Stakeholders in Sustainable Development Projects: Implications for Community Engagement and Partnership  Faculty Mentor: Niti Pandey	<b>Bryan Lehner (BIO)</b>  Catalytic Efficiencies of Enolase from Fast- and Slow-Killing Genotypes of Paenibacillus larvae, the Causative Agent of American Foulbrood  Faculty Mentor: Ross Koning
<b>4:20-4:40</b>		<b>Photo Exhibit through 6:30pm</b>  Faculty Mentor: Martin Seymour	<b>Mikalya Zagata (ENG)</b>  All is Not Fair in Love and War: The Usage of Facades  Faculty Mentor: Maureen McDonnell	<b>Anthony Miclon (COMM)</b>  Production of a Narrative Short Film  Faculty Mentor: Edmond Chibeau	<b>Megan Sargent (ENG)</b>  Meaningful Links to Literacy: Journaling in the Classroom  Faculty Mentor: Lauren Rosenberg	<b>Deanna Jimenez (W&amp;GS)</b>  From Personal Decisions to Human Rights: Reproductive Justice  Faculty Mentor: Maureen McDonnell	<b>Christian Page (M&amp;CS)</b>  The Relationship between Gender, Class Standing, Academic Major and Performance in College Statistics  Faculty Mentor: Peter Johnson	<b>Christopher Marchand (BUS)</b>  Barriers to an interoperable electronic health record across healthcare providers: A socio-technical perspective.  Faculty Mentor: Kim Kunene	<b>Jonathan Henault (BIO)</b>  Testing the validity of subspecies designations for a large but little known scorpion from the Mojave and Sonoran Deserts  Faculty Mentor: Matthew Graham
<b>4:40-6:30</b>		-	<b>Photo Exhibit</b>	<b>Photo project slide show</b>	-	-	-	-	-

Note that some presentations may have more than one author, but in the interest of conserving space, only the first author is shown above. Please see abstracts for full author details.

# Oral Presentations, Exhibits and Demonstrations, Saturday April 18, 2015

Time	<u>Science 104</u> Moderator: Emily Riggs	<u>Science 114</u> Moderator: Sudha Swaminathan	<u>Science 116</u> Moderator: Olugbenga Ayeni	<u>Science 117</u> Moderator: Dan Donaghy	<u>Science 132</u> Moderator: Dickson Cunningham	<u>Science 134</u> Moderator: Kristi Salters-Pedneault	<u>Science 215</u> Moderator: Niti Pandey
<b>10:00-10:20</b>	<b>Mackenzie Cook (A&amp;AH)</b>  Color Theory and Alma Thomas  Faculty Mentor: Gail Gelburd	<b>Brooke Baton (EDU)</b>  Exploring Animal Habitats with Preschoolers  Faculty Mentor: Sudha Swaminathan	<b>Zachary LaSala (COMM)</b>  Mighty Morphin Parody Rangers: A study of parody law and how it applies to fan made creations  Faculty Mentor: Terri Toles-Patkin	<b>Brooke Baldwin (ENG)</b>  See Me After Class: Student-Teacher Relationships in Short Stories  Faculty Mentor: Lisa Fraustino	<b>Sanchez, Erika (W&amp;GS)</b>  Voices of Invisible Mujeres: Tales of Living on Both Sides  Faculty Mentor: Joan Meznar	<b>Harrison McNair (PSP&amp;G)</b>  Political Integration in South America  Faculty Mentor: Martin Mendoza-Botelho	<b>Gregory Prescott (BUS)</b>  International Marketing in Kenya and the East African Community: Opportunities and Obstacles  Faculty Mentor: Branko Cavarkapa
<b>10:20-10:40</b>	<b>MaggieMarie Casto (PA)</b>  Staying Organized: A Theatrical Stage Manager's Battle  Faculty Mentor: Chase Rozelle	<b>Ashley Trotter (EDU)</b>  Face Time vs. Screen Time: The Social Impact of Online Communication on Today's First Year College Student  Faculty Mentor: Catherine Tannahill	<b>Hillary Cavender (COMM)</b>  Back to College Shopping at Target  Faculty Mentor: Olugbenga Ayeni	<b>Alexander Zacharie (PSP&amp;G)</b>  Ahimsa in Modern Society  Faculty Mentor: Hope Fitz	<b>Upton-Pepin, Jennifer (SA&amp;SW)</b>  Becoming Global Citizens: Expanding Horizons Beyond Eastern Connecticut State University  Faculty Mentor: Ricardo Perez	<b>Miles Wilkerson (HIS)</b>  Nunca Olvide: Reframing Historical Discourse on Cuban Exile Terrorism  Faculty Mentor: Joan Meznar	<b>Daniel Wunderlin (BUS)</b>  Tax Implications of the Affordable Care Act  Faculty Mentor: Richard Silkoff
<b>10:40-11:00</b>	<b>Rena St. John (PA)</b>  Musical Elements of Norwegian Nationalism in Edvard Grieg's Haugtussa  Faculty Mentor: Emily Riggs	<b>Heather Oski (EDU)</b>  Effects of Toys on the Play Quality of Preschool Children: Influence of Gender, Ethnicity, and Socioeconomic Status  Faculty Mentor: Jeffrey Trawick-Smith	<b>Zachary Polhemus (COMM)</b>  Collegiate Effie Target Brand Challenge Entry  Faculty Mentor: Olugbenga Ayeni	<b>Alexandra Rogan (ENG)</b>  Ideology and Identity Crisis in Atheist Social Movements: The Case of the Sunday Assembly  Faculty Mentor: Barbara Liu	<b>John Harakas (M&amp;CS)</b>  Achieving Greater Versatility In 3D Printing  Faculty Mentor: Joel Rosiene	<b>Bethany Niebanck (HIS)</b>  The Harp, the Stars, and the Dollar: Irish Immigrants and their Motivations for Fighting in the Union Army during the American Civil War  Faculty Mentor: Anna Kirchmann	<b>Mackenzie Williams (BUS)</b>  Dynamic Continuity: The Power of Adaptability in the Graphic Design Industry  Faculty Mentor: Niti Pandey

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**Poster Session I**  
**Friday, April 17, 2015**

**Biology**

**PHYLOGEOGRAPHY OF THE CALIFORNIA DUNE SCORPION, SMERINGURUS MESAENSIS (SCORPIONES: VAEJOVIDAE)**

**Couceiro, Sabrina**

*Faculty Mentor:* Matthew Graham

**A LIFE OF RHYTHM AND BLUES: CORRELATES AND CHANGES IN ACTIVITY PATTERNS AND CIRCADIAN RHYTHMS IN TROPICAL SLIPPER LOBSTERS**

**Maciolek, Alex**

*Faculty Mentor:* Jason Goldstein

**Business Administration**

**FORENSIC ACCOUNTING IN DEVELOPING NATIONS: THE ANALYSIS OF OFFSHORE BANKING IN THE BAHAMAS**

**Chrzanowska, Karolina**

*Faculty Mentor:* Candice Deal

**THE CHALLENGES OF IMPLEMENTING HUMAN RESOURCE BEST PRACTICES IN NON-PROFIT ORGANIZATIONS**

**Fogarty, Rachael**

*Faculty Mentor:* Niti Pandey

**THE DICHOTOMY OF STUDENT VIEWS ON SUSTAINABLE CAMPUS DEVELOPMENT: STAKEHOLDERS, BUT NOT ENGAGED**

**Prevost, Lauren**

*Faculty Mentor:* Niti Pandey

**THE LEGACY OF THE INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS: THE CASE OF BOEING**

**Quinn, Devin**

*Faculty Mentor:* Niti Pandey

**THE INEQUALITIES OF SAUDI ARABIA'S LABOR FORCE: AN INQUIRY INTO TRADITION VERSUS MODERNIZATION**

**Silva, Robert**

*Faculty Mentor:* Niti Pandey

**WHO IS DRINKING WINE IN THE UNITED STATES? THE DEMOGRAPHIC AND SOCIOECONOMIC PROFILE OF U.S. WINE CONSUMERS. MY PARTICIPATION AS A RESEARCH ASSISTANT ON A PROFESSOR'S PAPER ELABORATION.**

**Soendergaard, Nicolai**

*Faculty Mentor:* Emiliano Villanueva

**Communication**

**GOING VIRAL, UNDERSTANDING SOCIAL MEDIA TRENDS**

**Burkhardt, Amy**

*Faculty Mentor:* Terri Toles-Patkin

**NEWS SOURCE AND THE PERCEPTION OF POLICE**

**Eckert, Amanda**

*Faculty Mentor:* Melanie Savelli

**HOW SOCIAL MEDIA AFFECTS A COLLEGE STUDENT'S THOUGHTS ON GLOBAL WARMING**

**Kmiecik, Patrick**

*Faculty Mentor:* Melanie Savelli

**DOES EXERCISE REDUCE THE DESIRE FOR SMOKING CIGARETTES?**

**Quattropani, Nicholas**

*Faculty Mentor:* Melanie Savelli

**BEAUTY LIES IN THE EYES OF THE BEHOLDER**

**Valenzuela, Elizabeth**

*Faculty Mentor:* Terri Toles-Patkin

## **Environmental Earth Science**

**POLYDEFORMATION AND INTRUSIVE BRECCIATION OF THE ROPE FERRY GNEISS IN OUTCROPS ALONG THE WATERFORD-NIANTIC COASTLINE, EASTERN CONNECTICUT**

**Davda, Ujjwal**

*Faculty Mentor:* Dickson Cunningham

**CREATING EDUCATIONAL RESOURCES FOR DINOSAUR STATE PARK USING LASER SCANNING AND LOW-LEVEL PHOTOGRAPHY**

**Lorange, Jacqueline**

*Faculty Mentor:* James (Drew) Hyatt and Meredith Metcalf

**INFLUENCE OF FAULTING ON STRATIGRAPHIC RELATIONSHIPS WITHIN LOWER JURASSIC BASALT AND SILICICLASTIC FORMATIONS IN THE HARTFORD BASIN, CONNECTICUT**

**Marsie, Matt**

*Faculty Mentor:* Peter Drzewiecki

**THE VERTICAL LIMIT OF BLUFF EROSION ON BLOCK ISLAND, RHODE ISLAND USING TOPOGRAPHIC PROFILES EXTRACTED FROM PRE AND POST STORM LIDAR**

**McDonald, Amber**

*Faculty Mentor:* Bryan Oakley

**A REGIONAL-SCALE, EAST-VERGENT, OVERTURNED FOLD PAIR IN THE VALLEY FALLS-BOLTON NOTCH STAUROLITE-GARNET SCHIST BELT, EASTERN CONNECTICUT**

**Mokoski, Kevin**

*Faculty Mentor:* Dickson Cunningham

**A SPATIALLY LOCATED POST-SANDY DATABASE OF PHOTOMOSAICS OF THE BLOCK ISLAND BLUFFS**

**Sumeersarnauth, Brandan**

*Faculty Mentor:* Bryan Oakley

## **Kinesiology & Physical Education**

**LEED CERTIFICATION TRENDS IN PROFESSIONAL SPORTS FACILITIES**

**Volza, Marc**

*Faculty Mentor:* Gregory Kane

## **Mathematics & Computer Science**

### **FINDING IMMERSIONS OF COMPLETE GRAPHS**

**Shannon, Anna**

*Faculty Mentor:* Megan Heenehan

## **Physical Sciences**

### **BIOPROSPECTING WITH ACINETOBACTER BAYLYI ADP1**

**Madden-Hennessey, Kirby**

*Faculty Mentor:* Robert Collins

## **Psychology**

### **DON'T BE LAZY, TAKE THE STAIRS: DECREASING ELEVATOR USE BY WAY OF POSITIVE AND NEGATIVE MESSAGES**

**Blydenburg, Dana**

*Faculty Mentor:* James Diller

### **DETERMINANTS OF STRESS FOR PROFESSORS**

**Brown, Robert**

*Faculty Mentor:* Peter Bachiochi

### **PROMOTING CONSERVATIVE BEHAVIORS USING EMAILS AND VISUAL PROMPTING**

**Daneault, Katherine**

*Faculty Mentor:* James Diller

### **ARE NEUROTICISM, EXTRAVERSION, CONSCIENTIOUSNESS, AND COLLEGE GRADE LEVEL RELATED TO SLEEP QUALITY?**

**Francione, Brei**

*Faculty Mentor:* James Diller

### **THE ETIOLOGY OF CHILDHOOD-ONSET SCHIZOPHRENIA: RECENT RESEARCH FROM A NEURODEVELOPMENTAL PERSPECTIVE**

**Oski, Heather**

*Faculty Mentor:* Jeffrey Danforth

**SEWING FOR SUSTAINABILITY: A BEHAVIORAL SKILLS TRAINING INTERVENTION**

**Verespie, Shyann**

*Faculty Mentor: James Diller*

**Poster Session II**

**Saturday, April 18, 2015**

**Biology**

**THE FIRST MEGAPHYLOGENY OF THOMISIDAE**

**DePonte, Alexa**

*Faculty Mentor: Matthew Graham*

**ELUCIDATING CRYPTIC SPECIES IN THE SOUTHERN UNSTRIPED SCORPION, VAEJOVIS CAROLINIANUS  
(SCORPIONES: VAEJOVIDAE)**

**Sampognaro, Alyssa**

*Faculty Mentor: Matthew Graham*

**Business Administration**

**PRIVACY AND REPUTATION MANAGEMENT IN SOCIAL MEDIA: A USER STUDY OF DRINKING SELF-DISCLOSURE PRACTICES IN SNAPCHAT**

**Allen, Derek**

*Faculty Mentor: Jason Goldstein*

**CONSUMER FRUSTRATIONS WITH PREVENTATIVE HEALTHCARE MANAGEMENT AND ITS IMPLICATIONS FOR THE DESIGN OF PERSONAL HEALTHCARE MANAGEMENT TOOLS**

**Calderon, Elizabeth**

*Faculty Mentor: Sukeshini Grandhi*

**WORK SYSTEM METHOD ANALYSIS OF SAKURA GARDEN JAPANESE STEAKHOUSE**

**Colon, Caitlin**

*Faculty Mentor: Don Petkov*

**SYSTEMS ANALYSIS OF THE OPERATIONS OF THE CAMPUS ACTIVITY BOARD**

**Hayes, Bryan**

*Faculty Mentor:* Don Petkov

**USER EXPERIENCE WITH WEARABLE TECHNOLOGY: A DESIGN EVALUATION OF TIMEX IRONMAN WRISTBAND**

**Palmer, Isabelle**

*Faculty Mentor:* Sukeshini Grandhi

**STAKEHOLDER ENGAGEMENT IN PUBLIC ORGANIZATIONS: COLLABORATION VS. CONTROL**

**Paquette, Clarissa**

*Faculty Mentor:* Niti Pandey

**UNDERSTANDING THE ROLE OF HEALTHCARE PROVIDERS IN PREVENTIVE HEALTHCARE: INSIGHTS FOR DESIGN OF HEALTHCARE TECHNOLOGY**

**Smerling, Stephanie**

*Faculty Mentor:* Sukeshini Grandhi

**DESIGNING KNOWLEDGE TRANSFER ARTIFACTS FOR TASK HANDOVERS USING USER-CENTRIC DESIGN PRINCIPLES**

**Stebbins, Tyler**

*Faculty Mentor:* Sukeshini Grandhi

**Communication**

**STUDYING THE EFFECTS OF VIOLENCE FROM VIDEO GAMES IN COLLEGE STUDENTS**

**Cavender, Hillary**

*Faculty Mentor:* Melanie Savelli

**CELL PHONE USAGE IN THE CLASSROOM**

**Reis, Dylan**

*Faculty Mentor:* Melanie Savelli

**SOCIAL MEDIA, SLACKTIVISM, AND TERRORISM: A DEADLY TRIO**

**Sylvester, Andrea**

*Faculty Mentor:* Terri Toles-Patkin

**Female Professional Wrestlers Impact on Young Women**

**Tunnichiff, Paige**

*Faculty Mentor:* Terri Toles-Patkin

**Environmental Earth Science**

**INVESTIGATION OF CONTROLLABLE ELECTRICAL LIGHTING AND COMPUTER LOADS AT ECSU**

**Eldridge, Elizabeth**

*Faculty Mentor:* Paul Torcellini

**SOURCE PARAMETERS OF LARGE MAGNITUDE SUBDUCTION ZONE EARTHQUAKES ALONG OAXACA, MEXICO**

**Fannon, Mackenzie**

*Faculty Mentor:* Susan Bilek (New Mexico Tech)

**DETERMINING INTERNAL ARCHITECTURE OF HAIN'S PIT GLACIOFLUVIAL DEPOSITS USING GROUND PENETRATING RADAR**

**Houle, Ashley**

*Faculty Mentor:* James (Drew) Hyatt

**THE SOUTH CHINA SEA: A KEY TO UNDERSTANDING THE ASIAN MONSOON AND CLIMATE CHANGE**

**Rogers, Stephanie**

*Faculty Mentor:* Stephen Nathan

**ESTIMATING SOFT SEDIMENT VOLUME AND ANALYZING CORE SAMPLES OF DEPOSITS IN ANDOVER LAKE**

**Walter, Samantha**

*Faculty Mentor:* James (Drew) Hyatt and Meredith Metcalf

**ANALYZING GEOTHERMAL PROPERTIES OF HARTFORD BASIN MATERIAL**

**Wicks, Brian**

*Faculty Mentor:* Stephen Nathan

**Kinesiology & Physical Education**

**THE HISTORY OF EASTERN CONNECTICUT STATE UNIVERSITY RUGBY: A SOCIO-CULTURAL ANALYSIS**

**Jones, Eric**

*Faculty Mentor:* Ari de Wilde

**Mathematics & Computer Science**

**UNDERSTANDING PRIVACY IN THE DIGITAL AGE**

**Boyne, Patrick**

*Faculty Mentor:* Garrett Dancik

**A PARALLEL SIMULATION OF THE SOLAR SYSTEM TO ASSESS THREAT FROM ASTEROID IMPACT**

**Davenport, Alex**

*Faculty Mentor:* Sarah Tasneem

**THE BENEFITS OF COMPUTER HACKING**

**Fitch, David**

*Faculty Mentor:* Garrett Dancik

**A WEB-BASED TOOL FOR THE ANALYSIS OF GENE EXPRESSION OMNIBUS DATA USING SHINY**

**Liao, Ken-Heng**

*Faculty Mentor:* Garrett Dancik

**Physical Sciences**

**DENATURATION STUDIES OF FLUORESCENT PROTEINS**

**Kamuda, Troy**

*Faculty Mentor:* Robert Collins

**Psychology**

**GENDER DIFFERENCES WITH FINANCIAL STRAIN: COLLEGE STUDENT'S ATTITUDES TOWARDS MONEY AND DEBT**

**Bonneville, Jessica**

*Faculty Mentor:* James Diller

**CHILD AGE AT TIME OF PARENTAL DIVORCE; DOES IT PREDICT SIBLING AND PARENTAL CLOSENESS?**

**Daneault, Katherine**

*Faculty Mentor:* Kristalyn (Kristi) Salters-Pedneault

**EFFECTS OF IMPULSIVITY ON HARMFUL ALCOHOL USE AND ACADEMIC OUTCOMES**

**Ferreira, Stephanie**

*Faculty Mentor:* Joseph Dracobly

**PORNOGRAPHY USE AND ASSOCIATED GENDER DIFFERENCES: PREDICTING RELATIONSHIP HEALTH AND SEXUAL SATISFACTION**

**Gelino, Brett**

*Faculty Mentor:* Kristalyn (Kristi) Salters-Pedneault

**ASSESSMENT OF AUTISM IN INFANCY**

**Gray, Jenna**

*Faculty Mentor:* Jeffrey Danforth

**BEHAVIOR ANALYSIS IN HIGHER EDUCATION: A REVIEW**

**Thibodeau, Kaitlin**

*Faculty Mentor:* James Diller

## Music and Dance Performances

-Friday Reception-

### DNC 240- West African Dance (selected students; 12-15 mins):

**Tacia Bryant, Hannah Bythrow, Kate Cannamela, Shaneece Earle, Lauren Grenier, Chardell Hawley, Shannee Ladson-Varnell, Andre Reynolds and Victoria Ritacco.**

**Under the direction of Professor Alycia Bright Holland.**

**Musical accompanist by Matthew Dean, Alycia Bright Holland and James Holland**

Original group choreography of traditional dance rhythm *Kpanlogo*, a recreational dance from Ghana, West Africa. Under direction of Professor Alycia Bright Holland

### MUS 113- Opera Workshop (selected students; 10-12 mins):

**Melinda DeDominicis, soprano**

**Alexis Kurtz, soprano**

**Kyle Girard, tenor**

**Renae St. John, mezzo-soprano**

**Eric Ouellette, piano**

**Dr. Emily Riggs, Director**

Members of Eastern Opera Workshop will present scenes from Mozart's *The Marriage of Figaro* and Gilbert and Sullivan's *The Mikado*.

