

# STETSON SHOWCASE

APRIL 14, 2015

## *A Celebration of Achievement at Stetson University*

### **About the Undergraduate Research and Creative Arts Symposium Showcase:**

This event, with its debut in 1999 and former names of Undergraduate Scholarship and Performance Day (USAPD) and later Undergraduate Scholarship Day (USD), was designed to foster an appreciation for academic achievements here at Stetson University. The student presenters have a wonderful opportunity to share their research and projects with the Stetson University community. Historically, the student projects have included a wide variety of excellent student work.

### **JUDGING CRITERIA AND PRIZES:**

Each group of judges for each specific location will be deciding among themselves appropriate and consistent criteria that will help them decide which presentations were most effective. In general, students are asked to discuss their projects at a level that anyone not knowing the area can understand. Part of an effective presentation is effective communication, and the judges keep this as consistent criteria for choosing the best presentation for all involved. The winners of each of the six locations will receive a Maris Prize of \$200 and a certificate of excellence. In addition, for each venue, an honorable mention will be chosen.

### **THE 2015 JUDGING PANEL:**

Jennifer Certo, Assistant to the Vice-President for Student Affairs  
Barbara Costello, Associate Professor/Government Information & Research Librarian (alt)  
Dr. Laura Crysel, Assistant Professor of Psychology  
Dr. Christopher Ferguson, Associate Professor of Psychology  
Dr. Deborah Goldring, Assistant Professor of Marketing  
Dr. Alan Green, Assistant Professor of Economics  
Terry Grieb, Assoc. Prof. of Instructional Media and Assistant Director of Media Services  
Dr. Fred Hall IV, Visiting Assistant Professor of Physics  
Dr. Melinda Hall, Assistant Professor of Philosophy  
Clay Henderson, Lawyer, Holland and Knight  
Dr. John Horn, Vice-President (ret.) for Research&Development, 3M  
Laura N. Kirkland, Cataloging Librarian  
Sims Kline, Research Librarian and Associate Professor  
Dr. Danielle Lindner, Assistant Professor of Psychology  
Dr. Gary Maris, Professor Emeritus of Political Science  
Dr. Deborah Bolin Maxwell, Visiting Prof of Chemistry  
Dr. Joy A McGuirl-Hadley, Associate Vice President, Boundless Learning  
Molly Rich, Prof. Emeritus of Music

Dr. Robert Rich, Prof. Emeritus of Music  
Dr. Gilbert Seigworth, Physician  
Dr. Paul Steeves, Professor Emeritus of History (alt)  
Polly Steeves, Emeritus Teacher of Art, Volusia County Schools  
Dr. Robert Watson, Visiting Assistant Professor of Spanish  
Dr. Ying Yang, Assistant Professor of Marketing

**Cultural Credit:** A maximum of three cultural credits can be earned for the symposium event. At each venue, Showcase tickets must be stamped by the symposium representative after each talk.

One oral or art presentation = 1/3 credit

Twenty minutes in posters = 1/3 credit

1 music recital = 1/3 credit

One honors I session = 1 credit

In addition, full cultural credit can be earned at the Evening Keynote Address and the evening Digital Arts Reception.

**For credit, please take your stamped card to 312 Elizabeth Hall 2-5 pm on April 14:**

**OR bring your completed form to 312 Elizabeth Hall no later than 4 pm April 15.**

## PROGRAM

### POSTER PRESENTATIONS

#### **Rinker Fieldhouse, Hollis Center**

*Dr. Melissa Gibbs, morning session chair*

*Dr. Kevin Riggs, afternoon session chair*

#### **Judges**

*Morning Rinker I: Dr. Laura Crysel, Dr. Joy A McGuirl-Hadley*

*Morning Rinker II: Dr. Deborah Bolin*

*Maxwell; Laura Kirkland*

*Afternoon Rinker I: Dr. Danielle Lindner, Dr.*

*Deborah Goldring*

### **Morning I (9 a.m. – 12 p.m. )**

**P-1 Shontell B. Verwayne Development of the Generalized Intuitional vs. Analytical Decision Making Index**

**P-2 Ethan Royal, Fletcher Eldemire, Mack Lemke and Andrew Barton Effects of Dextromethorphan and Ricola on Axolotl Development**

**P-3** Deja Rivera **Acidic soils benefit seedling growth in two perennial plant species native to the Florida sandhill ecosystem**

**P-4** Joseph Potechin, **The effects of crowding and isolation on *Zophobas morio* larval development**

**P-5** Ciara Nadelkov **The Effects of a Visible Tattoo and Observer Personality on Perceptions of Attractiveness, Intelligence, and Similarity**

**P-6** 9-9:15 Mark Burton **ImmersiveArt: A Virtual Reality 3D Modeling Application**

**P-7** Christie McNamee **Importance of the restoration of *Vallisneria americana* into Blue Spring State Park: increase in native fish habitats**

**P-8** Athena Jean Hale **“The Most Wonderful and Worthwhile Experience’ of Her Life: Eleanor Roosevelt’s Leadership as Chair of the United Nations’ Human Rights Commission, 1946-1948**

**P-9** Cherelle Leslie and Megan Harvey **Impact of Genital Hygiene Practices/Behaviors on the Prevalence of Urinary and Reproductive Tract Infections in Stetson University’s Female Students**

**P-10** Alexis Patton and Timothy Ermon **Presence of arsenic in Halomonas GFAJ-1 cell wall components**

**P-11** Constance Compton and Juan Polanco **Anatomical and physiological changes induced in the Golden Shiner fish (*Notemigonus crysoleucas*) after exposure to the cyanotoxin cylindrospermopsin via oral gavage”**

**P-12** Kate Ellis, Hailey Hernandez, Ashley Mullen, Joseph Potechin, Valeria Roati **The Effect of Caffeine on Axolotl Embryos**

**P-13** Jennifer Cherry **Temporal and spatial trends in sea turtle stranding and nesting in Volusia County, Florida (1989-2012)**

**P-14** Devin Burris **The age and growth of male and female *Pterygoplichthys disjunctivus* in Volusia Blue Spring, Florida**

**P-15** Lucy Asmar **A comparison of mobbing behavior elicited by vocalizations of native vs. non-native owl species**

**P-16** Danielle Barnett **Brown-Headed Nuthatch (*Sitta pusilla*) Scraping Call, Mobbing Call or Not?**

**P-17** Elisabeth Blackwell **Difference between post-strike behavior and Consumption of two prey types, Centipedes and skinks, amongst pigmy rattlesnakes, *Sistrurus miliarius*, from three different regions in Florida**

**P-18** Jeremiah Butler and Kort Braeutigam **Influences of population and individual variation in Pigmy Rattlesnakes (*Sistrurus miliarius*) venom on Brown Anoles (*Anolis sagrei*)**

**P-19** Sheree Carter **Cell Death Induced by Puerarin in Jurkat Leukemia Cells**

## **Morning II (9 a.m. 12 p.m)**

**P-20** Kelsey Johnson-Sapp **Reproduction in an invasive exotic catfish *Pterygoplichthys disjunctivus* in Volusia Blue Spring, Florida, U.S.A.**

**P-21 Jennifer Gooch The age and growth of male and female *Pterygoplichthys disjunctivus* in Volusia Blue Spring, Florida**

**P-22 Darina Linnik Electrical stimulation of the anterior gustatory cortex elicits ingestive taste reactivity behaviors in conscious rats**

**P-23 Elizabeth Loudon Social Justice and The Human-Environment Relationship: A Two Week Unit for Middle School Students**

**P-24 Rachel Luke Electrical stimulation of the posterior gustatory cortex in rats does not affect taste reactivity behaviors or elicit FOS-immunoreactive neuron responses in the gustatory brainstem**

**P-25 Sammie Jo Manning Social learning effects on the speed of learning fetch behaviors in *Rattus Norvegicus***

**P-26 Diane McColl The effects of pigmy rattlesnake (*Sistrurus miliarius*) chemical cues on the behavior of a major prey species, the ground skink (*Scincella lateralis*)**

**P-27 Emily Minter, Tara Quinteros, Molly Winsten Dietary Effects on Endurance Athletic Performance: The Gluten-free and Vegetarian Focus**

**P-28 Lauryn Mohler Genistein-induced apoptosis in Jurkat T-cell Leukemia**

**P-29 Olaniyi Oke and Desmond King The association between length of residence in the USA and the onset of Diabetes among Cuban Americans within Miami-Dade County**

**P-30 Kyle Oliveira Olfactory snake recognition and avoidance of scented shelters by Florida Blue Centipedes, *Hemiscolopendra marginata***

**P-31 Andrea Ortega, Casey Starchak and Ken Stevens Gender differences and related beliefs associated with binge drinking and physical activity among college students**

**P-32 Colleen Palmateer Resolving the phylogeography of montane Great Basin Stoneflies using next-generation sequencing**

**P-33 Ernest Phillips Daidzin induces cellular apoptosis in Jurkat Leukemia cells**

**P-34 Kassandra Rodriguez Comparative study of genetic population structure and phylogeography between the montane Great Basin stoneflies *Hesperoperla pacifica* and *Doroneuria baumanni***

**P-35 Amanda Roy Competitively vs Cooperatively? An Analysis of Stress Levels on Gameplay**

**P-36 Holly Saulsbery, Jackson Reddick, Eduardo Lopes, Elsa Guevara, Fatima Ramis Comparison of the effects of Prednisone and Curcumin on axolotl (*Ambystoma mexicanum*) embryos**

**P-37 Carla Sisi and Erika White Impact of Cucurbita Moschata on Performance and Alleviation of Fatigue**

**P-38 Maya Suzuki Nucleotide excision repair of UV induced DNA damage detected in *Chlamydomonas reinhardtii***

**P38A 10:20-35 Jacob Lites Internet of Things Augmented Reality display**

## **Afternoon (1 p.m.-4 p.m.)**

**P-39 Anthony Ward Complex formation of the protein Bovine Serum Albumin (BSA) to surface of Cadmium Selenide quantum dots established by fluorescence quenching**

**P-40 Shantinique Graves *Melanoides tuberculata's* (Muller, 1774) food preference when grazing on *Vaucheria geminata*, *Melosira varians*, and *Oscillatoria* found in Volusia Blue Spring State Park**