-Saturday Closing Reception-

### Women's Ensemble (12-15 mins):

**Melinda DeDominicis**

**Jordan LaRusso**

**Martha Denisky**

**Alexis Kurtz**

**Hannah Bythrow**

**Halie Poirier**

**Moriah Perrett**

**Abigail Perreira**

**Allison Rollins**

**Judy Reid**

**Renae St. John**

**Dr. Emily Riggs, Director**

The Road Home.....Stephen Paulus

Soloist: **Alexis Kurtz**, soprano

Breaths.....arr. Ysaye M. Barnwell

Soloists: **Melinda DeDominicis**, soprano; **Renae St. John**, alto

Bring me a Little Water, Sylvie.....arr. Moira Smiley

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## ARTWORK

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### GOOFBALLS BEHIND THE CHARACTER

**Battye, Morgan (Art & Art History)**

*Faculty Mentor:* Imna Arroyo

Screenprint. 22" x 30"

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### ROSE

**Bibee, Erica (Art & Art History)**

*Faculty Mentor:* Afarin Rahmanifar

Oil. 18" x 24"

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### WINSTON THE ELEPHANT

**Bibee, Erica (Art & Art History)**

*Faculty Mentor:* Afarin Rahmanifar

Watercolor. 18" x 24"

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### DREAMCATCHER (FOREST)

**Culbertson, James (Art & Art History)**

*Faculty Mentor:* Imna Arroyo

Linoleum Print. 20" x 20"

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### TIME TO UNIFY, 1 & 2

**Dokurno, Mary (Art & Art History)**

*Faculty Mentor:* Afarin Rahmanifar

1- Oil paint, 2- Mixed media. 1- 18" x 24"; 2- 17" x 23"

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## ASCENSION

**Graham, John (Art & Art History)**

*Faculty Mentor:* Imna Arroyo

Linoleum reduction. 14.5" x 11"

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## UNDER THE SEA

**Hagearty, Morgan (Art & Art History)**

*Faculty Mentor:* Imna Arroyo

Linoleum Print.

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## ASHES

**Hagearty, Morgan (Art & Art History)**

*Faculty Mentor:* William (Andy) Jones

Acrylic.

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## CHARLESTOWN, RI

**Hagearty, Morgan (Art & Art History)**

*Faculty Mentor:* William (Andy) Jones

Oil. 9" x 12"

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## WALK SIGNAL

**Ingolia, Rebecca (Art & Art History)**

*Faculty Mentor:* Imna Arroyo

Mixed media; collagraph, silk organza, and polyester plate lithography. 27" x 41"

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## THE VEIL OF THE TEMPLE

**Khan, Nicholas (Art & Art History)**

*Faculty Mentor:* William (Andy) Jones

Acrylic and oil paints on canvas, old texts, aluminum tacks and nails. 18" x 24"

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**PORTRAIT OF EMILY RODRIGUE**

**Radziunas, Michelle, Read, Kirsten, Rodrigue, Emily (Art & Art History)**

*Faculty Mentor:* Claudia Widdiss

Fired Clay. 12" x 10" x 10"

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**PORTRAIT OF MICHELLE RADZIUNAS**

**Read, Kirsten, Radziunas, Michelle, Rodrigue, Emily (Art & Art History)**

*Faculty Mentor:* Claudia Widdiss

Ceramic. 14"

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**KIRSTEN**

**Rodrigue, Emily (Art & Art History)**

*Faculty Mentor:* Claudia Widdiss

Clay. 16"

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**UNTITLED**

**Shannon, Roshelle (Art & Art History)**

*Faculty Mentor:* Afarin Rahmanifar

Water Color. 18" x 24"

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**UNTITLED**

**Toth, Alyssa (Art & Art History)**

*Faculty Mentor:* Qimin Liu

Graphite. 17" x 24"

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**PURITY & GOODNESS**

**Wagner, Jessica (Art & Art History)**

*Faculty Mentor:* Afarin Rahmanifar

Acrylic Paint. 18" x 15"

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## **COLOR DIMENSIONS**

### **Wagner, Jessica (Art & Art History)**

*Faculty Mentor:* Afarin Rahmanifar

Acrylic Paint. 15" x 18"

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## **FLOWING THROUGH VIBRANCE**

### **Wagner, Jessica (Art & Art History)**

*Faculty Mentor:* Imna Arroyo

Collagraph Print. 15" x 13"

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## **21ST CENTURY SNACK**

### **Sadlon, Elana (Art & Art History)**

*Faculty Mentor:* Terri Toles-Patkin

Canvas, acrylic and collage. 18" x 24"

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## **Photography (Art Exhibit)**

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### **LATE AFTERNOON**

#### **Cranick, Alyson (Art & Art History)**

*Faculty Mentor:* Caroline Valites

Ink Jet Print. 12" x 18"

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### **BEEPS & BOOPS**

#### **Donohue, Marguerite (Art & Art History)**

*Faculty Mentor:* Caroline Valites

Photography. 14" x 18.6"

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### **OBSCURED LIGHTS**

**Leung, Mindy (Art & Art History)**

*Faculty Mentor:* Caroline Valites

Photography. 16”

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**BELOW THE KNEE**

**Malia, Meg (Art & Art History)**

*Faculty Mentor:* Caroline Valites

Photography. 12” x 21”

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**SCREEN SHOT**

**Musson, Austin, Scott, Tyler (Art & Art History)**

*Faculty Mentor:* Caroline Valites

Photography. 14” x 16”

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**JAR OF LIGHT**

**Sprague, Nate (Art & Art History)**

*Faculty Mentor:* Caroline Valites

Photography. 4320 pixels x 2949 pixels

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## Communication Department Student Photography Exhibit

Instructor and Mentor: Martin Seymour

### The Framed Print Exhibit

#### Com 210 Photography 1

A Visual Communication assignment: students capture images on traditional B&W film, manually process the film and make enlarged prints using techniques learned during labs throughout the semester. Students frame the prints with frames of their choice to complement the work.

#### Fall 2014

Amione, Grace E.  
Blaney, William B.  
Casto, MaggieMarie O.  
Crumrine, Aydan M.  
Dillon, Mary E.  
Dunleavy, Connor E.  
Gaughan, Audrey E.  
Genovese, Jack  
Horvath, Stephen B.  
McCall, Annette C.  
McNair, Harrison E.  
Norstrud, Maria  
Woodmancy, Elizabeth V.

#### Spring 2015

Cameron, Emily E.  
Coffey, Connor J.  
D'Costa, Dominique A.  
Doremus, Kyle B.  
Duval, Julia K.  
Edwards, Tashanna  
Mendelsohn, Alana B.  
Nicholls, Connor D.  
Pihonak, Jacqueline M.  
Rosa, Gabrielle A.  
Wilson, Katharine

#### Com 310 Digital Photography Framed Prints

A Visual Communication assignment: students capture digital images; perform Photoshop post-production techniques learned during labs throughout the semester, and print images using the Communication Department Photo inkjet printer. Students frame the prints with frames of their choice to complement the work.

#### Spring 2015

Amione, Grace E.  
Atkinson, Scott W.  
Crumrine, Aydan M.  
Gaughan, Audrey E.  
Horvath, Stephen B.  
Jensen, Gregory S.  
Norstrud, Maria  
Patrie, Lyndon S.  
Sawyer, Rachel A.  
Vreeland, Samantha J.

## **The Digital Slide Show Photography Exhibit**

Visual Communication assignment: students illustrate various concepts, each with a single image. Students capture digital images, perform minimal Photoshop enhancements and create Powerpoint slide shows. These are all compiled into a looping show.

### **Com 210 Photography 1**

*Students are given "Title" concepts to illustrate.*

#### **Fall 2014**

Amione, Grace E.  
Blaney, William B.  
Casto, MaggieMarie O.  
Crumrine, Aydan M.  
Dillon, Mary E.  
Dunleavy, Connor E.  
Genovese, Jack  
Horvath, Stephen B.  
Hovendick, Jourden  
Kovis, Stephanie  
McCall, Annette C.  
McNair, Harrison E.  
Norstrud, Maria  
Woodmancy, Elizabeth V.

#### **Spring 2015**

Cameron, Emily E.  
Coffey, Connor J.  
D'Costa, Dominique A.  
Daur, Gabrielle K.  
Doremus, Kyle B.  
Duval, Julia K.  
Edwards, Tashanna  
Flynn, Taylor D.  
Mosca, Katherine A.  
Pihonak, Jacqueline M.  
Rosa, Gabrielle A.  
Sloat, Conner R.  
Wilson, Katharine

### **Com 310 Digital Photography**

*Students are given "Headlines" each week as one of their photojournalism assignments.*

#### **Spring 2015**

Atkinson, Scott W.  
Cornwell, Jonathan J.  
Crumrine, Aydan M.  
Dillon, Mary E.  
Gaughan, Audrey E.  
Horvath, Stephen B.  
Hovendick, Jourden Q.  
Jensen, Gregory S.  
Norstrud, Maria  
Sawyer, Rachel A.  
Vreeland, Samantha J.

# ABSTRACTS

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## Oral Presentations, Exhibits and Demonstrations

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### **THE HIJAB: RESISTING THE BEAUTY INDUSTRY IN A COLONIZED WORLD**

**Ayoubi, Emily (Women's and Gender Studies )**

*Faculty Mentor:* Maureen McDonnell

My goal is to examine Western beauty standards and sexual objectification of women and assert that they are harmful and oppressive to women. I will also be asserting, in return, that the hijab (Muslim covering) is a radical resistance to this oppression. Parallels will be drawn between colonialism and the beauty industry and how both have served in the control and oppression of women. Whereas colonialism has been used to control the non-European, non-White 'Other,' the beauty industry controls women as non-male 'Others.' This is especially problematic for Women of Color who intersect at both 'Other' identities that have been established through colonialism and the beauty industry. For Muslim women, there is an added entity of religious prejudice, specifically Islamophobia. This puts many Muslim women at a particularly productive intersection of 'Otherness.' Due to the high level of alienation Muslim women experience, our voices are not heard in mainstream media, especially in instances where we are supporting the veil. This presentation will serve to raise awareness and open a platform for Muslim women to express themselves freely. In this presentation, I will argue the inherent racism of these oppressive entities (colonialism, the beauty industry, and Islamophobia,) and assert the hijab as an equalizer between women, in addition to asserting it as a political and social act of resistance.

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### **SEE ME AFTER CLASS: STUDENT-TEACHER RELATIONSHIPS IN SHORT STORIES**

**Baldwin, Brooke (English)**

*Faculty Mentor:* Lisa Fraustino

The relationship between a student and his or her teacher is a dynamic that is frequently focused on in young adult school story literature. This genre has been one that changes as the world does, its contemporary examples including positive, negative, and even sexually explicit relationships. This study involves researching the components of school story literature and creating an original collection of short stories in this genre. Each story centers on a relationship between a student and his or her teacher, with changing perspectives of protagonist. The stories include teachers that go the extra mile for a struggling student to succeed, those who do everything in their power to ensure that their students fail, and those who use their position of authority to abuse their most vulnerable student. The stories address factors such as the psychological phenomenon of transference, current issues in standardized testing, and the pressures faced by both student and teacher in contemporary society.

This study also includes an in-depth critical analysis of whether or not the collection could be considered school story literature, what audience the collection would be focused toward, and the challenges and triumphs faced during this creative process. My presentation will feature a reading of an excerpt from one or two of the stories, as well as a reflection of the writing and research process.

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## **EXPLORING ANIMAL HABITATS WITH PRESCHOOLERS**

**Baton, Brooke, Monica Szarwacki (Education)**

*Faculty Mentor:* Sudha Swaminathan

The purpose for planning and designing this science learning center was to create a hands-on, sensory experience for preschool aged children. One part of the center involved scientifically accurate dioramas of various terrains including a desert, a rainforest, grasslands, and the arctic. By creating dioramas reflective of the nature of various animal habitats, we provided children the opportunity to discover for themselves important characteristics of the animals and the features associated with their unique habitats. The second part of the center incorporated a matching game that focused the children's attention on specific homes of animals found in each habitat. Children were shown visual representations of habitats and animals through realistic photographs and invited to use their knowledge from the dioramas to make connections.

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## **PRIMARY AND SECONDARY STAKEHOLDERS IN SUSTAINABLE DEVELOPMENT PROJECTS: IMPLICATIONS FOR COMMUNITY ENGAGEMENT AND PARTNERSHIP**

**Borowski, Brandi (Business Administration)**

*Faculty Mentor:* Niti Pandey

Stakeholder engagement is the process of ensuring that the most important groups of people impacted by a development are involved in the various stages of the project. In this study, the process of stakeholder engagement is examined by assessing the impact of sustainable development on a variety of stakeholders at a small public university. Interview data were collected from different stakeholders to determine their views on sustainable development and how such development can be used to engage them. The interview data provided insights for developing a comprehensive framework of stakeholder identification and engagement, specifically identifying primary and secondary stakeholders. The framework recommends that stakeholder engagement can be achieved through involvement in early planning stages, building trust, and effectively responding to stakeholder concerns. These steps are crucial for building partnerships between organizations and the communities within which they function.

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## 'SCRAP IT!': CREATIVE EVOLUTION THROUGH DISILLUSION IN SHAW

### **Bossi, Matthew (English)**

*Faculty Mentor:* Miriam Chirico

Susan Langer described comedy as the impulse to survive. Many playwrights have encompassed this idea by disguising characters through masking and cross-dressing. In the context of these comedies, the physical transformation as a mode for adaptation was necessary for these characters to survive. George Bernard Shaw on the other hand transformed his character's internal beliefs. Shaw was an evolutionist. He comprised his own vision of human divinity which included revolutionary thinkers. Opposed to Darwin's theory of evolution which embraces primarily physical adaptation, Shaw believed that if evolution can be achieved physically, it can be done mentally through human will. Although Shaw never illuminated his own theory of Creative Evolution explicitly, he portrayed the theory through his comedies. Specifically, in *Major Barbara* and *Man and Superman*, Shaw shed his characters of their ideals of religion and marriage in order to communicate a movement toward the progression of man. My thesis explains that the character's disillusion, although heartbreaking, is necessary for the survival of the character and humanity. His characters adapted their internal belief system, contributing to the development of a superman.

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## STAYING ORGANIZED: A THEATRICAL STAGE MANAGER'S BATTLE

### **Casto, MaggieMarie (Performing Arts)**

*Faculty Mentor:* Chase Rozelle

The world of theatre runs on chaos. From technicians backstage to the actors onstage, there are always many challenges and problems that need to be anticipated and solved. A Production Stage Manager's job is to be proactive and keep track of all the moving parts. The Stage Manager's best weapon against the onslaught of problems is staying organized. Paperwork such as accurate contact sheets, production meeting and rehearsal reports, and cue sheets are just some of the ways stage managers stay organized. Through my journey as the Stage Manager for Eastern's Performing Arts Department production of *South Pacific*, I learned how to create an organized system of schedules, reports, and records. This session will be a guided tour through my Stage Manager's binder and perhaps include a few battle stories of the problems that came up along the way.

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## BACK TO COLLEGE SHOPPING AT TARGET

### **Cavender, Hillary, Anthony DiChiara, Stephen Pace, Andrew Van Sauter (Communication)**

*Faculty Mentor:* Olugbenga Ayeni

The Target Corporation is the United States' number two discounted store chain. We are participating in a competition to get college students to shop more at Target. We have created a survey to be handed out to college students in order to see where they shop for back to college and everyday

shopping. We will analyze the results and based on what we find out, we will come up with a marketing plan for Target, in order for more college students to pick Target as their store when doing their shopping.

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## **'DO NOT YOU LOVE ME?' : WIT, DECEPTION, AND LOVE IN SHAKESPEARE'S COMEDIES**

**Chonko, Kristen (English)**

*Faculty Mentor:* Miriam Chirico

Many people are impassioned by falling in love, the beginning of romantic relationships, and getting married. Finding the perfect person to spend the rest of your life with is an important goal to reach. However, people are quick to find ways to distance themselves from love and protect their heart against vulnerability. The process of falling in love and protecting oneself against heartbreak is commonly explored in comedies. The characters in Shakespeare's plays *Much Ado About Nothing*, *As You Like It*, and *The Taming of the Shrew* all portray the process of falling in love. The commonality between the characters in each of these plays displays each character using his or her wit, playful banter and clever word play as a mask to deceive either themselves or others into believing they do not want to fall in love. These characters have proven that in order for people to fall in love they must get rid of doubt, deception, and the mask they are wearing through use of wit. Only then can these characters accept someone into their life and continue with a romantic and loving relationship. Several critic's ideas such as those by Carl Dennis and Margaret Fisher contributed to the findings of this paper in which I have discovered the process of using wit as self-defense against love.

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## **COLOR THEORY AND ALMA THOMAS**

**Cook, Mackenzie (Art & Art History)**

*Faculty Mentor:* Gail Gelburd

Identity is a difficult matter for African American artists. The dual concept of being both African and American causes many issues for these individuals. This battle with identity is expressed and critiqued in their art. Not only do these artists have to deal with being labeled as 'African American Artists', but their choice in subject matter and style faces criticism. Many artists, critics, and historians have strong opinions about what should constitute African American art and which artists fall under this genre. Alma Thomas is one artist that has rebelled against the labels put upon her. As a student of Color Theory, she defines herself by the colors in her art rather than her race. In this presentation Thomas' art will be examined through the lens of art as a broader subject and more specifically the Color Theory Movement. The essays and theories by W.E.B. DuBois, Tiffany Bell, and Cornell West all bring Thomas and her art into question. Active during the Civil Rights Movement, Thomas made the conscious choice to focus on landscapes and color rather than politics and race. This presentation will focus on Thomas's approach to her art and how this helped redefine the term African American Art as

well as pave the way for future artists.

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## **EXPRESSION AND FUNCTION OF ODD-2 IN THE C. ELEGANS GERMLINE**

**DiFrancesco, Alice (Biology)**

*Faculty Mentor:* Amy Groth

*Caenorhabditis elegans* is a microscopic species of nematode that is commonly used in research due to its practicality and advantageous characteristics. Most notably, *C. elegans* possess both cellular and genetic complexity despite their simple appearance. Their tissues and protein products of many of their genes are homologous, or functionally similar, to other animals, including humans. In this research, we studied the *C. elegans* odd-2 gene, which is closely related to the mammalian genes, odd-skipped related (OSR) 1 and 2. The odd-skipped family of transcription factors has been associated with mammalian developmental pathways and diseases. We are studying the expression and function of the ODD-2 protein, using a larval lethal deletion strain and a transgenic strain in which odd-2 is fused to green fluorescent protein. It was hypothesized that odd-2 has function specifically within the worm germline, an organ analogous to the human reproductive system. This was hypothesized because the ODD-2 proteins potentially bind to short sequences of DNA in the beginning region of genes associated with germline proliferation and Notch signaling. The first step was to optimize the conditions needed to differentiate worm genotypes, or their genetic makeup, through PCR. Several rounds of gradient PCR were run, allowing us to find optimal temperatures and primers for use in the procedure. Next, we attempted to outcross the transgene, which would remove background mutations present in the strain. We were unable to successfully carry this procedure out because it was discovered that the transgene was on an unstable array, therefore not exhibiting typical inheritance. Thus, we attempted to cross the transgene to the mutant in hopes of potentially rescuing the larval lethal mutants, selecting for and stabilizing the transgene. This first cross was unsuccessful. We also examined the transgenic strain for GFP expression using embryonic fixation and antibody staining procedures. Background signaling was seen, but no specific embryonic fluorescence was observed. Several current attempts at crossing the transgene continue because the potential rescue would provide valuable information as to the function and expression of ODD-2 via observable germline phenotypes.

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## **ACHIEVING GREATER VERSATILITY IN 3D PRINTING**

**Harakas, John (Mathematics & Computer Science)**

*Faculty Mentor:* Joel Rosiene

The financial resources necessary to design and construct machinery to produce an object restricts manufacturing to an industrial scale. Even so, the scope of production is limited to the original intent of the design. The rapid adoption of 3D printing has given the power of manufacturing to the

individual. A nearly endless variety of objects can be built using computer-aided design (CAD) and a 3D printer. When beginning a print, a slicer program receives the CAD model, renders it into layers and returns the corresponding G-code for each layer; which is fundamentally the set of instructions the printer will execute. Using the most common method of construction, Fused Deposition Modeling (FDM); each layer is printed by melting thermoplastic filament and extruded from a nozzle along the path determined by the G-code. Most 3D printers use 1.75mm filament that extrude threads of 0.5mm in thickness which imposes limitations on the dimensions of an object that can be constructed. However, manipulating the extrusion temperature and speed can effectively utilize the filament's ductility to print threads of varying diameters. By using temperature and speed as parameters in constructing objects, a far greater versatility for building objects can be achieved. Printing objects involving fine threads similar to woven fabrics or webbed constructions can be created. Utilizing changes in viscosity at given temperatures can allow for alternate ways to create certain solid objects. Identifying limitations of current 3D printing techniques does not indicate that current methods need to be disposed. Rather, appending new parameters will add greater versatility.