**P-41 Timothy Ermon, Sharjeel Quereshi and Juan Polanco Effects of fluoride on Early Axolotl Development**

**P-42 Kate Ellis The effect of green tea extract on H460 lung cancer cells lung cancer cell death**

**P-43 Lanielle Brown Comprehensive analysis of genetic pathways within Non-Small Cell Lung Cancer of tobacco smokers**

**P-44 Veronica Casal and Ana Perez Evaluation of knowledge versus attitudes on nutrition among NCAA Division I athletes: a gender comparative analysis**

**P-45 Jordan Cockfield Flaxseed lignan, enterolactone, revealed to induce to cell death in large cell lung cancer cells**

**P-46 Keneil Codner Do changes in nutrient concentration and water flow affect the ecosystem stability of Volusia Blue Spring?**

**P-47 Zella Conyers The Key to Saving the Key Deer: Mapping Habitat Loss and How Adaptive Management Can Be Useful**

**P-48 Dustin Dingus and Shannon McCarthy Disordered Eating Habits in Physically Active and Sedentary College-Aged Students**

**P-49 Ryan B. Ellsworth and Valeria Villena Comparative Analysis of Medical Students' attitudes toward Complementary and Alternative Medicine in the United States and Abroad**

**P-50 Anja Erwin, Christopher Goolsby, Charles Lane, Callan Piazza, Jennifer Stone, and Ross Morison Promoting Healthy Eating Among Students at a Liberal Arts University**

**P-51 Allison Evron and T. Garrett Franklin The Impact of Training Intensity and Training Volume on Fatigue and Injury**

**P-52 Erica Gillespie The Effect of Fertilizer on the Embryological Development of *Danio rerio***

**P-53 Michelle Godun and Kelly McGehee Examining the role of the supraoptic nucleus in the social buffering of stress**

**P-54 Ashely Hartman The mobbing intensity of resident and migrant passerine species in response to Eastern Screech Owl (*Megascops asio*) auditory stimuli**

**P-55 Jennifer Hennigan <sup>13</sup>C NMR lineshape determination of hindered internal rotation in N,N-Dimethylacetamide and N,N-Dimethylpropionamide**

**P-56** Jessica Hiner **Filling in the gaps: species distributions and habitat characteristics of the highly endemic silt snail genus, Floridobia**

**P57** 11:10 -11:25 Dillon Moore and Ethan Deal **Metamorphosis**

## **ART AND DIGITAL ARTS PRESENTATIONS AND EXHIBITIONS**

**Homer and Dolly Hand Art Center**

*8:30 am-4 pm*

*Dr. Maria Rickling, Morning Session Chair*

*Dr. Elisabeth Poeter, Afternoon Session Chair*

*Judges: Jennifer Certo, Polly Steeves*

### **Oral Presentations**

**ART-1** 8:40-55 Jacob Helwig **A 'Study on Faith'**

**ART-2** 9:00-9:15 Kevin Dull **At Summers End**

**ART-3** 9:20-35 Matthew Forkas **Romeo Actual - A New Slate**

**ART-4** 9:40-9:55 Hannah Bradford **Captivating Cages**

**ART-5** 10:00-10:15 Kristina Lögberg **It Is What It Is**

10:15-10:25 **Break**

**ART-6** 10:35-10:40 Amanda Thomas **The Peep Show**

**ART-7** 10:45-11:00 Natasha Radovicz Schaidt **My Livelihood**

**ART-8** 11:05-11:20 Robert Spellman **Analyzing the Evil in A Clockwork Orange and its reflective view on mankind's moral codes**