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## **TESTING THE VALIDITY OF SUBSPECIES DESIGNATIONS FOR A LARGE BUT LITTLE KNOWN SCORPION FROM THE MOJAVE AND SONORAN DESERTS**

**Henault, Jonathan (Biology)**

*Faculty Mentor:* Matthew Graham

*Smeringurus vachoni* Stahnke (1961) is a large but little studied scorpion that occurs in rocky habitats through the Mojave and northwestern Sonoran deserts. Based on limited morphological data, the species is currently comprised of a northern and southern subspecies, with a zone of intergradation along the Lower Colorado River Valley. We assessed the validity of these designations by conducting a more thorough morphological assessment and by sequencing mitochondrial (COI, 16S) and nuclear (ITS2) DNA sequence data. Our study does not find any support for the two subspecies or the zone of intergradation. Instead, our DNA sequence data suggest that *S. vachoni* consists of 11 maternal clades (lineages) that diversified in the Pleistocene. Ten of the clades were narrowly endemic to desert mountain ranges. The northernmost clade appears to have colonized much of the northern Mojave Desert from an arid refugium in Death Valley following the last glacial maximum, a pattern consistent with genetic data from co-occurring taxa.

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## **THE PERCEPTIONS OF ONLINE COURSES AND IN PERSON COURSES AT EASTERN CONNECTICUT STATE UNIVERSITY**

**Hicks, Matthew (Political Science, Philosophy & Geography)**

*Faculty Mentor:* Nicole Krassas

In the past five years the number of online higher education courses and programs has expanded.

Higher education has been responding to the influence of technology by consistently adapting the way institutions offer online courses and programs to their students. This consistent adaptation has led to a diverse facilitation of course material, depending on the institution offering the course. Eastern Connecticut State University offers a unique experience for both the faculty members facilitating the courses and the students enrolled in the courses. This study examines the perceptions that students and faculty have of the online courses offered at Eastern Connecticut State University. This study compares those perceptions to the perceptions of faculty and students engaged with in person courses offered by Eastern Connecticut State University. The developing market of higher education has elements pushing the expansion of online education; this study will provide insight about how an expansion of online courses may affect the faculty and students of Eastern Connecticut State University.

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## **THE RELATIONSHIP BETWEEN ALCOHOL CONSUMPTION AND RELIGION**

**Hurvitz, Naomi (Mathematics & Computer Science)**

*Faculty Mentor:* Peter Johnson

A national survey of high school seniors called Monitoring the Future evaluates several variables over time. I have researched the relationship between alcohol consumption and religion. I specifically looked at the relationships regarding the frequency of alcohol consumption (if at all) and religious observance (attendance of services and rated importance in life). I am hoping the research will answer questions such as is the incidence of binge drinking a factor that impacts a student's perception of religious importance or does the attendance of religious services have a link to drinking (if at all) frequencies? In anticipation of my research I predicted that students who identify religion as important or frequently attend services are less likely to drink overall and participate in binge drinking, keeping in mind that high school seniors are all underage and that some religious ceremonies and traditions use alcohol.

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## **FROM PERSONAL DECISIONS TO HUMAN RIGHTS: REPRODUCTIVE JUSTICE**

**Jimenez, Deanna (Women's and Gender Studies)**

*Faculty Mentor:* Maureen McDonnell

Reproductive health is an integral part of our lives, whether noticed or not. We see these choices in our families, children and our own sexuality. Reproductive rights focus on the protection of women's legal rights to reproductive health care services. The most vital piece to this is reproductive justice, a framework that not only addresses social inequalities that affect reproductive health and rights, but fights against the oppression of marginalized individuals who experience them. Reproductive justice is broken down into three parts - the right to have children, not have children, and to parent the children we have in safe and healthy environments. Not only is this a human right, but a personal decision

about one's life and the duty of government and society to secure that the conditions are suitable for implementing one's decisions. The intersections at which reproductive justice meets are endless, as it can be seen in cultural/linguistically sensitive healthcare, family leave from work, welfare rights, freedom from violence, abortion, etc. It is very important to note that women of color established the reproductive justice framework to speak to the lived experiences of women of color who did not believe that the privacy-based pro-choice movement captured their challenges and opportunities in achieving self-determination for themselves and their communities. One of the most crucial problems addressed by reproductive justice is the isolation of abortion from other social justice issues that concern communities of color: issues of economic justice, the environment, immigrants' rights, disability rights, discrimination based on race and sexual orientation. In this presentation I will aim to discuss these issues and concerns as they pertain and fit into the Eastern community.

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### **AN EXPLORATION INTO THE PRESENCE AND PERVASIVENESS OF THE NOH THEATRICAL TRADITION WITH RESPECT TO THE WORKS OF CONTEMPORARY JAPANESE FILM MAKER TAKESHI**

**Lafontaine, Nathan (Performing Arts)**

*Faculty Mentor:* David Pelligrini

In order to truly comprehend contemporary Asian film, one's analysis of the material must first be prefaced with an understanding of the manifold theatrical traditions which have preceded it. When viewed through the etic perspective these films may appear analyzable even relatable however, without insight into the performance traditions historically prominent in these cultures one is at a loss to accurately and fully interpret their meaning. One such example of this can be found in the movies of Japanese film maker/actor Takeshi Kitano whose work despite having achieved widespread popularity in the West possesses a content and a meaning that is only betrayed through an understanding of the Japanese theatrical tradition of Noh.

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### **MIGHTY MORPHIN PARODY RANGERS: A STUDY OF PARODY LAW AND HOW IT APPLIES TO FAN MADE CREATIONS.**

**LaSala, Zachary (Communication)**

*Faculty Mentor:* Terri Toles-Patkin

This presentation explored the possible issues surrounding fan-made films, fiction, and other forms of media and how parody law protects them. This topic was conceived following possible legal action taken by the owners of the Power Rangers License against the directors and producers of a gritty fan film starring former Power Rangers actors, and looked at other popular fan adaptations and the legal issues that such parody may have incurred. This also included landmark instances of copyright law violations and cases like *Hustler V. Falwell*, *Vanilla Ice V. David Bowie/Freddie Mercury*, *The Associated Press V. Fairey*, and more.

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## **CATALYTIC EFFICIENCIES OF ENOLASE FROM FAST- AND SLOW-KILLING GENOTYPES OF PAENIBACILLUS LARVAE, THE CAUSATIVE AGENT OF AMERICAN FOULBROOD**

**Lehner, Bryan (Biology)**

*Faculty Mentor:* Ross Koning

*Paenibacillus* larvae is the causative agent of American Foulbrood Disease, which is largely responsible for honeybee population decline in the United States over the last half century. The aim of this study was to provide information about the molecular mechanism of *Paenibacillus* pathogenicity. Pathogen virulence is dependent on the rate a bacterium can penetrate host tissue and grow inside its host. Because enolase is the most abundantly produced cytosolic enzyme in many organisms, enolase activity is a putative rate-limiting factor for *Paenibacillus* growth inside honeybee larvae. To test if *Paenibacillus* virulence is correlated to enolase activity, the catalytic efficiencies of recombinant enzymes from fast-killing (ERIC III) and slow-killing (ERIC I) genotypes of *Paenibacillus* were determined by enzyme kinetics. Initial kinetics results showed the catalytic efficiency of ERIC III enolase was roughly twice the catalytic efficiency of ERIC I enolase, associating virulence with enolase activity. ERIC I enolase had a  $K_m$  of 1.47 mM for 2-phosphoglycerate and a  $V_{max}$  of 6.6  $\mu\text{mole}/\text{min}/\text{mg}$ , while ERIC III enolase had a  $K_m$  of 0.87 mM for 2-phosphoglycerate and a  $V_{max}$  of 7.6  $\mu\text{mole}/\text{min}/\text{mg}$ .

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## **COMMUNICATING IN ALICE'S WONDERLAND**

**Madden, Stephanie (Performing Arts)**

*Faculty Mentor:* Chase Rozelle

As college students, we hear the phrase 'communicate clearly' often from professors and other adults helping us to prepare for our future professions and careers. Many students do not have the opportunity to experience just what this means until after having graduated. In this session, theatre major Stephanie Madden will discuss her experience with the Department of Performing Art's production of Alice's Adventures in Wonderland as a Production Stage Manager. Discussion will include communication challenges and approaches, the specific differences of communicating student to student versus student to faculty, and effective stage management communication tools.

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## **BARRIERS TO AN INTER-OPERABLE ELECTRONIC HEALTH RECORD ACROSS HEALTHCARE PROVIDERS: A SOCIO-TECHNICAL PERSPECTIVE.**

**Marchand, Christopher (Business Administration)**

*Faculty Mentor:* Kim Kunene

Interoperability across multiple organizations is at the core of the conceptualization and definition of

patient electronic health records (EHRs). In fact, EHRs are conceived by the National Alliance for Health Information Technology, for the Office of the National Coordinator for Health Information Technology (ONC), to conform to national interoperability standards. And yet in practice, the adoption of EHRs has seen individual patients assigned multiple, certified EHRs generated by each of the patient's medical health providers. This negates one of the primary objectives for adopting electronic health records, namely, coordinating patient care. Other researchers have focused on the financial, technical, behavioral and organizational barriers to adopting EHRs, however research on EHR interoperability is still new and predominantly technical. In this study, we explore the underlying behavioral and socio-technical factors impeding the interoperability of adopted certified EHRs that lead to patients having multiple records. The goal of the study is to develop rich, in-depth understandings why healthcare providers' maintain multiple, non-interoperable electronic health records per patient. The study is qualitative. Data is collected with semi-structured interviews of healthcare providers.

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## **EVALUATING GEOLOGIC OR ANTHROPOGENIC INFLUENCES ON ARSENIC CONTAMINATION IN GROUNDWATER**

**Markley, Laura (Environmental Earth Science)**

*Faculty Mentor:* Meredith Metcalf

Arsenic has become a recent health concern for many residents of Connecticut owing to its presence in drinking water. Although the exact source of arsenic in groundwater remains unknown, it is due to either anthropogenic (induced by humans) or geologic sources (soil or bedrock). In October of 2013 traces of arsenic were reported in well water at Lebanon Elementary School. Like many residents of Connecticut, majority of residents within Lebanon rely on groundwater from private domestic wells. It is the responsibility of the homeowner to ensure that the drinking water is potable and meets the EPA drinking water standards. Unfortunately, most residents only test their drinking water when the home is purchased (testing of drinking water is required) or when the home is sold. In order to evaluate potential sources of arsenic in groundwater in Lebanon, the spatial distribution of arsenic was evaluated with respect to groundwater flow conditions and bedrock lithology. In cooperation with the Department of Energy and Environmental Protection, the Connecticut Geological Survey, and the Department of Public Health, one hundred randomly selected domestic wells were sampled and analyzed for physical water quality parameters, arsenic, and several other metals. Results indicate that ground water samples from wells intersecting the Brimfield Schist, the Hebron Gneiss and the Scotland Schist exhibit higher arsenic concentrations than samples from other rock types. This suggests a correlation between rock type and arsenic concentrations, which has been documented in other studies conducted in Connecticut. Arsenic concentrations were higher in drilled wells in comparison to dug wells which would suggest that arsenic is geologically sourced. However, the distribution of arsenic indicates that agriculture, and associated water chemistry, may be contributing to arsenic contamination in Lebanon. Groundwater flow distributions indicate that landfill and agricultural waste sites are not contributing to arsenic contamination. Furthermore, high arsenic concentrations coincide with relatively high pH, low concentrations of iron, and low concentrations of

manganese, which suggests that carbonate complexes may be occurring or carbonates are assisting in maintaining a high pH, which aids in arsenic desorption.

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## **POLITICAL INTEGRATION IN SOUTH AMERICA**

**McNair, Harrison (Political Science, Philosophy & Geography)**

*Faculty Mentor:* Martin Mendoza-Botelho

In today's ever-expanding global integration, South America stands in a unique position. Politically and economically relatively underdeveloped, the potential for a political cooperative union of states is large, with the benefits wide-ranging. As with other political multi-national organizations, however, economic opportunities are often the best place to spark integration efforts. With Brazil and Argentina as regional leaders in this effort, I will use the soybean market as an example of an expanding economic opportunity for both states. Using these two states as case studies, a political and political-economic context is established as it involves with the soybean industry, which provides a marker of their integration investment. The argument is made that these two states fit reasonably within the neo-functional theory of integration, with respect to the region's unique developmental history and point of integration. This model however presents a positive outlook for the region as they continue to develop.

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## **THE HARP, THE STARS, AND THE DOLLAR: IRISH IMMIGRANTS AND THEIR MOTIVATIONS FOR FIGHTING IN THE UNION ARMY DURING THE AMERICAN CIVIL WAR**

**Niebanck, Bethany (History)**

*Faculty Mentor:* Anna Kirchmann

When the call for volunteers to join the Union Army went out at the beginning of the Civil War in 1861, many Irish immigrants signed up for service. It is estimated that 150,000 Irish Americans served in the Union Army over the course of the war. Irish immigrants volunteered for service for many reasons. Some were motivated by patriotism. They saw themselves as doing their duty to their adopted country or to the state where they had made their home. Some Irish Catholics believed that by demonstrating this patriotism and duty to the United States would change the public's opinion on the Catholic religion. Service in the Union Army could also be a chance for social mobility. Working their way up through the ranks of the army was one way that they could move upwards in society. Volunteering for service in the Union Army also provided Irish immigrants with a job and a much needed income. The previous years in their lives had been spent working unskilled labor jobs, or struggling to find work. The army often offered a bounty at the time of enlistment. They were also provided with rations, equipment and money that could be sent home to support their families. While Irish immigrants were motivated to enlist in the Union Army because of their patriotism, and the chance of social mobility, the majority of them enlisted for the job and the money that they could

earn. In my paper I will analyze the motivations of Irish immigrants serving in the Union Army based on the letters that they wrote to their families and friends.

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## **HOW DOES THE HARTFORD ACADEMY SYSTEM COMPARE TO THE OTHER CHOICE PROGRAMS IN HARTFORD?**

**Orr, Je'Quana (Political Science, Philosophy & Geography)**

*Faculty Mentor:* Nicole Krassas

Hartford is a unique case because of the Sheff v O'Neil decision. The plaintiffs filed this suit on the grounds that school districts that had a majority African-American/Hispanic student body received less funding than school districts with a majority Caucasian student body. Families felt that their students weren't receiving an equal education. Courts found this unconstitutional and as a result urban school districts in Connecticut have received additional funding for their districts. Most of the magnet schools in the Hartford are funded through this allocation. With No Child Left Behind and Race to the Top, there have been more recent efforts to reform the education system across the country. Providing families with more choices is the argument that is at the forefront of the conversation. While others argue that the true problem lies in reforming the public school system. In Hartford, there have been efforts to do both. Throughout the state, a student has the choice to attend any school in and out of their school district. Additionally, public high schools in Hartford have all been divided into smaller academies to promote smaller class sizes with focused curriculums. The goal is that students will show a positive growth in academic achievement from these changes. In this study, there is an analysis of the Hartford Public Academy System and Hartford Magnet schools on the basis of student achievement. Its purpose is to see if there has been growth in student achievement since the implementation of the academy system and see how public school compares to the magnet schools in the area.

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## **EFFECTS OF TOYS ON THE PLAY QUALITY OF PRESCHOOL CHILDREN: INFLUENCE OF GENDER, ETHNICITY, AND SOCIOECONOMIC STATUS**

**Oski, Heather, Kristen Krause, Kimberly DePaolis, Alyssa Zebrowski (Education)**

*Faculty Mentor:* Jeffrey Trawick-Smith

Play has been found to be a predictor of later social and cognitive development. Previous research has examined the impact of various classrooms' features on the play of preschool children. Few investigations, however, have been conducted on the impact of individual toys on play. This study examined the effects of ten toys on the play of 60 three- and four-year-old children in culturally diverse preschool classrooms. The toys, which varied in their features and intended uses, were randomly selected from a list of those that were nominated by teachers and parents as being developmentally beneficial. Each toy was videorecorded for 240 hours during free play time in four

different classrooms. Researchers coded 1,156 five-minute segments of children's play with these toys using a Play Quality with Toys (PQT) rating instrument developed in a previous investigation. Interrater reliability was found to be high, kappa = 0.95. Toys were found to vary significantly in their impact on play quality. Two toys scored highest in their effects on play: a set of small toy vehicles and a double easel with paints. Other toys were found to inspire higher problem solving (table puzzles) and creativity and imagination (a toy doctor set), but did not score as high on other measures. PQT scores were also found to vary for each toy depending on gender, socioeconomic status, and ethnicity of the child playing with it. These data suggest that toys have differential effects on children with varying backgrounds and characteristics. Implications for selecting toys for classrooms and observing children's play with them are presented.

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## **THE RELATIONSHIP BETWEEN GENDER, CLASS STANDING, ACADEMIC MAJOR, AND PERFORMANCE IN COLLEGE STATISTICS**

**Page, Christian (Mathematics & Computer Science)**

*Faculty Mentor:* Peter Johnson

Dr. Peter Johnson has been on the faculty at Eastern for almost 15 years and has taught over 1000 students in the course Statistical Data Analysis (MAT216). I obtained data from these students on their gender, class standing, academic major, semester they took the course, and their performance in the course, based on their final exam score and their overall average in the course. Using t-tests and one-way Analysis of Variance (ANOVA), I have analyzed this data to look for differences in course performance by gender, class standing, and academic major. I have also analyzed the data to look for trends in the scores over time. Finally, I have used two-way ANOVA to see if there are relationships between these variables. In this presentation I will present my findings on these analyses.

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## **INTERNATIONAL MARKETING IN KENYA AND THE EAST AFRICAN COMMUNITY: OPPORTUNITIES AND OBSTACLES**

**Prescott, Gregory (Business Administration)**

*Faculty Mentor:* Branko Cavarkapa

This oral presentation with visual aids illustrates business decision making within the context of the developing African economic landscape. Based on a self-authored white paper, this oral presentation will provide recommendations on marketing strategy in sub-Saharan Africa, the discourse addresses some significant possibilities and pitfalls associated with selling goods and services into the region, what's involved in creating a successful marketing plan that addresses the known challenges and how partnering with the existing 'informal' marketplace results in a win-win situation for both businesses and the local grass roots community. The introduction provides a vivid picture of the explosive urban population growth taking place in sub-Saharan Africa with emphasis on the East Africa Community

(EAC) comprised of Burundi, Kenya, Rwanda, Tanzania and Uganda. The EAC is a common market whose ultimate goal is an economic and currency union similar in nature to the European Union and the Euro. The trade pact consists of 135 million people with 8 indigenous languages, dozens of dialects, diverse cultures and tribal differences. Efforts to integrate comes amidst a backdrop of new wealth for some juxtaposed by extreme poverty for the majority. The discussion drills down on the current economic conditions in Kenya and how socio/cultural, political/legal and technological conditions invariably play an important role in any worthwhile marketing plan for the region. Special attention is focused on defining the 'informal' marketplace where 90% of all sales transactions take place. Relevant academic and professional research is considered as well as recent interviews with key stakeholders. In conclusion, some logical options are put forth suggesting how best one can achieve marketing success in the EAC and what qualifies as a successful business venture for that region. One interpretation promotes a concerted effort aimed at developing a partnerships with the local 'informal' business community to ultimately achieve a reasonable return on investment while simultaneously creating jobs for Africans which offer the opportunity for self-realization and financial security. Guests and participants of CREATE 2015 should find this topic interesting from a humanitarian, economic and business management point of view.

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## **IDEOLOGY AND IDENTITY CRISIS IN ATHEIST SOCIAL MOVEMENTS: THE CASE OF THE SUNDAY ASSEMBLY**

**Rogan, Alexandra (English)**

*Faculty Mentor:* Barbara Liu

The Sunday Assembly (TSA), founded in 2013, is in many ways reminiscent of a religious congregation. However, it claims to be a non-religious community. Despite inconsistencies in labeling TSA, it has garnered ample media attention and has spread to the U.S., Ireland, Australia, and other countries. TSA began describing itself as an exclusive 'atheist church' but has since rejected that description. Currently, TSA presents itself as an inclusive group for people who wish to celebrate life while incorporating and providing a new spin on multiple aspects of traditional Christian church services. This shift in TSA's identity raises questions about its ability to sustain its rapid growth. In my analysis, I utilize both rhetorical and sociological scholarship in order to understand how TSA has built and maintains a collective identity that may help them attract and retain active members. I discuss the differences between TSA's worldwide, externally-directed rhetoric and their local, internally-focused rhetoric (as I observed at multiple area TSA meetings) to come to conclusions about how these differences ultimately affect its collective identity and classification as a social movement. This analytical approach provides insights into TSA's potential for further growth and sustainability as well as a potential methodology and set of research questions for future scholarship on social movement rhetoric.

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## **VOICES OF INVISIBLE MUJERES: TALES OF LIVING ON BOTH SIDES**

**Sanchez, Erika (Women's and Gender Studies)**

*Faculty Mentor:* Joan Meznar

Sometimes a person's greatest struggle can be finding their voice. This can be hard to do when not knowing your history and finding yourself searching for home in a place that sees you and your family as foreign. Using interviews with undocumented immigrants in New York, my project examines the lives of Mexican families, focusing on single mothers who with strength and sacrifice raise their children while living in a place that is in between: in between cultures, languages, and identities. The stories of these hardworking women who have never had a paid vacation, overtime pay or health care benefits must be told, yet remain hidden. As I explore the hopes and dreams of those who made the journey from their homeland to the United States, I also uncover my own history and am thus able to preserve some of what has made me who I am.

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## **MEANINGFUL LINKS TO LITERACY: JOURNALING IN THE CLASSROOM**

**Sargent, Megan (English)**

*Faculty Mentor:* Lauren Rosenberg

Writing is undervalued in the classroom. The process of writing is either disregarded or taught in a standardized format that often overlooks children's interests and capabilities. Many times writing is integrated into other subjects because there isn't enough time to just focus on writing. In their school assignments, students work a lot on conveying ideas and using writing to share information. There is not much time to write about thoughts and ideas unless they are within the school curriculum. Many students don't have time to write at home because they are so busy or consumed with their family lives. They don't have time at school because they aren't given any time to do so. Since journaling is a writing tool used to reflect, this was the project I worked on with my students in my student teaching classroom as my honors thesis project. This project addresses the roles of writing beyond the classroom. I wanted observe what my students wrote about and how the students chose to express themselves. It allowed my students a chance to experience a memorable and meaningful interaction with writing and allowed them to connect their literacy experiences outside of school with their literacy practices inside of school.

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## **FACE TIME VS. SCREEN TIME: THE SOCIAL IMPACT OF ONLINE COMMUNICATION ON TODAY'S FIRST YEAR COLLEGE STUDENT**

**Trotter, Ashley (Education)**

*Faculty Mentor:* Catherine Tannahill

The purpose of this study is to understand the impact that social media has on first year college

student and their relationship building at their new environment. Face time vs. Screen time is a study and survey to help understand how Eastern Connecticut State University college freshmen develop, foster, and maintain online relationships in the first year of their college career. This study will help gain a better insight on how students today are forming social, emotional, and academic relationships. With this information I hope to be able to provide better resources for students on relationship building and provide more opportunities for them to interact socially whether it is web based or in person. This study will evaluate the needs that the millennial generation is seeking as far as connecting to their peers and institution. I hope to understand how these relationships are being formed and how to help institutions better reach incoming students to help bridge the transition and also help in overall retention rates.

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## **BECOMING GLOBAL CITIZENS: EXPANDING HORIZONS BEYOND EASTERN CONNECTICUT STATE UNIVERSITY**

**Upton-Pepin, Jennifer (Sociology, Anthropology & Social Work)**

*Faculty Mentor:* Ricardo Perez

The Global Scholar Program is a certification offered at Eastern Connecticut State University. I first encountered this opportunity as a freshmen who happened to stumble upon a flyer outlining the opportunity to become a global scholar. This was ironically immediately after I had declared a secondary Spanish major. I knew right away that this was exactly the experience I wanted for myself as an undergraduate student. My presentation will begin with a little background about myself. Then I will go into the global citizenship details. Next, I will outline my path to completing this certification. Finally, I will close with my reflection on this journey and how it was coincided with my career choices and helped to mold me into the person I am today.

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## **NUNCA OLVIDE: REFRAMING HISTORICAL DISCOURSE ON CUBAN EXILE TERRORISM**

**Wilkerson, Miles (History)**

*Faculty Mentor:* Joan Meznar

Noting the alarming lack of English-language scholarship on the subject, this paper tackles the difficult issue of CIA-sponsored terrorism against Cuba. It asks the question: how did gusano sabotage and terrorism affect political discourse and civil rights in Cuba during the period between 1960 and 1980? This article examines the historiography of Cuban-exile terrorism in the Hemisphere between 1959 and 1976, exploring the ways in which the Cuban government responded to this terror and how it affected Cuba's citizens. It also investigates the evolution of Luis Posada Carriles *aka* "the 'Bin Laden of Latin America'- and Orlando Bosch, two of the most active terrorists in twentieth century history. The author dissects numerous primary and secondary sources to prove this thesis, including declassified United States government documents, speeches by Fidel Castro, scholarly journal articles, and

interviews with the victims of Cuban exile terrorism. In addition, it constructs a critical history of Cuban antiterrorism law in the style of Michel Foucault's *Discipline and Punish*. This is done order to better understand how Cuba's government reacted to the terror attacks of Bosch, Posada and other CIA-backed terrorists. By analyzing the historical discourse surrounding this controversial topic, the author clarifies the power relationships that make up exile terrorism against the island nation of Cuba.

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## **DYNAMIC CONTINUITY: THE POWER OF ADAPTABILITY IN THE GRAPHIC DESIGN INDUSTRY**

**Williams, Mackenzie (Business Administration)**

*Faculty Mentor:* Niti Pandey

Adaptation is the basis of survival for businesses attempting to remain competitive in the rapidly changing and globalized world. The graphic design industry in particular has a long history of dramatic changes, reflected in the continuous adoption of new trends in design standards and technological methods of production. However, these rapid and pivotal changes through time may be interpreted as a sign of the industry's immaturity or fragility. Based on existing models of organizational theory, this paper proposes a conceptual framework for understanding the role of adaptability in the graphic design industry. The main thesis of the research is to track the global history of the industry as it relates to technological advancements in an attempt to prove that discontinuity is not detrimental to the growth of the industry. Firms that adapt effectively to the changing demands of society and advances in technology can thrive under such dynamic environmental conditions.

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## **'TAX IMPLICATIONS OF THE AFFORDABLE CARE ACT'**

**Wunderlin, Daniel, Destiny Hartmann, Hannah Brown (Business Administration)**

*Faculty Mentor:* Richard Silkoff

The July 2012 Supreme Court ruling upholding of what's collectively referred to as the Affordable Care Act (ACA) or Health Care Act, often referred to as Obamacare, has resulted in a number of changes to the U.S. Tax Code. As such there are a number of tax implications for individuals and businesses. This presentation examines the type and significance of these tax changes.

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## **AHIMSA IN MODERN SOCIETY**

**Zacharie, Alexander (Political Science, Philosophy & Geography)**

*Faculty Mentor:* Hope Fitz

It is easy to blame, or hold responsible, people in position of power in the United States government for what many believe to be the decline of a democratic system of government. But, it is generally

forgotten that in any system of democracy, such as a representative democracy here in the United States, that the people, too, have great power in conjunction with the officials that are elected. Using Aristotle, I sketch out the concept of citizenship, democracy, and oligarchy, and apply these definitions to the people, and government, of the United States. Once concluding that the people need to be held accountable, along with the government, for what is perceived to be the faltering of the current democratic system, I suggest that the system of government currently in the United States resembles more closely an oligarchy than a democracy. Then, I suggest the use of the concept of a practice, developed by Alasdair MacIntyre, and show how the virtue of ahimsa, articulated by Mahatma Gandhi, fits all of the criteria set by MacIntyre's conception of a practice. Ahimsa, if implemented in modern society, could be a key virtue to help the current system of oligarchy return to a more favorable democratic institution.

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## **ALL IS NOT FAIR IN LOVE AND WAR: THE USAGE OF FACADES**

**Zagata, Mikayla (English)**

*Faculty Mentor:* Maureen McDonnell

William Shakespeare's characters always have several problems to combat in any given play. Although some of these problems may be trivial in the long run, either due to the status of particular character and/or a character's own desires, some problems that concern prominent Shakespearean characters are rather startling upon closer examination. Things are not always as they appear on the page for Katherine from *The Taming of the Shrew*, Rosalind from *As You Like It*, and Don Pedro from *Much Ado About Nothing* because they wear a mask. These characters wear a mask or facade in order to cope with their internal battles, their personal wars that rage on concurrently with the play. This paper will explore why Katherine, Rosalind and Don Pedro decide to hide their deeper desires, their truest selves because of the society that they live in. Upon examining the purpose of their mask and how they manipulate other characters through that mask, the true goals of these characters can be discovered. This paper will also determine how the masks help or hurt these characters by the end of the play. Do they achieve their goals through the mask that they wear? Or do they lose their battles and then are forced to maintain their facades to remain socially acceptable and in good favor with their world?

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## Poster Presentations

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### **PRIVACY AND REPUTATION MANAGEMENT IN SOCIAL MEDIA: A USER STUDY OF DRINKING SELF-DISCLOSURE PRACTICES IN SNAPCHAT**

**Allen, Derek (Business Administration)**

*Faculty Mentor: Sukeshini Grandhi*

Alcohol consumption is a prevalent practice in college culture. Equally prevalent is sharing of drinking stories via social media such as Facebook, Twitter and, Instagram. However the sharing of alcohol related content on social media raises several privacy, reputation and legal concerns due to the digital footprints sharing tends to leave. A new wave of social media applications try to address this issue by enabling what is known as ephemeral communication by deleting content shared after a short period of time. One such popular application used by college students is Snapchat. This research study proposes to understand why and how Snapchat is used to share alcohol related stories by college students and how this influences their privacy and reputation management. Based on this understanding we hope to draw implications for the design of ephemeral communication applications as well as technology mediated interventions for safe alcohol consumption.

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### **DON'T BE LAZY, TAKE THE STAIRS: DECREASING ELEVATOR USE BY WAY OF POSITIVE AND NEGATIVE MESSAGES**

**Blydenburg, Dana & Jenna Gray (Psychology)**

*Faculty Mentor: James Diller*

The field of environmental science has increased in popularity because of impending global climate change. The research in this field has centered on saving energy and promoting sustainable behaviors. Using an alternating treatment design, we have created positive and negative poster instructions to decrease elevator usage and increase stair usage in the hopes of saving energy at Eastern Connecticut State University. There will be four posters presented in front of the Webb Hall main floor elevator. The first poster will consist of a positive message regarding health benefits for taking the stairs. The second poster will contain of a negative message concerning health deficits for taking the elevator. The third poster will portray a message about negative effects elevator use has on the environment. Lastly, a fourth poster will have a positive message regarding stair use on the environment. The primary goal of this experiment is to change the behaviors of students and facility to decrease their elevator use and ultimately saving energy.

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### **GENDER DIFFERENCES WITH FINANCIAL STRAIN: COLLEGE STUDENT'S ATTITUDES TOWARDS MONEY AND DEBT**

**Bonneville, Jessica (Psychology)**

*Faculty Mentor: James Diller*

Previous research has found financial strain to be one of the most common stressors for adolescents and young adults, who often report having more financial debt due to college expenses. Other studies examined the different factors affecting financial strain, some of which included gender, status at the university and attitudes towards money. The present study examines if there are differences in financial strain between genders, and also looks to identify relations between status at the university, commuter or non-commuter, and attitude towards money. The sample will consist of fifty students (twenty-five men and twenty-five women) from a regional state university who will complete three measures: the Financial Strain Measure (FSM), the Financial Anxiety Measure (FAM), and the Money Attitudes Scale (MAS). A Pearson Correlation test will be used to find relationships between gender, status at the university and commuter or non-commuter and the impacts these variables have on financial strain. This study may confirm that gender differences do impact how one's attitude towards money does effect their financial strain and level of financial debt and could be used to implement finance courses for senior students.

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## **UNDERSTANDING PRIVACY IN THE DIGITAL AGE**

### **Boyne, Patrick (Mathematics & Computer Science)**

*Faculty Mentor:* Garrett Dancik

As digital technologies continue to integrate into our daily lives it is becoming easier and easier to share information and communicate ideas. This ease of communication has been facilitated by the fact that most mainstream digital communication technologies are developed to be accessible and intuitive to the average user. However, simple interfaces often mask the complexity of the digital systems beneath them, leading to a disconnect between what the user intends to communicate and/or share, and what is actually communicated and/or shared. The objective of this project is to summarize and organize relevant published work related to digital communication and privacy and present it in an accessible manner. The project discusses the implications of digital privacy as they relate to the average user, and the implications of digital privacy on society as a whole. Specifically, the project explores how an average user may be inadvertently revealing more than they intend through metadata, location services, and other less obvious means, and how this effects society at large. Additionally, the project will defend the preservation of privacy in the digital age while explaining how complicated digital technologies capture information in a way that the layman will understand.

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## **DETERMINANTS OF STRESS FOR PROFESSORS**

### **Brown, Robert (Psychology)**

*Faculty Mentor:* Peter Bachiochi

The aim of this study was to test both individual and situational variables that contribute to a professor's perception of job stress. The variables were trait affectivity, classroom management, work/life balance, job demands, autonomy, perceived organizational support, and job-stress; a cross-sectional design was utilized to assess the relationships. Previous research has found that all of the aforementioned variables contribute to the perception of stress, regardless of occupation. Participants were Connecticut State University professors; they were solicited through email and [www.Linkedin.com](http://www.Linkedin.com) and were then asked to

respond to self-report measures. It was hypothesized that a higher degree of negative affectivity, a higher degree of job demands, a lower degree of classroom management, a lower degree of work/life balance, and a lower degree of autonomy will be positively associated with job-stress. Linear regression analyses were employed to determine which of the variables contributes the most to the perception of stress. Person Product Moment correlations were utilized to determine the magnitude and significance of connections between the sets of variables.

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## **GOING VIRAL, UNDERSTANDING SOCIAL MEDIA TRENDS**

**Burkhardt, Amy (Communication)**

*Faculty Mentor:* Terri Toles-Patkin

Social media is considered revolutionary. It has been defined as a simple means to reach thousands of people within in seconds. In less than a decade social media has shown to have the ability to impact present cultures and circulate information world wide. The global phenomenon of social media has changed the way users think, communicate and even function in day-to-day activities. Platforms such as Facebook, Twitter, Instagram, etc. have created the ability for users to communicate with global cohorts they identify with virtually. A trend is an idea that has historically shaped societies and their cultural boundaries, values and norms. Trends exist in all forms, whether it is fashion, slang, or material objects. A population adheres to a common concept in which agreement strengthens and allows the trend to carry along, creating a path that has the ability to reach a greater population. When the ideas of social media are combined with the basic idea of a trend we are introduced to the innovative concept of social media trends. Social media is not only the medium in which ideas are spread but certain ideas or actions that become popular enough have the ability to reach millions of people, creating a global mindset. What makes these trends go viral? How can social media trends either negatively or positively affect a global culture when they're reaching millions of minds? Research in the foundation of social media trends and how such trends exist are necessary in answering these questions. The primary goal of this research is to identify birth places and paths of social media posts that become trends. I will evaluate their impact on societies, determining if these affects had a positive or negative outcome. This research will also allow me to evaluate the after effects and how organizations, individuals and societies as a whole can benefit from creating and being a part of a social media trend.

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## **CONSUMER FRUSTRATIONS WITH PREVENTATIVE HEALTHCARE MANAGEMENT AND ITS IMPLICATIONS FOR THE DESIGN OF PERSONAL HEALTHCARE MANAGEMENT TOOLS**

**Calderon, Elizabeth (Business Administration)**

*Faculty Mentor:* Sukeshini Grandhi

Enrollment in the Health Enhance Program (HEP) is a mandatory requirement for Connecticut state employees. HEP is a value based insurance design program that mandates yearly compliance with individualized preventative healthcare plans, which includes wellness exam, screenings, immunizations, and chronic condition education and follow up appointments. Defaulting on the program requirements results in higher insurance premiums and consequently puts the responsibility of coordinating and scheduling appropriate healthcare activities on the consumer. We conducted a qualitative study of consumers enrolled in the HEP program, analyzed data from the interviews of 15 participants which

highlighted several challenges face by participants in scheduling and managing their healthcare requirements. We will present these challenges and discuss its implications for building technology that supports easy coordination and scheduling of preventative care, while reducing consumer frustrations.

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## **STUDYING THE EFFECTS OF VIOLENCE FROM VIDEO GAMES IN COLLEGE STUDENTS**

**Cavender, Hillary (Communication)**

*Faculty Mentor:* Melanie Savelli

The cultivation theory is used with television but with this study, it will be used to look at violence in video games and to see if college students believe what they see in the virtual world. I will compare that and see if they think the violence in gaming can be used in real life. The study will start off by handing out a survey to college students and then afterwards, separate the students into groups having some play violent games and some play non-violent games. After this, another survey will be handed out in order to see if there any differences from the first survey to the exit survey. The main goal of this study is to see if the cultivation theory can include video games. Also the study is being done to see people will start to become violent by playing video games.

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## **FORENSIC ACCOUNTING IN DEVELOPING NATIONS: THE ANALYSIS OF OFFSHORE BANKING IN THE BAHAMAS**

**Chrzanowska, Karolina (Business Administration)**

*Faculty Mentor:* Candice Deal

This paper explores the impact to the financial sector of developing countries from regulatory reform of financial governance against offshore banking. This paper specifically examines offshore banking from the economic standpoint of The Bahamas in particular. It is noted that since the time of its independence in 1973, The Bahamas has used offshore banking as a strategy for economic development. According to the Caribbean Financial Task Force's ministerial report in 2007, the Bahamian economy primarily involves tourism and international financial services. These two sectors jointly account for fifty-five percent (55%) of the Bahamian Gross Domestic Product (GDP). The Bahamas is considered to be a prime official financial center (OFC), based on size, market share and development. Based on its banking assets and assets under management, it is ranked among the top ten OFCs. However, there has been a plethora of new legislations mandated by international pressures. Thus, this paper considers the implications for developing countries such as The Bahamas, from the global anti-money laundering (AML) campaign and the associated implementation challenge this small nation faces to comply with related international standards.

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## **WORK SYSTEM METHOD ANALYSIS OF SAKURA GARDEN JAPANESE STEAKHOUSE**

**Colon, Caitlin & Kyle Bolden (Business Administration)**

*Faculty Mentor:* Don Petkov

This project is about business systems analysis of the restaurant Sakura Garden located in South Windsor CT. The analysis is performed using the Work System Method by Professor Steven Alter. In visiting the restaurant we came across four problems with the current systems. The first thing customers do before dining is make a reservation. Currently the process is strictly through the phone or walk in. To keep up with competitors and technology of customers, we recommend adding online reservations. When waiters take orders it is manual and then put into the system to be sent to chefs and bartenders. To eliminate the first time writing the orders we recommend the waiter using a handheld device connected to the current system that way the order can be sent straight from the table. Inventory is another process done manually. At the end of the week two people have to verify the count of inventory and the manager creates a list of what needs to be ordered. To make the process less time consuming we recommend using an electronic counting system where employees make note of what is used and what comes in in terms of inventory. That way at the end of the week the manager does not have to count inventory which reduces error and takes less time. On busy nights employees can be found running around especially the hosts. They have a map of the tables at the front and is marked and erased as customers go but when running around it can be found that tables get erased by accident and cause confusion. We recommend using a technological device upfront where any employee can access it especially the bussers to let the host know when tables are clean and ready for customers. It will also reduce error because it can't be erased. All of these recommendations to be implemented are associated with some costs but the positive effects will greatly outweigh the costs over time.

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#### **PHYLOGEOGRAPHY OF THE CALIFORNIA DUNE SCORPION, SMERINGURUS MESAENSIS (SCORPIONES: VAEJOVIDAE)**

**Couceiro, Sabrina (Biology)**

*Faculty Mentor:* Matthew Graham

Comparative phylogeography is the study of geographical distributions of genetic lineages within and among species using data across groups of taxa with similar distributions. Phylogeographic studies are continually being produced for arid-adapted taxa found throughout the Mojave and Sonoran deserts, so the region in particular is becoming a testing ground for assessing the capability of comparative phylogeography to reconstruct the history of entire biotas. We aim to contribute to this initiative by studying the phylogeography of the California dune scorpion, *Smeringurus mesaensis* (Stahnke, 1957), a psammophilic (sand-adapted) species from the Mojave and Sonoran deserts. Although we are still generating data (mitochondrial DNA sequences), our preliminary phylogeographic assessments suggest moderate levels of genetic diversity among *S. mesaensis* haplotypes ( $p$ -distances =  $0.012 \pm 0.048$ ). In addition, unique haplotypes appear to be restricted to low-elevation desert basins, indicating low gene flow among isolated sandy habitats. These patterns are similar to phylogeographic data from sympatric *Hadrurus arizonensis* Ewing, a large scorpion that is less restricted to sandy environments. However, gene flow appears to be more restricted among populations of *S. mesaensis*, hinting at a possible correlation between the degree of habitat specialization and geographic isolation in arid-adapted taxa.

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#### **CHILD AGE AT TIME OF PARENTAL DIVORCE: DOES IT PREDICT SIBLING AND PARENTAL CLOSENESS?**

**Daneault, Katherine (Psychology)**

*Faculty Mentor:* Kristalyn (Kristi) Salters-Pedneault

Parental divorce has become a common issue with both positive and negative outcomes towards children's relationship quality with their parents and siblings. This study will use a correlational design to assess the association between family relationship closeness (parent-child and sibling relationships) and child age at the time of parental divorce. Participants will include a sample of (N=25) college students from Eastern Connecticut State University. Students will involve both men and women that have previously been faced with parental divorce at various ages. Participants will be recruited in person or online on the Experimentrix link through the ECSU website. Participants will be asked their age at the time of parental divorce followed by a survey involving a series of questions about their parent-child closeness through a Parent Attachment Questionnaire (Kenny, 1987). A second survey will be given to collect data regarding their sibling closeness through the Brother-Sister Questionnaire (Graham-Bermann, 1994). It is predicted that younger children at the time of parental divorce will have increased closeness with siblings. It is also predicted that older children at the time of divorce will have increased closeness with their parents. My study will further extend the importance of how child age during divorce could reflect the long-term modifications of familial closeness.