### **11:20-12:30 Lunch**

### **GALLERY**

**ART-9** 12:30-12:45 Tara Hawkins **Saudade**

**Art-10** 12:50-1:05 Kaleigh Jacobson **Tainted**

**Art-11** 1:10-1:25 Ian McNabb **Mundane Fantasy**

**Art-12** 1:30-1:45 Leonard Novati **Physical Modeling Synthesis: Inanga Virtual Instrument**

**Art-13** 1:50-2:05 Joe Palermo **Displacement, Perfected**

2:05-2:15 **Break**

**Art-14** 2:15-2:30 Spencer Carnahan **419**

**Art-15** 2:35-2:50 Eliza Colmes **Delirium**

**Art-16** 2:55-3:10 Jasmine Troche **The Spirit of the Peony**

**Art-17** 3:15-3:30 Shasta Ford **Living in Color, The Man Who had No Words**

**Art-18** 3:35-3:50 Michael Wood **Scarce Supply**

**Art-19** 3:55-4:10 ART 23 Rosemarie Santorelli **Just Drive**

## JUNIOR MUSIC RECITALS

**Lee Chapel, Elizabeth Hall**

*Felicia Higgins, Concert Hall Manager*

*Brent Pafford, Concert Hall Manager*

*Judges: Dr. Robert Rich, Molly Rich*

*Programs on pp. 24-25*

**M-1 9:00-9:30** Chris Schiefelbein, Guitar

**M-2 9:45 -10:15** Victoria Buffkin, Clarinet  
(Acc. Jeremy Vigil)

**M-3 10:30 -11:00** Ian Morin Bassoon (Acc.  
Kirstie Born)

**M-4 11:15-11:45** Meghan Dempster Flute  
(Acc. Jeremy Vigil)

### **11-45-12:20 Lunch**

**M-5 12:30-1:00** Stephanie Rasch-Chaves,  
Trombone

**M-6 1:15-1:45** Rebeca Bacquerizo: Violin  
(Acc. Jeremy Vigil)

**M-7 2:00-2:30** Griffin Weber, Trumpet (Acc.  
Jeremy Vigil)

**M-8 2:45-3:15** Ellen Broetzmann, Soprano  
(Acc. Kirstie Born)

## ORAL PRESENTATIONS – SESSION A

**25 Library Auditorium – Media Center**

*Jean Wald, morning session chair*

*Sidney Johnston, afternoon session chair*

*Judges: Dr. John Horn, Dr. Gilbert Seigworth*

## WOMEN AND GENDER

**A-1 8:50-9:15** Aaliyah Gray, Meagan  
Manning, and Taylor Milenkovic  
**#redefineperfect: A Selfie Campaign**

**A-2, 9:20-9:35** Holly Mae Meadows  
**Mothering and Southern Identity in  
Contemporary Films: the Fantasy Theme of  
Southern Motherhood**

**A-3 9:40-9:55** Kimberly Reading **A Pineland  
Understory: Women and African  
Americans in the Historical Environment of  
Orange City, FL**

**A-4 10:00-10:25** Ashley Johnson and Ellen  
Smittle **An Actor's Approach to Playing a  
Shakespearean Character**

10:25-10:35 **Break**

**A-5 10:35-10:50** Andrea White **Gender  
Wage Gap: Does it Exist?**

**A-6 10:55-11:00** Katherine Tonner **Staying  
Together: Influence of Love Styles and  
Jealousy-Evoking Behavior**

**A-7 11:05-11:25** Bianca Hernandez, **Re-  
Imagining Austen Through The Lizzie  
Bennet Diaries**

**A-7A 11:30-11:45** Catherine Thuruthiyil **A  
Dark Story: How Queer Theory Lends A  
Critical Perspective in Analyzing Racial  
Inclusion at Stetson University**

### **11:45-12:30 LUNCH**

## **PERMUTATIONS OF POPULAR CULTURE**

**A-8** 12:30-12:45 Biby Chacon **Queen B: A Rhetorical Critique on Beyonce and Feminism**

**A-9**, 12:50-1:05 Christian Gowan **Disney's America: Re-Imagining the Past and the Corporate Interpretation of History**

**A-10**, 1:10-1:25 Eryn McCoy **The Cross Cultural Globalization of Women's Magazines: A Content Analysis**

**A-11**, 1:30-1:45 Preston Stanger **Theatre Performance through Gardner's Lens**

1:45-2:00 **BREAK**

**A-12** 2:00-2:15 Andrew Venturella **Brony Fandom and Gender Identity**

**A-13**, 2:20-2:40 Stephanie Wattigny **Friday Night Live**

**A-14**, 2:45-3:00 Lauren Polhill **Analyzing Post Traumatic Stress Disorder as Presented on *Grey's Anatomy*: Testing Positive for Realism**

## **ORAL PRESENTATIONS**

### **SESSION B**

**John E. Johns Room 315, Elizabeth Hall**  
*Dr. Nicole Mottier and Dr. Susan Rozelle (School of Law) morning session chairs*  
*Dr. Mayhill Fowler, afternoon session chair*  
*Judges: Dr. Ying Yang, Dr. Melinda Hall*

## **LAWS AND NATIONS**

**B-1** 9:10-9:25 Cailyn Prewitt **The Global Water Crisis: A CSR Perspective**

**B-2** 9:30-9:45 Zaygamali S. Hemani **What makes a nation desirable?**

**B-3**, 9:50-10:05 Carmen Bernecker **How International Law, Institutionalization, and Inertia Perpetuate a System of Human Rights Violations – The Case of Detention Centers for Foreigners in Spain**

**B-4**, 10:10-10:25 Kayleigh Watson **The War on Individual Rights: Hypocrisy of Torture in Democratic Society**

10:25-10:40 **BREAK**

## **STETSON SCHOOL OF LAW**

**B-5** 10:40-10:55 Allison Stevenson **A Puzzle of Privileges With a Missing Piece: Why Guardians Ad Litem Should Enjoy a Privilege of Confidentiality With the Children for Whom They Advocate**

**B-6** 11:00-11:15 Darnesha Carter and Giovanni Giarratana **Motor Vehicle Licensing Schemes: The Not-So-Obvious Solution to State Drone Legislation**

**B-7**, 11:20-11:35 Jeremy Rill **Playing the Game: Using Online Games to Prepare Pro Se Litigants for Court**

**B-8**, 11:40-11:55 Adam Campbell **The Equality Paradox: Countering the Antonymic Trend of LGBT Equality**

**12:00- 12:45 – Lunch**



## **POLICY AND POLITICS**

**B-9** 12:45-1:00 Mallory Brooks **Creating Environmentally Conscious Children Through Curriculum: Examining Federal and Florida State Environmental Education Curriculum Standards**

**B-10** 1:05-1:20 Emily Block **School Lunch at SunnySide: The Communicative Practices Regarding Food and Nutrition at a Public Elementary School**

**B-11**, 1:25-1:40 Justin Snyder **The United States of Inequality: How Elites Have Undermined Democracy, Exacerbated Inequality and Created an Oligarchical State**

**B-12**, 1:45-2:00 Patrick Cone **Nothing to Fear but Fear Itself: Franklin D. Roosevelt and the Theory of Political Religion**

2:00-2:10 **BREAK**

**B-13**, 2:15-2:30 Tabea Wanninger **The 'German Question' revisited: Continuity and Change from the Hallstein Doctrine to *Ostpolitik*\***

**B-14**, 2:35-2:50 Alex Chalhub **A Cointegration Analysis of the New York Stock Exchange and the American Economy**

**B-15**, 2:55- 3:10 Garen Freed **Alcibiades as Statesman: Incarnation of Intelligence or Icon of Ineptitude?**

**B-16**, 3:15-3:30 Taylor Duguay, Marta Ferrer, and Blake Plattsmier **The Integration of Stetson Athletics**

**B-17**, 3:35-3:50 Brooke Wickham **The Case of Midterm Elections and the Development of Party Identification**

**B-18** 3:55-4:05 Richard Andrei Pemberton **The Post-Soviet Media Landscape: A Comparative Analysis of Informational De-Democratization in Russia and Ukraine**

## **ORAL PRESENTATIONS – SESSION C**

**257 Sage Hall**

*Dr. Daniil Zavlunov, morning session chair*

*Dr. Ken McCoy, afternoon session chair*

*Judges: Sims Kline, Dr. Gary Maris*

## **COMMUNITIES AND ACTIVISM**

**C-1A** 8:40-8:55 John Dieck **Assimilation, Association, or Heterotopia? French Colonialism and Urban Planning in Algeria and Morocco, 1830-1914**

**C-1** 9 :00-9 :15 Sierra Railey **Investigating Communication of Emergency Response Management**

**C-2**, 9:20-9:35 Katelynn Coleman **Redefining Cooperative Learning**

**C-3**, 9:40-9:55 Matthew Gerken, **Measuring Relationships Among Social Capital, Civic Engagement, and Volunteerism in the United States**

**C-4**, 10:00-10:20 Drew Neitzey **“There Goes the Neighborhood:” A Dramatistic Approach to Race, Community, and Memory in Bruce Norris’ Clybourne Park**

**C-5, 10:25-10:40 Marcus Stovall Analyzing Various Community Development Strategies Being Implemented To Revitalize the Spring Hill Community of Deland, Florida**

10:40-10:50 **BREAK**

**C-6 10:50 -11:10 Manny Alamo “Spiritual but not Religious”: People and the Continued Saliency of Traditional Religious Symbols**

**C-7, 11:15-11:30 Maria Rodriguez, Margarita Parris, Joshua Jude, and Conner Mitchell Stetson ENACTUS: Bettering Our Community through Entrepreneurial Action**

**C-8, 11:35-11:50 Carly Lees Communicating Hope: Involving Volunteers in the Mission of a Non-Profit Organization**

**C-8A, 11:55-12:10 Billie Ventimiglia, Neri Ordaz, Rachael Rades, Maxwell Droznin Cultural Comparison Amidst Political Conflict**

**12:10 -1:00 Lunch**

**CONFLICT**

**C-9 1:00-1:15 Dylan Stearns The Rosewood Exception: A Unique Case of Race, Class, and Violence in the Interwar South**

**C-10, 1:20-1:40 Tara Hunter Justifying War: A Study on the Military Use of Film Propaganda for the Vietnam War**

**C-11, 1:45-2:00 Cameron Black Class vs Politics: Political Apathy in the German Bourgeoisie**

**C-12, 2:05-2:20 Corey Brainna Garswick What Are We Really Reading? A Burkean Analysis of Online News Articles Surrounding the Situation in Ferguson**

2:20-2:30 **BREAK**

**RESISTANCE, RESOLUTION AND ADAPTATION**

**C-13, 2:30-2:45 Mark Johnson The Role of Osceola In The Second Seminole War (1835-1842)**

**C-14 2:50-3:05 Andrew Coniglio Justice and The Godfather: Political Philosophy in Popular Fiction**

**C-15 3:10-3:25 Susan Scaggs Effective Public Engagement: A Case Study of Oil Spill Restoration Engagement in Mississippi and Louisiana**

**C-16, 3:30-3:45 Christian Wright Celtic to Christian: A Deconstructive Analysis of Religious Assimilation**

**ORAL PRESENTATIONS – SESSION D**

**334 Flagler Hall**

*Dr. Ramee Indralingam, morning session chair*

*Dr. David Hill, afternoon session chair*

*Judges: Dr. Robert Watson, Terry Grieb*

**COMMUNICATING ONLINE**

**D-1 9:00-9:15 Jasmine Banegas The Influence of Facebook Usage on Interpersonal Functioning and Relationships**

**D-2, 9:20-9:35 Luke Ford Fair Play: Ethics in the Game World**

**D-3, 9:40-9:55 Kiara Urena Netflix (NFLX)**

**D-4, 10:00-10:15 Britany Kovalskaya and Taylor Grinnen Russian Russophone**

**D-5, 10:20-10:35 Alexandra Paulus The Facebook Application: A Communication Tool or Used Out of Boredom?**

**10:40-10:50 BREAK**

**D-6, 10:50-11:05 Katelyn Pomfret, Influence of Eco-labeling and Eco-claims on Consumer Attitudes and Purchase Intention**

**D-7, 11:10-11:25 Kerstin Cook Hashtag Activism in #Ferguson: Analyzing the Influence of Social Media on Protest Movements, a Case Study of Ferguson, Missouri**