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### **PROMOTING CONSERVATIVE BEHAVIORS USING EMAILS AND VISUAL PROMPTING**

**Daneault, Katherine & Brett Gelino (Psychology)**

*Faculty Mentor:* James Diller

This study will use an alternating-treatments design to assess the efficacy of different intervention strategies on promoting sustainability in college students, focusing specifically on energy conservation. Visual prompts and educational materials will be provided to participants residing in a dorm hall on the Eastern Connecticut State University campus. Students will receive information on methods of increasing conservation at the start of the intervention. Weekly updates on energy consumption will be paired with the treatment strategies (flyers, emails, posters). Data collection will occur through use of the ECSU energy dashboard, a tool which publicly displays information regarding energy consumption. A pre- and post-study survey will be completed by participants to aid in assessing overall behavior change. It is predicted that direct prompts in the form of emails will be most effective in increasing levels of energy conservation behavior. Further directions and implications will be discussed.

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### **POLYDEFORMATION AND INTRUSIVE BRECCIATION OF THE ROPE FERRY GNEISS IN OUTCROPS ALONG THE WATERFORD-NIANTIC COASTLINE, EASTERN CONNECTICUT**

**Davda, Ujjwal (Environmental Earth Science)**

*Faculty Mentor:* Dickson Cunningham

Detailed mapping in three prominent coastal exposures in the Niantic-Waterford region of eastern Connecticut reveals a complex history of gneiss deformation, intrusive brecciation and pegmatite intrusion. At the Pleasure Beach promontory, Neoproterozoic Rope Ferry Gneiss comprises a mixed felsic-intermediate L-S tectonite that is locally folded, injected by foliation-parallel and cross-cutting pegmatitic dikes and intruded by irregular masses of undeformed granite (Westerly granite equivalent). Locally, the gneiss is strongly brecciated by the intrusive granites creating an agmatite with irregular gneiss blocks occurring in random orientation within the surrounding granite. Six separate deformation

and intrusive events are documented. At Camp Harkness, the gneiss is internally isoclinally folded and meso-scale, leucosome-filled, ductile shear zones are widespread. At Waterford State Park, the gneiss is folded into a series of NW striking, WSW-vergent, antiforms and synforms. Folding post-dated development of foliation boudinage and is likely related to a contractional event which caused regional refolding in the New London-Lyme region. Cross-cutting, multi-generational, undeformed pegmatites cut all rock types at all three peninsular study areas. Late-stage NW and NNE striking joints compartmentalize the outcrops and are responsible for the elongate shapes of the bedrock peninsulas. The coastal exposures provide insights into the prolonged tectono-magmatic evolution of the Avalonian basement in SE Connecticut and its local variability in terms of amount of contractional strain, percentage of intrusive material and degree of melt enhanced deformation.

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## **A PARALLEL SIMULATION OF THE SOLAR SYSTEM TO ASSESS THREAT FROM ASTEROID IMPACT**

**Davenport, Alex & Egli Hila (Mathematics & Computer Science)**

*Faculty Mentor:* Sarah Tasneem

A parallel computing environment using the MPI (Message Passing Interface) implementation in the Python programming language was built to simulate the eight planets, the sun, and 1000 asteroids of randomly generated mass, velocity, and distance from the sun (within the asteroid belt). Given realistic values for mass in kilograms, we were able to employ Newton's laws of gravity to construct a model of our Solar System consisting of the above mentioned objects. This simulation was allowed to run for the equivalent of tens of thousands of years. Given the number of close encounters (asteroids coming closer than 3 times the average distance between the moon and Earth), and impact events (asteroids hitting the Earth) we were able to construct a statistical model to estimate the threat posed by the millions of asteroids in our Solar System.

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## **EXPLORING THE VALUE OF VOCAL WARM-UPS FOR FEMALE SINGERS**

**DeDominicis, Melinda (Performing Arts)**

*Faculty Mentor:* Emily Riggs

Vocal warm-ups are accepted universally as the most effective means of physical and mental preparation for singing. While current research has yet to definitively prove the scientific benefits of such activity, no study has shown adverse effects. Most of what is known about the benefits of vocal warm-ups stems from collective personal experience and from comparisons drawn to other activities that require the use of muscle groups at extremes of functionality, for example, athletics. This study compares vocal samples collected under the following three conditions; singing after no warm-up, singing after a self-directed warm-up, and, finally, singing after a professionally prescribed warm-up. Using the voice analysis software, VoceVista, data was collected pertaining to amplitude, range extension, breath control, resonance, and rate of vibrato. This study aims to provide further information about the effects of vocal warm-ups on the singing voice and help students of singing make informed choices regarding their vocal preparation for lessons, rehearsals and performances.

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## **THE FIRST MEGAPHYLOGENY OF THOMISIDAE**

### **DePonte, Alexa (Biology)**

*Faculty Mentor:* Matthew Graham

The crab spiders, family Thomisidae, comprise a diverse group of sit-and-wait predators that do not build webs. We studied relationships among these unique spiders by constructing the first megaphylogeny of Thomisidae using DNA sequence data assembled from GenBank. Specifically, we concatenated the sequence data and analyzed the resultant alignment using a program for rapid Maximum Likelihood-based inference of large phylogenetic trees (RAxML ver. 7.0.3). We then compared the topology of the megaphylogeny to the current taxonomy of Thomisidae. In addition, we assessed the efficacy of data from GenBank for investigating the biogeographic histories of diverse groups by using software (RASP ver. 3.03) to reconstruct ancestral areas in the Thomisidae megaphylogeny.

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## **NEWS SOURCE AND THE PERCEPTION OF POLICE**

### **Eckert, Amanda (Communication)**

*Faculty Mentor:* Melanie Savelli

With the recent news coverage about police brutality, and police officers losing their lives, it is important to determine whether or not the news sources change individual's perceptions of police officers. This study will look at the relationship between news source and opinions about police officers. Specifically, opinions about trust in police officers and the feeling of safety derived from police officer presence will be observed. The results will provide insight about how opinions of police officers are formed via news sources.

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## **INVESTIGATION OF CONTROLLABLE ELECTRICAL LIGHTING AND COMPUTER LOADS AT ECSU**

### **Eldridge, Elizabeth (Environmental Earth Science)**

*Faculty Mentor:* Paul Torcellini

There are considerable energy savings opportunities related to lighting and plug loads on ECSU's campus which can be realized by maximizing energy efficiency without degrading user expectations. In order to meet this goal, I am studying lighting control technologies and computer usage. Greenhouse gases and costs will be reduced by increasing efficiencies of these loads via improvements or using new technology. As Eastern has 5600 students and over 50 buildings, savings could be substantial. With the lighting experiment, I am examining the time of opportunity, which is the amount of time that the light stays on while a room is unoccupied. For example, in my initial stages of testing over a 2 week period, 3 kitchenettes in the science building revealed that 84% of the time the lights were on, the rooms were unoccupied. Possible solutions to improve efficiency would be to create signs to remind users to turn off the lights when they are not in use, and to investigate changing the existing manual light switches to automated switches. Currently the science building employs occupancy sensors, which are motion detector sensors that automatically turn lights on and off when motion is detected. Vacancy sensors could prove to be more cost effective as they necessitate that lights be turned on manually but then turn off automatically when motion is no longer detected. Other control strategies such as the

efficiency of light louvers and diffusing film to harvest natural daylighting will be researched. In order to study computer usage in the computer labs in the science building, plug monitors have been deployed to track usage versus down time. This will help determine whether the computers should be shut down when not in use. As there are more than 500 computers in the science building alone, the savings could be significant across campus. The best course of action for both lighting and plug loads could include improving current technology with education of the user, reprogramming existing technology to improve performance with the possibility of introducing other efficiency control strategies, and employing new technology.

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## **SOURCE PARAMETERS OF LARGE MAGNITUDE SUBDUCTION ZONE EARTHQUAKES ALONG OAXACA, MEXICO**

### **Fannon, Mackenzie (Environmental Earth Science)**

*Faculty Mentor: Susan Bilek (New Mexico Tech)*

Subduction zones are host to temporally and spatially varying seismogenic activity including, megathrust earthquakes, slow slip events (SSE), nonvolcanic tremor (NVT), and ultra-slow velocity layers (USL). We explore these variations by determining source parameters for large earthquakes ( $M > 5.5$ ) along the Oaxaca segment of the Mexico subduction zone, an area encompasses the wide range of activity noted above. We use waveform data for 36 earthquakes that occurred from January 1, 1990 to June 1, 2014, obtained from the IRIS DMC, generate synthetic Green's functions for the available stations, and deconvolve these from the observed records to determine a source time function for each event. From these source time functions, we measured rupture durations and scaled these by the cube root to calculate the normalized duration for each event. Within our dataset, four events located updip from the SSE, USL, and NVT areas have longer rupture durations than the other events in this analysis. Two of these four events, along with one other event, are located within the SSE and NVT areas. The results in this study show that large earthquakes are located just updip from SSE and NVT have slower rupture characteristics than other events along the subduction zone not adjacent to SSE, USL, and NVT zones. Based on our results, we suggest more of a transitional zone for the seismic behavior rather than a distinct change at a particular depth. This study will help aid in understanding seismogenic behavior that occurs along subduction zones and the rupture characteristics of earthquakes near areas of slow slip processes.

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## **EFFECTS OF IMPULSIVITY ON HARMFUL ALCOHOL USE AND ACADEMIC OUTCOMES**

### **Ferreira, Stephanie (Psychology)**

*Faculty Mentor: Joseph Dracobly*

Many college students find drinking alcohol to be a fun and positive activity; however, there are also dangers in this practice. For example, in the United States in 2001, one college student died per day due to alcohol use (Hingson, Heeren, Winter, & Wechsler, 2005). Researchers have reliably found that individuals who make impulsive choices are likely to have high levels of harmful alcohol use (e.g., Finn et al., 2005; Papchristou et al., 2012; Smith et al., 2010). This is particularly problematic in college students because harmful alcohol use is likely to affect both their personal life and academic work. The current study sought to examine the relationship between impulsivity and harmful alcohol use among

undergraduate students. First, each participant completed self-report questionnaires that measured their impulsivity and harmful alcohol use. Second, each participant completed two simple tasks designed to measure their discounting (preference for smaller, sooner outcomes over larger, later outcomes) of alcohol access and their discounting of future positive academic outcomes. Overall, impulsivity was the primary factor in harmful alcohol use: participants with high levels of impulsivity had more harmful alcohol use than participants who had low levels of impulsivity. Based on these results, rather than directly targeting alcohol use, it may be useful for colleges to develop programs to teach and promote self control and valuing of positive but delayed outcomes. The development of these skills and values may be an effective practice in preventing the development of harmful alcohol use and promote long-term positive academic outcomes.

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## **THE BENEFITS OF COMPUTER HACKING**

### **Fitch, David (Mathematics & Computer Science)**

*Faculty Mentor: Garrett Dancik*

A hack can generally be defined as a clever solution to a tricky problem, or modification of a device in an extraordinary way. In the context of computers, a hacker is someone who seeks and exploits weaknesses in a computer system or computer network, for example in order to find a weakness in a bank's security in order to steal money from the bank. Although hacking is often associated with mischief and criminal activity, computer hacking has many benefits and is important to our national security. The objective of this work is to highlight how justifiable forms of hacking can be beneficial to our society. Two specific examples will be discussed. Stuxnet is a type of virus which was used to attack an Iranian power plant. TOTAL OBD & ECU Auto Diagnostics (TOAD) is a program that allows a user to hack into a vehicle's computer in order to read the on-board diagnostics (OBD). These specific examples illustrate some of the many reasons why hacking can be beneficial.

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## **THE CHALLENGES OF IMPLEMENTING HUMAN RESOURCE BEST PRACTICES IN NON-PROFIT ORGANIZATIONS**

### **Fogarty, Rachael (Business Administration)**

*Faculty Mentor: Niti Pandey*

Non-profit organizations often struggle with a lack of adequate funding and the attendant difficulties this creates for their day to day operations. This makes the implementation of human resource practices very challenging, especially in organizations that cannot devote resources to a formal human resource management function. Human resource strategies have to focus on attracting and retaining people driven by a strong service orientation. Additionally, those in the human resource role must design creative employee engagement practices that require few resources. This study examines the problems in implementing human resource practices aimed at managing the unique challenges faced by non-profit organizations.

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## **ARE NEUROTICISM, EXTRAVERSION, CONSCIENTIOUSNESS, AND COLLEGE GRADE LEVEL RELATED TO SLEEP QUALITY?**

**Francione, Brei (Psychology)**

*Faculty Mentor:* James Diller

Students sleep poorly, which relates to lower academic performance and well-being. The present study examines the relationship between sleep, personality, and college grade level. Sleep quality and college grade level, along with sleep quality and conscientiousness, are expected to be positively related. Extraversion and sleep quality are hypothesized to be negatively related. It is anticipated that as neuroticism increases, sleep quality will increase; when neuroticism becomes too high, sleep quality will begin to decrease. Participants will be Eastern Connecticut State University undergraduate psychology students who are at least 18 years old. There will be about 25-30 participants, who will be mostly female. Self-reported measures that will be administered are the Pittsburgh Sleep Quality Index (PSQI), the Big Five Inventory (BFI), and a demographics questionnaire. College students' sleep may be improved by intervention and mentoring programs. If college students' quality of sleep is improved, they may be healthier and perform higher academically. Keywords: sleep, personality, college grade level, academic performance, students

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**PORNOGRAPHY USE AND ASSOCIATED GENDER DIFFERENCES: PREDICTING RELATIONSHIP HEALTH AND SEXUAL SATISFACTION**

**Gelino, Brett (Psychology)**

*Faculty Mentor:* Kristalyn (Kristi) Salters-Pedneault

Pornography has a history of use through various mediums, but recent technological advances have made the content easily accessible. Use of sexually explicit materials has been previously associated with negative outcomes that have been demonstrated to vary by gender. The purpose of the current study is to assess the relations between pornography use and multiple variables of relationship health (adjustment, commitment, sexual satisfaction); gender differences will be examined. A sample (N = 70) of college students recruited from Eastern Connecticut State University will complete the Problematic Pornography Use Scale (PPUS), Dyadic Adjustment Scale (DAS), Commitment Scale, and the Index of Sexual Satisfaction (ISS). Collected data will be statistically assessed using Pearson's product-moment correlations (r) and a t-test will be used to determine the presence of differences between porn users and non-users, and the presence of gender differences. It is predicted that higher rates of reported pornography use will be correlated with lower levels of relationship health; this relation will be stronger in males than in females. The results of the study will provide a better understanding of how this content may be affecting individuals in early adulthood.

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**ASSESSMENT OF AUTISM IN INFANCY**

**Gray, Jenna (Psychology)**

*Faculty Mentor:* Jeffrey Danforth

Autism spectrum disorder is categorized by difficulties with social communication and repetitive patterns of behaviors, activities and interests. The degree of severity within a person with autism varies widely, so autism is considered a spectrum of symptoms. Autism is currently affecting one in sixty-eight

children a year, suggesting that autism diagnoses are on the rise. With autism affecting more children it is imperative to treat this disorder to ensure the best possible outcome for the child. This paper will review recent research pertaining to assessment of autism in infancy. The goal of this paper is to summarize all the current research relating to early autism identification to give support for assessment at an early age. Due to neural plasticity, the sooner intensive treatments are implemented, the better the long-term prognosis for children with autism. Therefore, it is vital to understand the possible indicators of autism in infancy.

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## **SYSTEMS ANALYSIS OF THE OPERATIONS OF THE CAMPUS ACTIVITY BOARD**

**Hayes, Bryan & Kelly Murphy (Business Administration)**

*Faculty Mentor: Don Petkov*

We conducted an analysis of the work processes of the Campus Activity Board at Eastern Connecticut State University. The project was conducted by applying the Work System Method by Alter. Segments of the analysis included essential work practices such as payroll, form submission, student feedback evaluation and employee access to facilities. Many of these processes are necessary for the success of the Campus Activity Board, but our team found that several of them were currently outdated and wasteful. We were able to find that the processes were able to be simplified by utilizing technology resources. The organization has the opportunity to save costs and error by eliminating unnecessary processes and by submitting their forms completely electronically. An example of a main problem with the organization's processes is, important data in the organization is currently transferred manually while the organization has the opportunity to create an automated electronic system for data transfer for various documents.

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## **DETERMINING INTERNAL ARCHITECTURE OF HAIN'S PIT GLACIOFLUVIAL DEPOSITS USING GROUND PENETRATIVE RADAR**

**Houle, Ashley (Environmental Earth Science)**

*Faculty Mentor: James (Drew) Hyatt*

The following reports on undergraduate research activities that began in the summer of 2014 with the collection of ground penetrating radar (GPR) and topographic survey at the Hain's gravel pit in South Windham, CT. These data are used to determine the extent to which GPR can image the internal architecture of a glaciofluvial delta. A Pulse Ekko Pro GPR was used to collect 50, 100 and 200 MHz data using appropriate antennae connected to a mobile smart cart which was rolled along each survey line. A total of 72 survey lines were collected from three sites each within a large delta complex. For each site, data were collected along a series of parallel GPR lines arranged in a rectangular grid with lines spaced 0.5 to 1.0 m apart. Grids were oriented across and parallel to the delta at both higher elevations and within an excavated part of the delta. This arrangement enabled preparation of 3D visualizations of the subsurface. In addition, topographic data and panoramic imagery for the exposed delta face were collected to ground true radar imagery. Radar velocities, which are needed to determine depth, were determined using common midpoint analysis and by fitting hyperbola to radar point reflectors. Radar data were processed using Ekko Project software while 3D visualization were prepared using Voxler. Ekko Project was used to topographically correct, apply gains that enhance subsurface reflectors, and to

adjust velocity of radar records. As well, radar grids were converted to 3D data formats for use in Voxler ongoing radar analyses clearly identify layering within the deposit and the presence of several reflector patterns called facies. Comparisons between radar data, panoramic photographs, and topographic scanned data will help to establish the degree to which radar images capture details within the delta deposit. Preliminary inspection suggests that delta foresets and channel structures in the exposed pit face are also recognized in 3D visualizations.

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## THE HISTORY OF EASTERN CONNECTICUT STATE UNIVERSITY RUGBY: A SOCIO-CULTURAL ANALYSIS

**Jones, Eric (Kinesiology & Physical Education)**

*Faculty Mentor: Ari de Wilde*

Nearly thirty years ago in 1986, the Rugby club was founded by players at Eastern Connecticut State University. Today, rugby is an institution at the school. The school is the designated public liberal arts school for the state, has over 5000 students, and competes in Division III in the NCAA. However, Rugby, a club sport, is one of the most popular sports on campus. In an age of Big Time college athletics, this club sport is an interesting alternative model of collegiate athletics. While the club is popular now, it has at times struggled to exist at ECSU. And, though rugby has been a part of the culture of United States schools for over 100 years, it has had problematic associations. For example, it has always been associated with alcohol. It has steered many people away from the sport and has made universities unwilling to allow it in their sporting programs. Here at Eastern, there have been many obstacles to the rugby club including drinking in the early years of the sport. Eastern Rugby has changed dramatically for the better and has become one of the most well-known and respected sports at Eastern. For this poster, the researcher will examine Eastern's archival sources and broader secondary works, to briefly examine the founding of the club at Eastern, its problems at ECSU and more broadly and its plan to sustain itself in the future. The researcher will argue that its place is popular but not secure without specific behavioral policies. The poster will place the ECSU's club in the broader context of collegiate rugby and collegiate sport.

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## **DENATURATION STUDIES OF FLUORESCENT PROTEINS**

**Kamuda, Troy & Nicholas Ritchings (Physical Sciences)**

*Faculty Mentor:* Robert Collins

Proteins are the genetically encoded biopolymers responsible for metabolism, transport, cellular and anatomical structure, and other functions of life. To execute these functions, the extended chains that they are initially synthesized as must fold into a functional three dimensional structure. Disorders such as Parkinson's and Cystic Fibrosis can occur if proteins fold incorrectly. One way to characterize the folding of proteins is through kinetic and thermal constants such as Gibbs free energy and rate constants. Many naturally occurring proteins such those found in jellyfish and coral are inherently fluorescent. The fluorescence of these proteins is dependent on proper folding. Denaturing, or the unfolding of the protein, will cause them to fluoresce less. It is possible to denature proteins by raising the temperature above the thermal stability range of the protein or using a 'denaturant' such as the detergent SDS. Fluorescent proteins were expressed in bacteria, purified and subjected to folding and unfolding studies. We designed these studies as a novel pedagogical laboratory tool for advanced biochemistry students. In performing these experiments we identified thermal and kinetic constants unique to our fluorescent proteins despite close relation to other fluorescent proteins. This indicates that there may be important differences in the folding pathways of fluorescent proteins demonstrating they may be an important system to properly understand the folding of proteins.