**D-8 11:30-11:45 Kathryn Curvino If Facebook Content Could Talk: Self-Perceptions of Online Communication**

**D-8A 11:50-12:05 John Salis, Nathan Hilliard and Christian Micklish Xeres: An Adaptable Reservation System**

**12:05-12:45 LUNCH**

## **COMMUNICATING THROUGH ART AND MUSIC**

**D-9 12:45-1:00 Kimberly Foley Big Five Traits and Musical Preference: Can Personality Traits Dictate an Individual's Music Preference?**

**D-10 1:05-1:35 Roxanna Ghamgosarnia and Elyessa Rivera Master Class- Journey of Characterization**

**D-11, 1:40-2:00 Leo Gregory and Ivan Wetherington (Dr. David Houston) Russian Music**

**D-12, 2:05-2:30 Leonardo Quintero Italian Opera and Its Influence on Classical Guitar Repertoire: A Focused Study on Mauro Giuliani's *Rossiniana No.1, Op. 119***

**2:30-2:40 BREAK**

**D-13, 2:40-2:55 Jessica Rosenblum The Effects of Integrating Music and Movement in Elementary School Classrooms**

**D-14, 3:00-3:15 Jacob Billups Reduction of Stress During Musical Performance**

**D-15, 3:20-3:35 Daron Drylie Using Sculpture to Educate Boaters and Create Awareness about Manatee Protection**

**D-16, 3:40-4:00 Caron Davis From Theatre to Film**

## **ORAL PRESENTATIONS – SESSION E**

**Rinker Auditorium, Lynn Business Center**  
*Dr. Michelle de Moss, morning session chair*  
*Dr. KC Ma, Afternoon Session Chair*  
*Judges: Dr. Fred Hall, Dr. Alan Green*

## **SCIENCE ACROSS THE SPECTRUM I**

**E-1 9:00-9:15 Aykhan Alibayli Differential predation on melanic and silver *Poeciliidae***

fish by large-mouth bass (*Micropterus salmoides*) in clear and stained water

E-2 9:20-9:35 Valeria Guadalupe **Calibration System for the Dark Energy Spectroscopic Instrument**

E-3, 9:40-9:55 Jessica Anderson **The effects of *Passiflora incarnata* floral compounds on the walk/run speed of carpenter ants (*Camponotus floridanus*)**

E-4, 10:00-10:15 Erica Eddy **Birth Order and its Effects on Perceived Narcissistic Personality Traits**

E-5, 10:20-10:35 Emily Sloane Workman **Variation in the Volusia Blue Spring food web as determined by stable isotope analysis**

10:35-10:45 **BREAK**

E-6, 10:45-11:00 Zachary Cole **Studying the Effectiveness of Cover boards; Native Dominant Woods in Comparison to Plywood**

E-7 11:15-11:30 Miranda Camp **Caribbean Spiny Lobster (*Panulirus argus*) Dispersion Dynamics in the Sargasso Sea**

E-8, 11:35-11:50 Malorie Edge **Increases in the Number of Fos-immunoreactive Neurons in the Gustatory Cortex Following Lateral Hypothalamic Stimulation Correlate to Behavioral Responses to Intra-Oral Infusion of Taste Stimuli in Conscious Rats**

E-9, 11:55-12:10 Gregory Barroso, Jr. **“How Do You Hear Best?” Individual Perception of Auditory Environments**

**12:10-1:00 Lunch**

**SCIENCE ACROSS THE SPECTRUM II**

E -10 1:00-1:15 Fletcher Eldemire **Effect of water level on populations of diving ducks and dabbling ducks at Emeralda Marsh Conservation Area**

E-11 1:20-1:35 Stephanie Hernandez ***Passiflora incarnata* floral volatile effects on butterflies and caterpillars of the specialist herbivore, *Agraulis vanilla***

E-12 1:40-1:45 Molly Kaelin **Electric stimulation of the Central Amygdala and its effect on Taste Reactivity Behaviors in Rats and Fos-IR neuron quantities in the GC**

E-13, 1:50-2:05 Kassie Ledoux **Using cell fractionation techniques to eliminate pseudogene contamination in *Hesperoperla pacifica***

2:05-2:20 **BREAK**

E-14, 2:20- 2:35 Jacob Paine **Study of Cosmic Rays**

E-15, 2:40-2:55 Cody Malloy **Increases in extra-floral nectar production in *Passiflora incarnata* attract greater numbers of ants to defend the plant**

E-16 3:00-3:15 Jordan Miller **Does *Micropterus salmoides* (largemouth bass) display differential predation upon native and exotic surface dwelling guppies in water of differing clarity?**

## ORAL PRESENTATIONS – SESSION F

### JENKINS ROOM 213 SAGE

*Dr. Alicia Slater, Morning session chair*

*Dr. Cynthia Bennington, Afternoon Session  
Chair*

*Judges: Clay Henderson, Dr. Christopher  
Ferguson*

### MEDICAL APPLICATIONS

**F-1 9:00-9:15** Rebecca Beaudet **Effects of  
antinausea drugs (Ondansetron and  
Metoclopramide) on the Embryonic  
Development of Axolotls, *Ambystoma  
mexicanum***

**F-2, 9:20-9:35** Maranda Altilio and Breanna  
Howell **The Effectiveness of Therapeutic  
Application of Kinesio Tape (KT) on the  
Performance of Competitive Athletes**

**F-3, 9:40-9:55** Michaela Kearney **The effects  
of anthocyanins on motor coordination in  
a hereditary *Drosophila melanogaster*  
model of Parkinson's disease**

**F-4 10:00-10:15** Brandi Koehler, Julia  
Stullken, and Esteban Tapias **The  
relationship between physical activity and  
dietary habits in college students at  
attending a private institution**

10:15-10:25 **BREAK**

**F-5 10:25-10:40** David Nutting **Measuring  
the Repellency Effect of Spinosad on *Aedes  
Albopictus***

**F-6 10:45-11:00** Shannon O'Shell and  
Victoria Nieves **Efficacy of Home Washing  
Solutions on Reduction of *E. coli***

**F-7 11:05-11:20** Allison Sutherlin **An  
Analysis of Forces and Motion in Weight  
Lifting**

**F-8 11:25-11:50** Molly Winston **To be or not  
to be gluten free, that is the question**

**F-9 11:55- 12:10** Kathleen Renner **The  
presence of FOXO transcription factor, a  
key component in the insulin signaling  
pathway, does not affect learning and  
memory in *Drosophila melanogaster***

### 12:10-1:00 Lunch

### SCIENCE ACROSS THE SPECTRUM III

**F-10 1:00-1:15** Melanie Cain (Dr. Alicia  
Slater) **Identification and removal of  
mutational hotspots provides new insights  
into killer whale phylogeny**

**F-11 1:20-1:35** Ethan Royal **The Effects of  
Prey Species on Pygmy Rattlesnake  
(*Sistrurus miliarius*) Foraging Behaviors**

**F-12 1:40-1:55** Joseph Potechin **Please  
don't eat me! A study of cannibalism in  
juvenile *Zophobas morio***

**F-13, 2:00-2:15** Breanna Mott **Herbicide  
effectiveness on weeds in longleaf pine  
(*Pinus palustris*) Florida sandhill and its  
effect on germination of wiregrass  
(*Aristida stricta*)**

2:20-2:30 **BREAK**

**F-14, 2:30- 2:45** Niulma Rodriguez and Elsia  
Williams **Perceptions of the Human  
Papillomavirus Vaccine among College  
Students at The University of the Virgin  
Islands and Stetson University**

**F-15 2:50-3:05** Deja Rivera **Electrical Stimulation of the Anterior Gustatory Cortex Increased the Fos-IR Neurons in the Anterior Region and TR Behavioral Output in Conscious Rats**

**F-16 3:10-3:25** Patrick Watson **Changes in Reproduction Strategies in Invasive Exotic Catfish *Pterygoplichthys Disjunctivus* in Volusia Blue Spring, Florida, U.S.A.**

## **SESSION G HONORS I PRESENTATIONS**

**322 Elizabeth Hall**

*Dr. Michael Denner, Session Chair*

Session 1, 9-10.30

James Russo; Sarah Coffey **First Year Energy Reduction Competition**

Nick Fuller, George Winsten **Freshman Success: Maximizing the First Year**

Cheyenne McCully, Stephanie Kidd, Linnea Thomas **Be.You.Tiful - outreach to young women of the community**

Ashlee Renich-Malek **Environmental Awareness Workshops**

Hannah Grace Frazier, Chrisi Trinidad, Aleah Sommerville **Branch Out and Recycle**

Kelly Doss **30 Hour Famine**

Session 2, 10.45-12pm

Matthew Jordan, Margarita Parris **We Want You To Study Abroad**

Annette Morton **Sustainability Art Gallery on Earth Day**

Rachel Vivino **Environmental Forum at the Gillespie for Earth Day**

Melissa Tribble, Katlyn Sullivan **Homelessness in DeLand**

Kahri Smith **Teaching Soccer to the Children of DeLand**

Session 2B, 12-1

Maeve Coughlin, Lindsey Ellis, & Todd Akin **Stetson Backpacking Club**

Nia Walters **Stetson for Starke Elementary**  
Sarah Hollmann **Literacy in At-Risk Populations**

Session 3, 1-2:30

Sabrina Desmond, Barrett Hand, Ryan White, Brett Whitmore **Aquaponics System**  
Adam Cooper **SUPR HEROS: Costumes Meet Community**

Alec Levine, Jonathon Teeter **Math Bee at Edith I Starke Elementary School**

Rebecca Shaffer **Introducing high schoolers to the limitless opportunities in robotics**  
Lyndsey Fekete, Eamon Webb **Academic Success and its Relationship with Mental Health**

Jesse Albert and Savannah Harris **Good Health Isn't Just Good Luck**

Session 4, 2:45-4

Rachel Valocchi and Maddie Holvey **Just Shoe It - Turning Worn-out Athletic Shoes into New Playing Surfaces**

Merida Mikell, Veronica Faison, and Gillian Stark **Thinking Through the Unthinkable**

Kitty Geoghan **Training Deland's Next Top Thespians**

Nathan Brown, Garrett Williamson, Eamon Webb, Lyndsey Fekete **Operation MIA**

## **SESSION H HONORS TUTORIALS**

**Honors House 1:00-2:35**

*Dr. Dr. Grady Ballenger, Session Chair*

**T-1 1:00-1:20** Melissa Abramson **ASL & Deaf Culture**

**T-2 1:24-1:45** Justin Quigley, Christine Chase, Gary Rouse, Mariana Prado, Kyle Edgar, Cory Zirkel, Stella Parris, Caleb Cheatham **Cannabis Culture**