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## **HOW SOCIAL MEDIA AFFECTS A COLLEGE STUDENT'S THOUGHTS ON GLOBAL WARMING**

**Kmiecik, Patrick (Communication)**

*Faculty Mentor:* Melanie Savelli

Global warming has become a hot topic issue scientifically, politically, and economically. With technology advancing at an accelerated rate, people can use the media to connect with others, and gain information worldwide. People can consume media coverage about global warming through radio, television, newspapers, magazines, and the internet. Social media has become a modern day tool in communication, and Facebook has become the worlds most used social media platform. This study will explore how social media Facebook is used by Eastern Connecticut State University students, and how it impacts their perceptions of global warming. Results from this study can tell how students get their information about global warming through Facebook. This study is important because Facebook is the most used social media website, and global warming is one of the most talked about issues in the world today.

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## **A WEB-BASED TOOL FOR THE ANALYSIS OF GENE EXPRESSION OMNIBUS DATA USING SHINY**

**Liao, Ken-Heng, Gregory Harper & Branden Spratt (Mathematics & Computer Science)**

*Faculty Mentor:* Garrett Dancik

Gene expression is the process within a cell by which a sequence of DNA is transcribed into RNA and the RNA is then translated into a protein. The collection of proteins within a cell determines its physical

structure and characteristics, including whether or not the cell is healthy or becomes cancerous. The Gene Expression Omnibus (GEO) publicly archives and freely distributes gene expression data submitted by the scientific community. However, GEO has limited tools that make study and analysis difficult for researchers. Shiny is a web application framework for R, a statistical programming language. Using Shiny, our group is developing a tool that provides a simple graphical user interface for pulling information from GEO so that a user can conduct an in-depth analysis on the gene expression profiles of interest. Specifically, a user can study the association of gene expression and clinical data through visualization. With this tool, researchers can potentially identify specific genes that relate to certain diseases and can be targets for treatment.

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## **CREATING EDUCATIONAL RESOURCES FOR DINOSAUR STATE PARK USING LASER SCANNING AND LOW-LEVEL PHOTOGRAPHY**

**Lorange, Jacqueline (Environmental Earth Science)**

*Faculty Mentor:* James (Drew) Hyatt and Meredith Metcalf

This study utilizes high resolution imagery, terrestrial laser scanning (TLS) survey data, rapid prototyping (3-Dimensional printing), and geospatial computing to build educational resources that examine tracksites at Dinosaur State Park (DSP) in Rocky Hill, CT. DSP attracts approximately 50,000 annual visitors that include K-16 school groups who view over 600 Dilophosaurus tracks in Jurassic sandstone. This study produced the first image map of the entire tracksite, while also analyzing electronic data to augment current educational activities. Data sets described below will improve educational activities with high resolution image maps, scaled 3-D models for more efficient casting and new 3-D models, and Geographic Information System (GIS) databases that merge survey data with images of the tracks. Data sets were developed from TLS survey data and digital imagery collected from both the main and small tracksites at DSP. Scanner data were obtained with a Trimble VX Spatial Station, resulting in approximately 750,000 survey points. Digital images were captured obliquely with the Spatial Station and vertically with a Nikon D600 full frame camera mounted on a 25-foot pole. Survey point clouds were refined to remove extraneous points and used to create triangulated mesh which were textured with images from the VX and the DSLR to produce photo-realistic computer models. For the image map, pole photographs were initially processed in Adobe Lightroom and image masks were adjusted to remove imperfections prior to stitching. ArcGIS was used to integrate stitched images with the scanner point clouds and geo-reference data within a UTM coordinate system. Survey data were also used to 3-dimensionally print physical models of selected tracks. This involved converting clouds to refined meshes and exporting as object (obj) files for manipulation in Blender software. Obj files were attached to a mesh cube to create the proper rectangular dimensions and volume output .stl files for 3-D printing. Prints will be used to cast clay track sets for visiting school groups and are well suited for illustrating the meaning of vertical exaggeration. Further, these models will provide a more cost effective and less time consuming opportunity for visitors to cast tracks. These educational resources will be made available for use at DSP.

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## **A LIFE OF RHYTHM AND BLUES: CORRELATES AND CHANGES IN ACTIVITY PATTERNS AND CIRCADIAN RHYTHMS IN TROPICAL SLIPPER LOBSTERS**

**Maciolek, Alex, Connor Dunleavy, & Tara Houle (Biology)**

*Faculty Mentor:* Jason Goldstein

Circadian rhythms are controlled by an internal clock and are molecular, physiological, or behavioral events that occur predictably. The conservation of such rhythms in a variety of plants and animals suggests that circadian clocks help organisms to anticipate and synchronize to daily environmental changes, providing tremendous adaptive advantage. The prevalence and variability of circadian rhythms in slipper lobsters remains understudied and elusive. Slipper lobsters (*Scyllarides* spp.) are highly cryptic, but sometimes gregarious animals that shelter in a variety of both soft (sand) and hard (caves) habitats with minimal light. The primary goal of this work is to provide better resolution of activity patterns during light-dark cycles in juvenile tropical slipper lobsters and to examine three factors that may prompt changes to their overall activity and associated circadian rhythms. First, we will evaluate the activity patterns and circadian rhythms for lobsters in group-settings ( $n = 3-4$ ) versus those kept individually ( $n = 6$ ) to test the hypothesis that social behavior has an effect on activity patterns. Second, we will simulate predation pressure to assess if the cues of a formidable predator (gray triggerfish, *Balistes caprisucus*) modulate lobster behavior, thereby altering their circadian clock. Finally, we will compare the activity and rhythmic behavior of our juvenile lobsters ( $n = 8$ ) to those of adults ( $n = 3$ ) to investigate potential differences in circadian rhythms that may be age-based. These lab-based studies will be assessed using a combination of time-lapse video and accelerometers (adults only) along with actogram and periodogram analyses. These ongoing studies will contribute a better understanding of some of the factors that initiate and potentially alter activity patterns and modify circadian rhythms in lobsters. Our results may also provide correlates for other animal-based models of circadian behavior.

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#### **BIOPROSPECTING WITH ACINETOBACTER BAYLYI ADP1**

**Madden-Hennessey, Kirby (Physical Sciences)**

*Faculty Mentor:* Robert Collins

Most bacteria cannot be cultured and therefore important aspects of environmental biochemistry remain enigmatic. Biotechnology is an important field of business, but due to a lack of known enzymes that are able to catalyze reactions, research in the areas of biofuels, green chemicals, and environmentally friendly materials have been hindered. *Acinetobacter baylyi* ADP1 is a naturally occurring soil bacterium that can be easily grown in the lab. Unlike other bacteria it has the ability to naturally take up DNA and incorporate genes into its genome to enhance its survival and overall metabolism. In this experiment ADP1 is used to take up DNA that has been isolated from soil obtained from two different sites in order to identify overlooked genes. The transformed ADP1 was selected for growth in various conditions; the most notable isolates grew on methyl cellulose, detergents, and synthetic motor oil as carbon sources. The consistent growth in synthetic oil of the transformed ADP1 with regards to both types of soil was of specific interest. Gas chromatography/mass spectroscopy (GCMS) was used to explore the biodegradation pathways of the transformed ADP1. This study has developed ADP1 as a novel biotechnological tool for isolating previously unknown enzymes.

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#### **INFLUENCE OF FAULTING ON STRATIGRAPHIC RELATIONSHIPS WITHIN LOWER JURASSIC BASALT AND SILICICLASTIC FORMATIONS IN THE HARTFORD BASIN, CONNECTICUT**

**Marsie, Matt (Environmental Earth Science)**

*Faculty Mentor:* Peter Drzewiecki

An examination of lower Jurassic rocks from a core in the Hartford Basin (in South Hartford) revealed enigmatic relationships between basalt and clastic alluvial/lacustrine strata. The core consists of, from bottom to top: (1) a lower basalt unit (47m) the base of which was not completely penetrated, (2) reddish-brown mudstone and sandstone (34m) with one black shale interval 7m from the top, (3) an upper basalt unit (15m), and (4) reddish-brown mudstone and sandstone unit (12m) at the top. These strata differ significantly from the regional stratigraphy in that the upper basalt is much thinner than any regional basalt layer, and the sedimentary unit between the two basalt layers is thinner than either the Shuttle Meadow or the East Berlin Formations exposed locally. In addition, a third, very thin (2.5m) basalt layer occurs between the other 2 basalt units. The core is located within 100 meters of an intrabasinal normal fault system referred to as the Cedar Mountain Fault system. We have interpreted the unusually thin upper basalt and siliciclastic units as being truncated by several faults. This evidence includes post-depositional brecciation, shearing, mineralized fractures, and highly disturbed strata. The top of the lower basalt contains flow-top features, and is interpreted as a stratigraphic contact with the base of the overlying sedimentary unit. Tentatively, the upper basalt is assigned to the Hampden Formation and the lower basalt is assigned to the Holyoke Formation. This suggests that the intrabasalt sedimentary unit is from the East Berlin Formation. The third, thin basalt interval is bounded by rocks with shear fabrics that parallel bedding planes. This unit is interpreted as either a thin dike injected along a bedding plane or a small splinter within the fault system.

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## **THE VERTICAL LIMIT OF BLUFF EROSION ON BLOCK ISLAND, RHODE ISLAND USING TOPOGRAPHIC PROFILES EXTRACTED FROM PRE AND POST STORM LIDAR**

**McDonald, Amber (Environmental Earth Science)**

*Faculty Mentor:* Bryan Oakley

Superstorm Sandy made landfall in New Jersey 213 km (194 mi) south west of Block Island on October 29, 2012. Significant wave heights during Sandy exceeded 9 m) at a buoy southeast of Block Island (with the largest individual waves > 14 m (47 ft). Coupled with a 1.5 m (5 ft) storm surge, Sandy caused extensive erosion along parts of the island. The objective of this research is to analyze the erosion of the bluffs along the shorelines of Block Island, RI after Superstorm Sandy using cross-sectional profiles extracted from sequential LiDAR elevation models. Cross-sectional profiles extracted from bare earth digital elevation models (1 m cell size) created from the 2011 U.S. Geological Survey (pre-Sandy), and 2012 U.S. Army Corps of Engineers LiDAR data collected two weeks after Sandy, were compared to examine the response of the bluff shoreline to the storm. Transects perpendicular to the shoreline were cast at a spacing of 100 m. Topographic profiles were extracted using the Interpolate Line tool in ESRI ArcMap v. 10.1 Spatial Analysis extension. 166 transects featured a bluff backed shoreline, and we compared the pre-Sandy and post-Sandy profiles. The bluffs range in height from < 5 to >50 m above MLLW, and vary in composition from Cretaceous-Tertiary aged Coastal Plain strata to Late Wisconsinan glacial till and stratified deposits, producing a complex response to storm events. The vertical limit of bluff erosion averaged 7.5 m above MLLW for the 166 transects, although the elevation ranged from < 1 m to > 20 m. Where the elevation of the bluff crest was lower than 10 m, the entire bluff face retreated during the storms. Bluffs between 10 and 15 m above MLLW had a varied response to erosion; in some cases the entire bluff face retreated. The bluffs > 15 m above MLLW saw erosion limited to the toe of the bluff and lower bluff face, although significant variation in the vertical limit of erosion was observed. While the varied response appears to be largely due to the heterogeneity of the bluff composition, nearshore bathymetry and shoreline orientation, bluff height provides a first-order control on the response to storms. Whether the segments of the bluff that show erosion at the toe, are more likely to

fail in the future require continued observation, and quantifying the volume of sediment eroded at each transect will be examined in the future.

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## **A REGIONAL-SCALE, EAST-VERGENT, OVERTURNED FOLD PAIR IN THE VALLEY FALLS-BOLTON NOTCH STAUROLITE-GARNET SCHIST BELT, EASTERN CONNECTICUT**

**Mokoski, Kevin (Environmental Earth Science)**

*Faculty Mentor:* Dickson Cunningham

Detailed structural mapping was carried in the staurolite-garnet schist belt between Bolton Notch and Valley Falls, Vernon during summer, 2014. A 1-m resolution LiDAR bare-earth base map was used to locate outcrops and plot lithological and structural data within a 6km<sup>2</sup> area. The purpose of the project was to revisit the famous Bolton syncline and better document its three-dimensional structure in detail. More than 100 outcrop localities were investigated with careful attention paid to the orientations of the principal foliation (S1) and the geometry of S2 minor folds of the main S1 schistosity. In addition, quartzite-rich sequences within the schist belt, pegmatites, and the western boundary of the Bolton Schist with the Glastonbury Gneiss were located and mapped. It was found that the western contact of the Bolton Schist is marked by widespread brittle deformation and is most likely a west-dipping, east-directed over-thrust. Structurally below this contact, abundant minor folds in the Bolton Schist suggest the presence of an east-vergent, overturned antiform. Its hinge zone is marked by M- and W-shaped minor folds and the fold axis can be traced for 3 kms. The previously mapped Bolton synform lies structurally below this newly discovered antiform and its hinge line is inferred to crop out further east. Both folds are strongly overturned and appear to be isoclinal with bedding almost everywhere transposed by the penetrative schistosity. The results of this study indicate that the Bolton Schist belt was a relatively weak zone that accommodated very high contractional strain, flattening, and east-directed fold transport between the more rigid Glastonbury orthogneiss to the west and Monson and Hebron gneisses to the east.

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## **THE ETIOLOGY OF CHILDHOOD-ONSET SCHIZOPHRENIA: RECENT RESEARCH FROM A NEURODEVELOPMENTAL PERSPECTIVE**

**Oski, Heather (Psychology)**

*Faculty Mentor:* Jeffrey Danforth

Childhood-onset schizophrenia (COS) is defined by schizophrenia onset before age 13. Even though the defining features are the same for adult and childhood, COS is associated with worse outcomes and more severe symptomology compared to schizophrenia with later onset. The purpose of this paper is to identify biological and environmental risk factors specific to COS through a neurodevelopmental model that describes how these risk factors interact with each other. In the past 15 years, research has focused on polygenic influences. Genetic mutations and other variations may also be a contributing factor that interacts with brain development. Current research has found support for a neurodevelopmental model of COS, and multiple biological and environmental factors interact to create increased risk of COS. Specific environmental characteristics, especially family characteristics, have support as risk factors. The etiology of COS may be differentially associated with patterns of risk in development. Future directions in research are discussed.

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## **USER EXPERIENCE WITH WEARABLE TECHNOLOGY: A DESIGN EVALUATION OF TIMEX IRONMAN WRISTBAND**

**Palmer, Isabelle (Business Administration)**

*Faculty Mentor:* Sukeshini Grandhi

The use of technology to keep track of one's daily activities is a popular trend that has led to the market being flooded with numerous wearable technologies in the form of apps and devices. However, for successful adoption of a device/app it is important to design technology keeping user experience and needs in mind. In this study we will evaluate the design of Timex Ironman Wristband, a fitness wristband, designed to act as a timer, watch, and digital reporter for the user's daily exercise habits. We will evaluate the usability of the product in terms of intuitiveness, ease of learning, efficiency of use, error frequency and severity and subjective user satisfaction. Data from heuristic analysis and user testing will be analyzed and design recommendations for better user experience will be explored.

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## **STAKEHOLDER ENGAGEMENT IN PUBLIC ORGANIZATIONS: COLLABORATION VS. CONTROL**

**Paquette, Clarissa (Business Administration)**

*Faculty Mentor:* Niti Pandey

Stakeholder engagement is the process of involving all parties either interested in, or potentially impacted by, an organization's decisions or actions. Stakeholder engagement can be achieved through either collaboration with or control over the invested parties. This research project examines the stakeholder management and engagement literature to understand how the mechanisms of collaboration and control emerge. Most research in management has focused on stakeholders in for-profit organizations. Building on Freeman's model of power, legitimacy, and urgency as key drivers of stakeholder engagement, a framework for public organizations is developed. The review and analysis of extant research suggests that collaboration, in the interest of long-term, mutually beneficial partnerships, is the more desirable method of stakeholder engagement in public organizations.

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## **THE DICHOTOMY OF STUDENT VIEWS ON SUSTAINABLE CAMPUS DEVELOPMENT: STAKEHOLDERS, BUT NOT ENGAGED**

**Prevost, Lauren & Trevor Warbin (Business Administration)**

*Faculty Mentor:* Niti Pandey

Universities are continually upgrading their physical facilities to make them adhere to standards of sustainable development. While students are a primary stakeholder group at universities, there is no research evidence that institutions adopt sustainability practices for specifically attracting students. On the other hand, research also suggests that Millennials are more likely to be attracted to organizations that focus on social and environmental responsibility and community service. In this study, students on a green campus were interviewed to determine their knowledge of and interest in an ongoing sustainable construction project. Interview data suggests that most students are unaware of what sustainable development means as well as the potential benefits of such projects to themselves and their university.

However, students do identify themselves as important stakeholders in their institution's decision to engage in campus development. Based on our results, we suggest methods for engaging students in campus development efforts by educating them about sustainability and its positive outcomes for the institution. We also recommend that such projects be marketed in order to attract new students.

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## **DOES EXERCISE REDUCE THE DESIRE FOR SMOKING CIGARETTES?**

### **Quattropani, Nicholas (Communication)**

*Faculty Mentor: Melanie Savelli*

This research looks at the work of K. Janse Van Rensburg and V. Roberts whose works focused on the impact of aerobic exercise intensity on craving to smoking cues. Smoking is a problem because of its health risks; however, trying to quit smoking is an even bigger problem. This study aims to find if there is a negative correlation between smoking and exercise, meaning that the more you exercise the less you smoke. The previous works focused on craving intensity but never really went further to try and wean a subject off of cigarettes for good. If exercise could potentially reduce greatly or even eliminate urges for nicotine in cigarettes, the quitting process may ultimately be easier for current smokers who are trying to quit. This is very important to know because, if exercise does mask the need to smoke, this will be a healthier and more cost efficient choice to quit smoking, as opposed to other alternative methods such as pills, patches and e-cigarettes.

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## **THE LEGACY OF THE INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS: THE CASE OF BOEING**

### **Quinn, Devin, Alexandra Olsen, & Sara Peterson (Business Administration)**

*Faculty Mentor: Niti Pandey*

Boeing is the leading manufacturer of military aircraft and commercial jetliners. In the era of intensified union activities following the passage of the Wagner Act in 1935, the International Association of Machinists and Aerospace Workers (IAM) union became the face of the production workers at Boeing. Over the decades, IAM has successfully represented these highly skilled workers and fought to protect their interests by negotiating strong collective bargaining contracts with Boeing. However, recently there has been increased pressure to move production facilities to non-union sites and weaken the hold of IAM on Boeing's workforce. This project tracks the history and legacy of IAM at Boeing, from the time it first represented the production workers to the new set of challenges the union faces today. Our research focuses on the role of the IAM at Boeing and the right of employees to make their own choices regarding union representation.

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## **CELL PHONE USAGE IN THE CLASSROOM**

### **Reis, Dylan (Communication)**

*Faculty Mentor: Melanie Savelli*

With the increase in smart phone use by people college aged students (find a statistic) it is important to determine the impact of smart phone use in the classroom. A survey will be conducted to better understand the relationship between non-academic smart phone use in college classrooms and class participation as well as overall class grade. It is hypothesized that increase smart phone use will be negatively correlated with class participation and grades.

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## **THE SOUTH CHINA SEA: A KEY TO UNDERSTANDING THE ASIAN MONSOON AND CLIMATE CHANGE**

**Rogers, Stephanie (Environmental Earth Science)**

*Faculty Mentor:* Stephen Nathan

One area of paleoclimate research focuses on the Asian Monsoon, a system that contributes to regional and global climate. The development of the Asian Monsoon is thought to be caused by the Himalayan-Tibet Orography that occurred after the collision of India and Asia approximately 55 million years ago. The collision is thought to be responsible for 1400 km of crustal shortening which caused the tectonic uplift of the Asian continent. As the Tibetan plateau was uplifted, the (East) Asian Monsoon intensified in the Late Miocene between 10-8 million years ago. The South China Sea is the main area of this study due to its influence upon (and by) the summer and winter East Asian Monsoon. Deep sea sediment cores from the South China Sea (Ocean Drilling Program Site 1146) have been obtained in order to study regional climatic changes as recorded by planktic foraminifera. Foraminifera serve as a proxy to observing changes in marine geochemistry and in turn regional/global climate. These single-celled microorganisms contain multi-chambered shells of calcite that have been analyzed for the stable isotopes C13 and O18. This study compares the C13 and O18 values of foraminifera from Site 1146 (using a 5 Ma time slice) to a similar time slice from Ontong Java Plateau (ODP Site 806). This study also compares additional time slice, isotope data (at both sites) from 13, 11, 9, 7, and 0 Ma in order to understand the changing geochemistry of the South China Sea in relation to the Asian Monsoon System.

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## **ELUCIDATING CRYPTIC SPECIES IN THE SOUTHERN UNSTRIPED SCORPION, VAEJOVIS CAROLINIANUS (SCORPIONES: VAEJOVIDAE)**

**Sampognaro, Alyssa (Biology)**

*Faculty Mentor:* Matthew Graham

Nearly half a billion years old, the Appalachians are one of the most ancient mountain ranges on earth. Landscape perturbations and climate fluctuations have caused repeated isolation and speciation in these mountains, which has accelerated rates of diversification in some dispersal-limited organisms. Detailed genetic studies of terrestrial vertebrates endemic to the Appalachians continue to reveal new cryptic (morphologically indistinguishable) species, but thorough assessments are still lacking for many groups of dispersal-limited arthropods. In an ongoing study, we are testing the hypothesis that the southern unstriped scorpion, *Vaejovis carolinianus* (Beauvois, 1805), comprises a complex of cryptic species in the southern Appalachian Mountains. We are generating mitochondrial DNA sequences (COI) for samples collected from throughout the distribution of *V. carolinianus* and using phylogenetic techniques to measure the level of genetic differentiation among populations. If *V. carolinianus* is a cryptic species complex, then phylogenetic analyses should recover deep genetic divergences that predate the Pliocene (based on molecular clock estimates). Although we are still sequencing samples from the western Appalachians, analyses of our preliminary data set suggest that *V. carolinianus* consists

of at least two unique species; one distributed throughout the southeastern part of its range and another endemic to Talladega Mountain in Alabama. Based on these results, we predict that our study will also reveal additional new species along the western edge of the Appalachian Mountains (the Appalachian Plateau) in Alabama, Kentucky, and Tennessee.

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## **FINDING IMMERSIONS OF COMPLETE GRAPHS**

**Shannon, Anna (Mathematics & Computer Science)**

*Faculty Mentor:* Megan Heenehan

A graph is defined as a set of vertices and a set of edges that are unordered pairs of vertices. We can think of the edges as connections between vertices. In this poster, we are interested in finding immersions of complete graphs. A graph has an immersion of a complete graph on  $n$  vertices if there are  $n$  vertices every pair of which is connected by edge disjoint paths. In other words, we try to find a way to connect vertices to each other by following paths. We may not use edges on multiple paths, but we may use vertices on multiple paths! The motivating question for this work is: given a class of graphs what is the largest complete graph immersed? For the class of Harary graphs, we conjecture that there is an immersion of a complete graph on the maximum degree plus one vertices. In this poster we will present steps towards proving this conjecture.

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## **THE INEQUALITIES OF SAUDI ARABIA'S LABOR FORCE: AN INQUIRY INTO TRADITION VERSUS MODERNIZATION**

**Silva, Robert, Kyle Mullins, & Ashley Ries (Business Administration)**

*Faculty Mentor:* Niti Pandey

This project examines the employment relationship practices in Saudi Arabia. We specifically focus on the composition of the labor force in terms of participation by women and immigrant groups. The labor laws, economic conditions, and sociopolitical features of the Saudi Arabian employment relationship are examined in depth. Our research reveals deep inequalities in the level of access women have to employment. Additionally, Saudi Arabia's work force is largely made up of immigrant groups, often working under poor conditions and limited labor laws. While the region faces increased pressures for modernization, the labor laws of Saudi Arabia are deeply rooted in their religious traditions, thus impacting the nature of the employment relationship. Our study concludes by contrasting the Saudi Arabian employment relationship with practices prevalent in the United States.

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## **UNDERSTANDING THE ROLE OF HEALTHCARE PROVIDERS IN PREVENTIVE HEALTHCARE: INSIGHTS FOR DESIGN OF HEALTHCARE TECHNOLOGY**

**Smerling, Stephanie (Business Administration)**

*Faculty Mentor:* Sukeshini Grandhi

The Health Enhancement Program (HEP), implemented by the State of Connecticut aims to encourage and support preventive care. The program mandates that consumers meet certain preventive healthcare requirements every year. However, since put into effect, both consumers and healthcare

professionals have faced multiple challenges in efficiently managing these requirements. In this study we aim to understand the nature of challenges healthcare providers face in helping consumers meet their HEP requirements using qualitative methods such as interviews and observation. Based on data gathered from a Primary Care Physician's office in Fairfield and we will present our early insights on how to design technology to help healthcare providers better support consumers in being HEP compliant.

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## **WHO IS DRINKING WINE IN THE UNITED STATES? THE DEMOGRAPHIC AND SOCIOECONOMIC PROFILE OF U.S. WINE CONSUMERS**

**Soendergaard, Nicolai (Business Administration)**

*Faculty Mentor:* Emiliano Villanueva

Some of the paper's questions were 'Is wine a luxury for the higher income part of the population? Or does the consumption patterns spread evenly among demographic groups?' The main findings showed that the wine consumption patterns from 1972-2012 had three distinct phases. First a heavy increase in consumption, second a decline in consumption, and third a recovery stage with substantial growth of wine consumption. Further it was found that the 'typical' wine consumer consisting of the higher income/older part of society now shifted towards the younger generation. Setting aside the actual findings of the paper, I will focus on the different stages conducted in the process as a research assistant and what responsibilities it came with. This is especially important to outline for future students interested in assisting university professors in conducting research and making sure you are set for the job! There were five steps involved in the process: 1. Introduction 2. Data Collection 3. Data Mining 4. Bibliography Analysis 5. Literature Review. The presentation will consist of in-depth descriptions of the content of each respective step with reference to the paper.

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## **DESIGNING KNOWLEDGE TRANSFER ARTIFACTS FOR TASK HANDOVERS USING USER-CENTRIC DESIGN PRINCIPLES**

**Stebbins, Tyler (Business Administration)**

*Faculty Mentor:* Sukeshini Grandhi

Organizations often hire short-term consultants to address a specific task for which they do not have internal skills. At the end of project completion, effective capture and transfer of knowledge/skills is crucial to help the organization be self-sufficient in maintaining the processes for which help was received. This research focuses on understanding how to seamlessly transfer knowledge during a task/role handover in the context of webpage maintenance and management for a team of five fulltime employees at the Institute for Sustainable Energy at Eastern. Using 'User Centric Design' principles we will obtain rich-qualitative data through interviews and observations, to understand the contexts under which the webpage management tasks will be performed. We will present the insights obtained from this enquiry as well as their implications for design of suitable instructional artifacts that will leave the website a success long after the person responsible for the task leaves.

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## **A SPATIALLY LOCATED POST-SANDY DATABASE OF PHOTOMOSAICS OF THE BLOCK ISLAND BLUFFS**

**Sumeersarnauth, Brandan & Mike Manzi (Environmental Earth Science)**

*Faculty Mentor:* Bryan Oakley

The objective of our research was to compile ground-based photographs of the bluff shorelines of Block Island, RI following Superstorm Sandy. Superstorm Sandy made landfall in New Jersey 213 km (194 mi) south west of Block Island on October 29, 2012. Significant wave heights during Sandy exceeded 9 m (31ft) at a buoy southeast of Block Island (with the largest individual waves > 14 m (47 ft). Coupled with a 1.5 m (5 ft) storm surge, Sandy caused extensive erosion along parts of the island. Photos were taken from the beach at >400 sites along the entire perimeter of Block Island. Spatial location of the photographs was recorded using a Trimble Juno Global Positioning System (GPS) with ~5 meter accuracy. Following the field collection, the photographs for each field station were combined into a mosaic using editing tools and automated processes within Adobe Photoshop CS10. Of the >400 stations ~155 stations were located along the bluff shoreline of the island, and were selected for inclusion in the database. The mosaics are then served on the web, and the URL of each photo is linked to the GPS position of the photograph in a Spreadsheet Mapper Excel Template, which is stored on a Google Drive. This spreadsheet is linked to a Google Earth \*.kml file, and serves as virtual-tour of each field site. The advantage of this technique is that the images are served on the web and only the \*.kml is downloaded (< 10 kB). The individual images are called up when a user clicks on a field site in Google Earth. Our hope is that presenting the data in this manner makes it accessible for both outreach as a scientific tool to document bluff erosion on the island. This work is part of a wider project to examine bluff erosion on Block Island at various timescales. The heterogeneity of the bluffs, ranging from Cretaceous-Tertiary aged Coastal Plain strata to Late Wisconsinan glacial till and stratified deposits produces a complex response to storm events. These photographs are currently being compared to field measurements and remote sensing datasets (See McDonald and Oakley, this session). The photograph stations can be reoccupied to photograph the bluffs following a future storm event.

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## **SOCIAL MEDIA, SLACKTIVISM, AND TERRORISM: A DEADLY TRIO**

**Sylvester, Andrea (Communication)**

*Faculty Mentor:* Terri Toles-Patkin

Two horrifying issues plague our world today: ISIS and the kidnapping of over 200 Nigerian female students. Does Social media help or harm our response to these situations? Slacktivism is a side effect of social media and defined as: feel-good measures, in support of an issue or social cause, that have little physical or practical effect, other than to make the person doing it feel satisfied that they've contributed. Since the rise of its regime ISIS has used Twitter to recruit 20,000 foreigners to join them in their radical group that controls portions of Iraq and Syria. Those people flock from 90 different countries, and an estimated 3,400 Western areas, as well as Canada. ISIS has been known to post almost 40,000 tweets in one day. They have at least hundreds and probably thousands of fighters who are also on social media, promoting their 'cause'. Similarly social media raised awareness about the militants who abducted 219 girls in Nigeria. The slogan #BringBackOurGirls became the rallying cry for millions on Facebook, Instagram, YouTube and Twitter where the hash tag was retweeted more than 4 million times.<sup>2</sup> Raising awareness is imperative for the hope of putting an end to controversial world problems, but as slacktivism indicates, awareness does not mean problem resolution. The online campaign, launched to help rescue the initial 276 girls who were abducted from Nigerian boarding schools, has been no match for Boko Haram, a group of men willing to prey on the weak and defenseless and die for the cause of establishing an Islamic state.<sup>3</sup> As soon as the campaign began, it quickly ended. The millions of 'likes', 'shares' and 'tweets' on the issue became hushed if not entirely silenced. Presently 200 of

those Nigerian girls are still missing and little is being done to bring them home while ISIS continues to gain members daily. Through extensive research, current real world information and a survey done at ECSU campus, I hope to find how helpful or harmful social media is in eradicating terrorism over the last 3-5 years, and what that could mean for our future.

SOURCES: 1[http://www.pewinternet.org/2015/01/09/social-media-update-](http://www.pewinternet.org/2015/01/09/social-media-update-2014/)

2014/2<http://www.cnn.com/2015/02/25/world/isis-western-recruits/>

3[http://www.cbsnews.com/news/isis-jihadists-on-move-in-iraq-using-weapons-and-twitter-](http://www.cbsnews.com/news/isis-jihadists-on-move-in-iraq-using-weapons-and-twitter-hashtags/)  
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## **BEHAVIOR ANALYSIS IN HIGHER EDUCATION: A REVIEW**

**Thibodeau, Kaitlin & Alexis Apel (Psychology)**

*Faculty Mentor:* James Diller

Behavior analysis is not widely implemented in higher education, but has been used on a small scale in American colleges and universities. Behavioral instruction thus far has emphasized the need to measure whether instruction is effective and to continue searching for more effective teaching methods. In practice, behavioral instruction typically involves the use of small and manageable tasks with frequent opportunities for assessment. Behavior analysts have also delineated techniques in which grades can be used to create effective contingencies which promote behaviors that lead to greater academic success. Behavior-analytic teaching furthermore focuses on students' mastery of content, rather than other means of measuring success in a college course. Specific strategies used to apply behavior analysis to colleges and universities include programmed instruction, personalized system of instruction, precision teaching, interteaching and computerized instruction. While these techniques have been demonstrated as effective with a wide variety of learners, they still have limited popularity among the general community. It appears that behavior analysts must make behavior-analytic interventions more accessible and attractive to educators and administrators in order for society to reap the benefits that higher education informed by behavior analysis could provide.

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## **FEMALE PROFESSIONAL WRESTLERS' IMPACT ON YOUNG WOMEN**

**Tunncliff, Paige (Communication)**

*Faculty Mentor:* Terri Toles-Patkin

Female wrestlers in the professional circuit are becoming more apparent as the frequency in which they wrestle increases. As female wrestlers are given more air time and matches their influence grows on the audience. I was particularly interested in seeing how young women were affected by female wrestlers and the persona's they adapt while in the ring. To study this I delved into the professional wrestling companies in the United States, using a random sample of 10 current companies that feature female wrestlers. I then took a random sample of three current female wrestlers from each of the selected companies. Only three were chosen from each because certain tracks have few female wrestlers. The research question that I developed was 'How do female wrestlers influence younger female generations.' The wrestlers were then placed into categories based on their persona, attire, speaking time allotted, and win to lose ratio. Depending on which category the wrestlers were placed

into, determined their influence on the younger female audience members. Impact on the younger female fan base ranged from the incredibly positive to the terribly negative.

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## **BEAUTY LIES IN THE EYES OF THE BEHOLDER**

### **Valenzuela, Elizabeth (Communication)**

*Faculty Mentor:* Terri Toles-Patkin

Media today are influencing how adolescent girls and women view the word 'beautiful.' Many studies, including 'Exploring Adolescent Views Of Body Image: The Influence Of Media' (Spurr, 26), have shown the powerfully negative effects the media have on girls at such young ages. Due to such effects, Dove has started a campaign for 'Real Beauty.' This campaign first began in 2004 and has continued to expand. Their most recent advertisement, 'Real Beauty Sketches,' has had instant success since it first launched. This advertisement shows women they are more beautiful than they perceive. In a short video, an FBI-trained sketch artist first draws the women based on self-descriptions by the women and then based on the description by a stranger. Although Dove has been working non-stop to make women feel more comfortable in their own skin, there is still an extremely small percentage of women and adolescent girls who admit to not feeling beautiful. I have created a poster to illustrate percentages of women and girls who do not feel beautiful in their own skin and why. I also illuminate the kinds of advertisements women are exposed to every day which allude to these kinds of feelings. These advertisements include Dove's past and recent positive campaigns compared to more negative billboard advertisements and popular magazine advertisements that women are exposed to daily. I examine these different advertisements using the TARES test, a commonly used test of advertising ethics; evaluating whether they are truthful, authentic, respectful, contain equity and social responsibility. I hope that my poster will bring attention to some of these alarming percentages and bring confidence to women and girls.

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## **SEWING FOR SUSTAINABILITY: A BEHAVIORAL SKILLS TRAINING INTERVENTION**

### **Verespie, Shyann & Gregory Swann (Psychology)**

*Faculty Mentor:* James Diller

In efforts to reduce environmental footprint, undergraduate students from Eastern Connecticut State University will be taught how to mend minor rips and tears in clothing through behavior skills training. Behavioral skills training is the process by which participants are taught step by step to complete a predetermined task. Mending clothing removes the need to throw away ripped clothes or buy new clothing. This can reduce the pollution from clothing factories. Over four sessions, participants will acquire the skills to create basic sewing stitching to mend small rips and tears in fabric. At the end of the study, participants will be asked to take a social validity survey and asked how often they predict they will use sewing skills in the future. Participants will be assessed by the straightness of the stitching, consistent lengths of stitching, durability, and visually appeal. Participants will also be assessed on the number of stitches they complete per session. By teaching environmentally sustainable skills such as these, it can help reduce our environmental footprint while teaching valuable skills to participants.

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## LEED CERTIFICATION TRENDS IN PROFESSIONAL SPORTS FACILITIES

**Volza, Marc & Devin Zalewski (Kinesiology & Physical Education)**

*Faculty Mentor: Gregory Kane*

In recent years sustainability and going green have become a priority within the sports industry. One way that facilities and teams have approached this is through Leadership in Energy and Environmental Design, Certification (LEED). LEED certification is a program designed by the United States Green Building Council (USGBC), to help buildings become environmentally responsible in areas such as efficiency and sustainability among others. The USGBC has a standardized scorecard, consisting of six main categories; sustainable sites, water efficiency, energy & atmosphere, material & resources, indoor environmental quality, and innovation; these categories are then made up of smaller sub categories relating to each area. Facilities can score points in each of these categories; through their accumulation of points the facilities can reach different levels of certification. According to the USGBC 4 NFL, 6 NBA, and 5 MLB facilities have become LEED certified. This study has examined how sports facilities have accumulated their points; from the aforementioned categories; toward LEED certification. The examination of scorecards, for LEED certified facilities, in MLB, NFL, and the NBA, allowed us to uncover trends and scoring patterns. In comparing these facilities' scorecards, the study uncovered differences in; facilities that are being built as LEED certified versus, buildings being renovated toward certification; and how they score. In addition this study uncovered the main categories that facilities seem to target and therefore scored majority of their points in. This raises the question are facilities specifically targeting some categories while avoiding others to achieve certification. If this is the case, what does that mean for LEED certified buildings as a whole? Are these buildings really any more sustainable and environmentally friendly than non-certified buildings?

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## ESTIMATING SOFT SEDIMENT VOLUME AND ANALYZING CORE SAMPLES OF DEPOSITS IN ANDOVER LAKE

**Walter, Samantha & Trent Stevens (Environmental Earth Science)**

James (Drew) Hyatt and Meredith Metcalf

This undergraduate research reports on probing, sampling, and mapping activities undertaken in June, 2014 at the south end of Andover Lake, CT. Research was motivated by interest from the Andover Lake Property Association in evaluating whether dredging the bay is needed and/or feasible. As such, we estimate the volume of the soft sediment (SS) in the bay and examine the character of the deposits. SS thicknesses were collected along E-W sampling lines and parallel to the shore. At each sampling station water depth was measured using a perforated disk and SS was probed by pushing a metal rod to refusal measuring the depth of penetration. SS thickness was calculated as the difference between water and refusal depth. GPS locations for the sampling platform were measured with a Trimble Juno and imported to ArcGIS. The location of each sample station determined in Arc were exported and merged with SS data. Merged data files were then imported into Surfer to create maps, to visualize SS thickness and to calculate SS volume in the bay. The total volume of SS is 403,487 m<sup>3</sup> equating to about 550 large dump truck loads. SS thickness is spatially variable. Vibracoring and piston coring techniques were used to sample SS and to analyze the physical and chemical characteristics of the deposits. Three cores were

recovered, each ranging from about 1 to 1.5m. Coring used probe data to sample thick SS deposits. Vibracoring involves attaching a cement vibrator to an aluminum core barrel, which was vibrated into the lakebed. Cores were withdrawn using a winch and brought back to the lab for subsampling, analysis, and logging. Vibracores were split lengthwise, to note sedimentology, color, and composition. Subsamples were removed about every 5 to 10 cm and analyzed to determine moisture, wet and dry bulk density, and organic/inorganic carbon. Ongoing analysis of these data will be used to define the SS boundary and to characterize the deposits.

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## **ANALYZING GEOTHERMAL PROPERTIES OF HARTFORD BASIN MATERIAL**

### **Wicks, Brian (Environmental Earth Science)**

*Faculty Mentor:* Stephen Nathan

Geothermal energy is a practical, clean, and sustainable energy option, but optimizing geothermal energy as it pertains to shallow geothermal systems, a.k.a. ground source heat pump (GSHP) systems, is an area in need of further research. This study presents research on the geophysical properties of glacial deposits and bedrock, materials into which a GSHP system would be installed. A key geophysical property for the design of an efficient GSHP system is thermal conductivity (K). Since K is tied directly to determining the length of ground exchange, it is also tied to system installation costs, an important consideration for GSHP proponents. Samples of glacial deposits and bedrock were collected and analyzed from multiple locations within the Hartford area, during the summer and fall of 2014. All glacial deposits, with the exception of one location, were acquired using a hand auger. At two locations bedrock cores were collected by a commercial drilling team; one of these sites yielded split-spoon samples. Glacial materials ranged from cobbles to fines and represent glaciofluvial, glaciolacustrine, and glacial till deposits. The bedrock samples consisted of sandstone (East Berlin and Portland Formation), shale (unidentified) and basalt (Hampden and Holyoke Basalts). In addition to measuring thermal conductivity, the samples were analyzed to determine grain size distribution, dry bulk density, moisture content, mineralogy, and organic content. Because these properties are sometimes poorly constrained for the glacial deposits and bedrock that typify regional geology, the data produced from this study will greatly facilitate the efficient design, installation, and operation of GSHP systems.

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## Documentary/Video Presentations

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### **EASTERN EXPLORES**

#### **Boyne, Patrick (Communication)**

*Faculty Mentor:* Andrew Utterback

In the Fall of 2013 the Glastonbury Board of Education introduced a program, referred to as the 'iPad initiative', to distribute iPads to its high school students. Since that time the program has been met with mixed reviews. Recently, the school district has proposed expanding the iPad program to include Glastonbury's middle schools as well. This documentary offers a balanced look at the program to provide an unbiased account of how the iPad initiative is being received. Among others, the documentary features interviews with the high school students involved in the initiative as well as commentary from Eastern Connecticut State University professors. As technology continues to advance questions of how and why it should or should not be integrated into education will become more common and this documentary seeks to add to that discussion.

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### **FYE-- A COMEDY**

#### **Giuffre, Hannah, Sunthorn, Keith, Haggett, Emily (Communication)**

*Faculty Mentor:* Denise Matthews

FYE-A Comedy is a video production created in the sitcom pilot genre by the Dramatic Video Production class, Fall COM 380. Comedic writer, Emily Haggett, a class member, wrote the three-act script featuring Mr. Harmon (played by Ty Collige), an adjunct hired at the last minute to teach a First Year Experience (FYE) class at a public liberal arts university. His unconventional approach to teaching meets with students' outrage. Six class members acted as well as held production positions including four dual majors in Theater and Communication. All students rotated through production positions including director, producer, technical crew and post-production. Two students, Hannah Giuffre, Editor and Keith Sunthorn, Audio Editor and musical composer conducted an Independent Study in Spring 2015 to apply advanced techniques in color correction and sound sweetening that raised the 22 minute satirical comedy to professional technical standards. A preview audience at the Student Theater last December demonstrated that FYE-A Comedy, makes people laugh out loud.

## **PRODUCTION OF A NARRATIVE SHORT FILM**

### **Miclon, Anthony (Communication)**

*Faculty Mentor:* Edmond Chibeau

Film is one of the most prevalent and influential artistic mediums of our time. Despite it being relatively young when compared to visual methods of communication, it is one that has developed to transcend the boundaries of geography, race, and gender, among other demographics. With the advent of digital video, consumer level cameras, and more affordable digital storage, it is easier than ever for beginner filmmakers to enter the industry. This project will serve as my entry into the film industry. I will begin to sharpen my skills during the phases of pre-production, production, and post-production. Through the process, I will begin to learn where my strengths and weaknesses lie, and have started developing my own film voice.

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## **COLLEGIATE EFFIE TARGET BRAND CHALLENGE ENTRY**

### **Polhemus, Zachary, Moscaritolo, Abigail, Beltre, Joshua, Nagler, Alexander (Communication)**

*Faculty Mentor:* Olugbenga Ayeni

The Collegiate Effie Awards is a prestigious competition geared toward marketing and advertising students. The competition dictates that teams (or individuals) come up with a marketing and advertising solution for a specific brand's expressed needs; this year the brand is Target. Target's need is for a campaign geared toward millennials participating in back to college shopping. As part of the campaign, groups are required to do research on the target audience, as well as any external and internal factors that can affect the strategy. Using the research, groups must come up with a creative plan to accomplish the goal using multiple communication mediums. A pitch video is created to encompass the campaign in its entirety. This video will express the results found in our research, and our creative plan to potentially be executed by Target. The campaign includes social media interaction, apps and websites created to engage customers, in-store promotions and a reward program, print ads and points of sale displays, as well as TV/web video ads. The pitch video presents examples of these tactics, providing us the opportunity to express our creative talents. By the time this conference occurs we should have heard back on whether we placed in the Effie competition. Hopefully we have some good news to report!

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## Lecture Demonstrations

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### MUSICAL ELEMENTS OF NORWEGIAN NATIONALISM IN EDVARD GRIEG'S HAUGHTUSSA

#### **St. John, Renae (Communication)**

*Faculty Mentor:* Emily Riggs

During the Romantic period, the concept of musical nationalism swept throughout Europe and the West. Romantic nationalism was especially prominent in Norway. Throughout this period, the arts, literature, and popular culture of the nation are characterized by the aesthetics of Norway's natural landscapes and the formation of a unique national identity, kindled by a sense of nostalgia and desire for cultural preservation. Composing at the height of this period of musical nationalism is one of Norway's most notable composers, Edvard Grieg. In this lecture demonstration, Renae St. John explores Grieg's contributions to Norwegian romantic nationalism through the lens of his 1895 song cycle, *Haugtussa*, Op. 67. *Haugtussa*, written in the rural Landsmål dialect, is a musical setting of an extended poem by author Arne Garborg. Throughout this song cycle, one can hear examples of the influence of Norwegian history, culture, aesthetics, and folk music on his compositions. Specific musical and literary influences include his use of modality from medieval church music, the imitation of folk instruments and traditional vocal techniques, and the use of *Klangflåche* (sound surface composition) in Grieg's 'landscape' composition style, which contributed significantly to the development of a Norwegian sense of national identity through music. Selections from the song cycle have been chosen for performance to highlight each of these influences.

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## Panel Discussion

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### PANEL ON LABOR AND MONOPOLY CAPITAL

**Goode, Amanda-Marie, Miles Wilkerson, Christopher Tilley (Sociology, Anthropology & Social Work)**

*Faculty Mentor:* Dennis Canterbury

In his book, *Labor and Monopoly Capital*, Harry Braverman is concerned with labor relations in the current capitalist era and how these relationships have developed over time. More importantly, he is concerned with the means of production and social organization that have developed out of the capitalist epoch; a period in many ways characterized by leaps 'forward' in technology as well as technique. Braverman argues that capitalism has had a strong, degrading effect on craft skills (and skills in general), and that it is no longer merely the manual trades that suffer, but those of mental work as well. According to his findings, a substantial role in this degradation of skills has been played by science and machinery; it becomes his task to delineate for readers a comprehensive history of the evolution of science and technology as it relates to labor and production. Though a great portion of Braverman's work relies on descriptive documentation drawn from numerous sources, he supports his theories with empirical data, using tables, graphs, and other means to demonstrate his position. This panel will address these issues in their 21st century context.

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## Artwork

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### GOOFBALLS BEHIND THE CHARACTER

#### **Battye, Morgan (Art & Art History)**

*Faculty Mentor:* Imna Arroyo

Screenprint. 22" x 30"

The image consists of three figures. They are looking out at the viewer, and each figure is placed upon an iconic background from their well-known television show. Transparent colors are overlapped to create depth and value in the faces and in the background. The figures are fun to look at due to their hand drawn nature. By doing this project the artist developed an interest in faces and has continued with the figure form in other works of art.

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### ROSE

#### **Bibee, Erica (Art & Art History)**

*Faculty Mentor:* Afarin Rahmanifar

Oil. 18" x 24"

Roses symbolize love and affection because of their unique delicate manner. Through this work I tried to capture the detail and delicacy in each petal. By placing the rose in the center of the canvas and by using light tints of green for the background I was able to make the rose the focus of this work.

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### WINSTON THE ELEPHANT

#### **Bibee, Erica (Art & Art History)**

*Faculty Mentor:* Afarin Rahmanifar

Watercolor. 18" x 24"

Realistic animals are my specialty as an artist but it is always fun to add a little color. Watercolor allows me to bring these subjects to a new life where they can be every color of the rainbow while still possessing all the details and characteristics of a realistic animal. Elephants are beautiful majestic creatures and I feel as though painting brings the intricate detail to a viewable audience.

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### DREAMCATCHER (FOREST)

#### **Culbertson, James (Art & Art History)**

*Faculty Mentor:* Imna Arroyo

Linoleum Print. 20" x 20"

I cut out the pieces in the square of linoleum to get it the way I wanted to, then used black ink on a decorative piece of paper to get the background.

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## **ASCENSION**

### **Graham, John (Art & Art History)**

*Faculty Mentor:* Imna Arroyo

Linoleum reduction. 14.5" x 11"

Skulls, in art are commonly associated with death, or morbid motifs. In This work I hoped to illuminate the unknown in death, the possibility that death may not be the end, but another beginning as our minds make peace with our mortality, and reach enlightenment. I used colors less commonly associated with dark themes, to combat the symbolism behind the skull and what it represents. The cuts within the skull reveal a cross; this is representative of the final thoughts in death. The possibility of judgement, and an afterlife comes to the forefront, above all the other frantic thoughts defined by the curved lines within the gaps.

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## **WALK SIGNAL**

### **Ingolia, Rebecca (Art & Art History)**

*Faculty Mentor:* Imna Arroyo

Mixed media; collagraph, silk organza, and polyester plate lithography. 27" x 41"

The goal for my series entitled, Walk Signal, was to explore working with collagraphs, an art medium I had never used before. Collagraphs are a very unique technique because they are not only a form of printmaking, but they are very sculptural in nature; they are created by building your image out of paper cut outs and textures, emphasizing the image through the relief of shallow and raised surfaces. Through this exploration I was able to learn that creating collagraphs is challenging because you have to look and think of your image in entirely new ways. For example, the image itself must be created in reverse, both in orientation and relief, meaning the part of the image you would like to appear closest to the viewer must be the lowest part on the plate, while the part of the image you would like to seem furthest away must be the highest part of the plate. I chose to explore the collagraph technique because I was very interested in displaying textures within my artwork. Through my art I love to portray objects that could very easily be overlooked in the busyness of life, objects that we face and see every day but may never truly stop to notice. I find such beauty in things like road signs, traffic lights, and old buildings because of the textures you can find in them. I had been able to create some textures in previous wood block prints, but I wanted to enhance these textures and find ways to make a part of an object really look like rust, metal, gravel, brick or wood. The collagraphs offer an amazing advantage for textures as you can use real materials like sand on your plate to create that rough gravel texture as I did in my Walk Signal prints. At the end of this exploration I was able to produce a mixed media series on walk signals, using the collagraph technique with silk organza to create textures and values throughout the prints, as well as polyester plate lithography, which was used for the lettering in each print. It was very rewarding through this project, to learn a new and challenging medium and use it alongside other techniques that I have learned through my time at Eastern Connecticut State University. I look forward to continuing this process into other works of art in the future.

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## **THE VEIL OF THE TEMPLE**

**Khan, Nicholas (Art & Art History)**

*Faculty Mentor:* William (Andy) Jones

Acrylic and oil paints on canvas, old texts, aluminum tacks and nails. 18" x 24"

The artwork, 'The Veil of the Temple', was created with the biblical reference (Matthew 27:51) in mind. According to the bible, the large veil, or curtain, of Solomon's Temple hung to separate man from God's earthly dwelling. When Jesus cried out during his crucifixion, the seemingly unbreakable veil tore in two. In this piece, the lighter quadrant in the upper right hand area symbolizes the divine while the dark quadrant streaked with white symbolizes human nature: containing both sin and goodwill. The 'tear' in the middle of the painting symbolizes the curtain splitting. The nails puncturing the canvas represent suffering while the original pages of late 18th and early 19th century texts (in German, Spanish and French) provide a subtle hint to the diversity of mankind. Additional aspects such as impasto, cubic divisions and paint combing, give this painting dimension.

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## **PORTRAIT OF EMILY RODRIGUE**

**Radziunas, Michelle, Read, Kirsten, Rodrigue, Emily (Art & Art History)**

*Faculty Mentor:* Claudia Widdiss

Fired Clay. 12" x 10" x 10"

Sculpted portrait study. Fired ceramic. Patina finish

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## **PORTRAIT OF MICHELLE RADZIUNAS**

**Read, Kirsten, Radziunas, Michelle, Rodrigue, Emily (Art & Art History)**

*Faculty Mentor:* Claudia Widdiss

Ceramic. 14"

Sculpted portrait in clay. Fired ceramic.

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## **KIRSTEN**

**Rodrigue, Emily (Art & Art History)**

*Faculty Mentor:* Claudia Widdiss

Clay. 16"

The face can be broken down into planes and forms, each interacting with one-another to create a unique set of relationships. Every face follows a certain set of rules, but varies from person to person. Kirsten has been sculpted from clay, addressing the unique facial structure and proportions of a live model. It has been fired and completed with a patina finish.

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## UNTITLED

### **Toth, Alyssa (Art & Art History)**

*Faculty Mentor: Qimin Liu*

Graphite. 17" x 24"

When we are nothing, we are open to infinite possibility.

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## PURITY & GOODNESS

### **Wagner, Jessica (Art & Art History)**

*Faculty Mentor: Afarin Rahmanifar*

Acrylic Paint. 18" x 15"

This assignment given by Professor Afarin Rahmanifar in a Fall Color Theory class was to make a black and white collage from your own selection of images and create a painting using a color family such as two complementary colors. When choosing the images, I thought angels and flowers would send a similar message and could be paired easily. To be honest, I am not religious and this painting is not meant to refer to a God in particular, but it is just meant to reflect the senses of purity and goodness using positive and welcoming energies.

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## COLOR DIMENSIONS

### **Wagner, Jessica (Art & Art History)**

*Faculty Mentor: Afarin Rahmanifar*

Acrylic Paint. 15" x 18"

This piece was created in a Color Theory class with Professor Afarin Rahmanifar, one that explored the translucency of color and its effects when overlapped. This was an extremely fun exercise, as we used masking tape to create a shape to paint. We would then remove the masking tape and repeat the process over and over again. The fun was in the revealing of the final product, as I started with something very different in mind than what I ended with.

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## FLOWING THROUGH VIBRANCE

### **Wagner, Jessica (Art & Art History)**

*Faculty Mentor: Imna Arroyo*

Collagraph Print. 15" x 13"

The flow of a feather's drop is similar to the flow of color on a paintbrush, and similar to the flow - on many other levels - to life in the way energy moves, the way water flows, and so much more. Visualizing this flow was done in the process of a collagraph print. In the process of this piece, paper was layered on a board to create a textured surface. Silk was then pasted onto the board, and after drying, it could be inked and transformed to a print, only with the help of Professor Arroyo. This piece was done in Relief

Printmaking I, a class where I was completely new to this process. After creating this piece and many others, I have grown to love printmaking along with many other art departments.

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## **21ST CENTURY SNACK**

**Sadlon, Elana (Art & Art History)**

*Faculty Mentor:* Terri Toles-Patkin

Canvas, acrylic and collage. 18" x 24"

This artwork is meant as a social commentary towards the rate at which we consume media, whether it's beneficial or not. The person in the artwork is in a zombified stupor as he shovels the television contents into his mouth, hungrily feeding and nourishing himself with the static. As people living in the 21st century, we are confronted daily with the task of balancing our lives with the media. While we are all consumers of media to some extent, the person in the artwork is literally consuming the media. You are what you eat.

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## Student Presenters (first authors)

(For co-authors, please see abstracts which are alphabetized by first author's last name)

### Oral Presentations, Exhibits and Demonstrations

Presenter (first author)	Faculty Mentor	Department
Baldwin, Brooke	Lisa Fraustino	English
Baton, Brooke	Sudha Swaminathan	Education
Borowski, Brandi	Niti Pandey	Business Administration
Bossi, Matthew	Miriam Chirico	English
Casto, MaggieMarie	Chase Rozelle	Performing Arts
Cavender, Hillary	Olugbenga Ayeni	Communication
Chonko, Kristen	Miriam Chirico	English
Cook, Mackenzie	Gail Gelburd	Art & Art History
DiFrancesco, Alice	Amy Groth	Biology
Harakas, John	Joel Rosiene	Mathematics & Comp. Science
Henault, Jonathan	Matthew Graham	Biology
Hicks, Matthew	Nicole Krassas	Political Sci., Phil. & Geography
Hurvitz, Naomi	Peter Johnson	Mathematics & Comp.Science
Jimenez, Deanna	Maureen McDonnell	Women's and Gender Studies
Lafontaine, Nathan	David Pelligrini	Performing Arts
LaSala, Zachary	Terri Toles-Patkin	Communication
Lehner, Bryan	Ross Koning	Biology
Madden, Stephanie	Chase Rozelle	Performing Arts
Marchand, Christopher	Kim Kunene	Business Administration
Markley, Laura	Meredith Metcalf	Environmental Earth Science
McNair, Harrison	Martin Mendoza-Botelho	Political Sci., Phil. & Geography
Niebanck, Bethany	Anna Kirchmann	History
Orr, Je'Quana	Nicole Krassas	Political Sci., Phil. & Geography
Oski, Heather	Jeffrey Trawick-Smith	Education
Ouellette, Emily	Maureen McDonnell	Women's and Gender Studies
Page, Christian	Peter Johnson	Mathematics & Comp.Science
Prescott, Gregory	Branko Cavarkapa	Business Administration
Rogan, Alexandra	Barbara Liu	English
Sanchez, Erika	Joan Meznar	Women's and Gender Studies
Sargent, Megan	Lauren Rosenberg	English
Trotter, Ashley	Catherine Tannahill	Education
Upton-Pepin, Jennifer	Ricardo Perez	Sociology, Anthro. & Social Work
Wilkerson, Miles	Joan Meznar	History
Williams, Mackenzie	Niti Pandey	Business Administration
Wunderlin, Daniel	Richard Silkoff	Business Administration
Zacharie, Alexander	Hope Fitz	Political Sci., Phil. & Geography
Zagata, Mikayla	Maureen McDonnell	English

## Poster Presentations

(For co-authors, please see abstracts which are alphabetized by first author's last name)

Poster Presenter	Faculty Mentor	Department
Allen, Derek	Sukeshini Grandhi	Business Administration
Blydenburg, Dana	James Diller	Psychology
Bonneville, Jessica	James Diller	Psychology
Boyne, Patrick	Garrett Dancik	Mathematics & Comp.Science
Brown, Robert	Peter Bachiochi	Psychology
Burkhardt, Amy	Terri Toles-Patkin	Communication
Calderon, Elizabeth	Sukeshini Grandhi	Business Administration
Cavender, Hillary	Melanie Savelli	Communication
Chrzanowska, Karolina	Candice Deal	Business Administration
Colon, Caitlin	Don Petkov	Business Administration
Couceiro, Sabrina	Matthew Graham	Biology
Daneault, Katherine	James Diller	Psychology
Daneault, Katherine	Kristalyn (Kristi) Salters-Pedneault	Psychology
Davda, Ujjwal	Dickson Cunningham	Environmental Earth Science
Davenport, Alex	Sarah Tasneem	Mathematics & Comp. Science
DePonte, Alexa	Matthew Graham	Biology
Eckert, Amanda	Melanie Savelli	Communication
Eldridge, Elizabeth	Paul Torcellini	Environmental Earth Science
Fannon, Mackenzie	Susan Bilek (New Mexico Tech)	Environmental Earth Science
Ferreira, Stephanie	Joseph Dracobly	Psychology
Fitch, David	Garrett Dancik	Mathematics & Comp.Science
Fogarty, Rachael	Niti Pandey	Business Administration
Francione, Brei	James Diller	Psychology
Gelino, Brett	Kristalyn (Kristi) Salters-Pedneault	Psychology
Gray, Jenna	Jeffrey Danforth	Psychology
Hayes, Bryan	Don Petkov	Business Administration
Houle, Ashley	James (Drew) Hyatt	Environmental Earth Science
Jones, Eric	Ari de Wilde	Kinesiology & Physical Education
Kamuda, Troy	Robert Collins	Physical Sciences
Kmiecik, Patrick	Melanie Savelli	Communication
Liao, Ken-Heng	Garrett Dancik	Mathematics & Comp. Science
Lorange, Jacqueline	Drew Hyatt and Meredith Metcalf	Environmental Earth Science
Maciolek, Alex	Jason Goldstein	Biology
Madden-Hennessey, Kirby	Robert Collins	Physical Sciences
Marsie, Matt	Peter Drzewiecki	Environmental Earth Science
McDonald, Amber	Bryan Oakley	Environmental Earth Science
Mokoski, Kevin	Dickson Cunningham	Environmental Earth Science
Oski, Heather	Jeffrey Danforth	Psychology
Palmer, Isabelle	Sukeshini Grandhi	Business Administration
Paquette, Clarissa	Niti Pandey	Business Administration
Prevost, Lauren	Niti Pandey	Business Administration

Quattropani, Nicholas	Melanie Savelli	Communication
Quinn, Devin	Niti Pandey	Business Administration
Reis, Dylan	Melanie Savelli	Communication
Rogers, Stephanie	Stephen Nathan	Environmental Earth Science
Sampognaro, Alyssa	Matthew Graham	Biology
Shannon, Anna	Megan Heenehan	Mathematics & Comp.Science
Silva, Robert	Niti Pandey	Business Administration
Smerling, Stephanie	Sukeshini Grandhi	Business Administration
Soendergaard, Nicolai	Emiliano Villanueva	Business Administration
Stebbins, Tyler	Sukeshini Grandhi	Business Administration
Sumeersarnauth, Brandan	Bryan Oakley	Environmental Earth Science
Sylvester, Andrea	Terri Toles-Patkin	Communication
Thibodeau, Kaitlin	James Diller	Psychology
Tunnicliff, Paige	Terri Toles-Patkin	Communication
Valenzuela, Elizabeth	Terri Toles-Patkin	Communication
Verespie, Shyann	James Diller	Psychology
Volza, Marc	Gregory Kane	Kinesiology & Physical Education
Walter, Samantha	Drew Hyatt and Meredith Metcalf	Environmental Earth Science
Wicks, Brian	Stephen Nathan	Environmental Earth Science

## Visual Arts Exhibit, Student Center 223

### List of Presenters

**Bibee, Erica**

**Bibee, Erica**

**Dokurno, Mary**

**Shannon, Roshelle**

**Wagner, Jessica**

**Wagner, Jessica**

*Faculty Mentor:* Afarin Rahmanifar

**Cranick, Alyson**

**Donohue, Marguerite**

**Leung, Mindy**

**Malia, Meg**

**Musson, Austin**

**Sprague, Nate**

*Faculty Mentor:* Caroline Valites

**Radziunas, Michelle**

**Read, Kirsten**

**Rodrigue, Emily**

*Faculty Mentor:* Claudia Widdiss

**Battye, Morgan**

**Culbertson, James**

**Graham, John**

**Hagearty, Morgan**

**Ingoglia, Rebecca**

**Wagner, Jessica**

*Faculty Mentor:* Imna Arroyo

**Toth, Alyssa**

*Faculty Mentor:* Qimin Liu

**Sadlon, Elana**

*Faculty Mentor:* Terri Toles-Patkin

**Hagearty, Morgan**

**Khan, Nicholas**

*Faculty Mentor:* William (Andy) Jones

# NOTES