**T-3 1:50-2:10** Ted Mitchell, Joe Beery, Laura Davis, Tracy Cleary, Vivian Motta, Tyler Sims, Natalie Applebaum, Lynn Walsh, Paxton Reil, Jacob Martin, and Paul Petrowski **Bug House Chess**

**T-4 2:20-2:35** Brianne Boldrin, Sompi Harmetz, Kendal Diehl, Abigail Moore, Aryn Lazarus, Victoria Marsh **The Art of Eating: Sustainable, Affordable and Nutritious Meals**

**5: 45 EVENING BANQUET  
STETSON ROOM, CUB**

**6:15: KEYNOTE SPEAKER:  
Dr. Julio Rivera  
Provost, Carthage College**



Dr. Julio Rivera is Professor of Management, Marketing and Geography at Carthage College in Kenosha, Wisconsin. He is the immediate Past President of the Council on

Undergraduate Research (CUR). At Carthage he served as provost, dean of students, chair of the Geography department, and the director of the geographic information science (GIS) laboratory. He has been a continual advocate for the advancement of undergraduate research in the Social Sciences, Humanities and Fine Arts. His research has focused on the application of GIS to problems in business, and urban planning. He has worked at the Global Institute for Sustainability at Arizona State University examining trends in the development of the urban fringe in the Phoenix metropolitan area. Rivera has directed over 100 undergraduate student senior thesis projects, many of which were presented at regional and national conferences. He continues to serve as a consultant to both government and business including Snap-on Tools, Racine County Convention and Visitors Bureau, the Racine Harbor Commission, and the Center for Advanced Technology and Innovation. Rivera is a member of the Association of American Geographers, National Council on Geographic Education, and the Council on Undergraduate Research. He is the recipient of the 2002 Carthage College Distinguished Teaching Award. Rivera earned his Ph.D. in Geography from the University of Wisconsin-Milwaukee, his B.A. in Journalism and Theology at Marquette University, and M.A. in Higher Education and Student Affairs at The Ohio State University.

# ABSTRACTS

## KEYNOTE ADDRESS

### What's Next? Envisioning Your Future After Your Research

Dr. Julio Rivera, Carthage College  
Julio@carthage.edu

## POSTER

P15 Lucy Asmar (Dr. Peter May)  
[laqsmar@stetson.edu](mailto:laqsmar@stetson.edu)

### A comparison of mobbing behavior elicited by vocalizations of native vs. non-native owl species

Mobbing is a social behavior in which species gather around a predator with the purpose of harassing it until it leaves the area. Other functions of mobbing response may include the advertisement of the presence of a predator and teaching young birds predator recognition. Previous studies have demonstrated that auditory stimuli are enough to trigger a mobbing response. I tested the hypothesis that mobbing would be more intense in response to the vocalizations of the eastern screech owl (*Megascops asio*), compared to the western screech owl (*Megascops kennicottii*). The eastern screech owl is native to Florida, while western screech owl is not. Measuring mobbing response to an owl, species that mobbing species have been exposed to both for long periods of evolutionary time, and which individual birds may encounter regularly, will not allow conclusions about the innate vs. learned aspects of the behavior. To test this I used two playback treatments 1) Eastern screech owl vocalization and 2) Western screech owl vocalization. For each playback I measured four dependent variables: 1) latency, 2) number of species that respond, 3) number of individuals

responding and 4) extinction time. My results showed that there was no significant difference in the four variables that I measured between eastern and western screech owl. Mobbing behavior towards western screech owl appears have been innate, although is most likely that mobbing behavior is the mixture of an innate and a learned behavior.

P16 Danielle Barnett (Dr. Peter May)  
[dbarnett@stetson.edu](mailto:dbarnett@stetson.edu)

### Brown-Headed Nuthatch (*Sitta pusilla*) Scraping Call, Mobbing Call or Not?

Birds make a variety of vocalizations and we do not know the function of most calls but we can make assumptions on the function based off the call's acoustic structure. The brown-headed nuthatch (*Sitta pusilla*) commonly found in only pine flatwoods has a call we called the brown-headed nuthatch scraping call which has similar acoustic structures to other mobbing calls because it has a low element then a high harsh element in multiple frequencies that makes the call easy for other birds to localize where the call is coming from which is very important for mobbing. To test this I went to two different habitats (pine flatwoods and hammock) and conducted playback trials using a brown-headed nuthatch alarm call in both habitats for five minutes. The dependent variables measured as the index of mobbing intensity include the number of individuals, the number of species, how long it takes for the first response, and how long till mobbing behavior stops. I performed this with a multi-species mob call as my control. I did two-way ANOVAs for each variable of mobbing intensity to calculate if there is a significant difference between the treatments. I received a P-value of less than 0.001 in most of the test, therefore there was a significant difference between the calls and habitats. My hypothesis was not supported, therefore the brown-headed nuthatch scraping call is likely not a mobbing call and the birds that participated in the call were probably acting in a more curious manner than mobbing.



P17 Elisabeth Blackwell (Dr. Terence Farrell and Sarah Smiley) [Eblackwe@stetson.edu](mailto:Eblackwe@stetson.edu)

**Difference between post-strike behavior and Consumption of two prey types, Centipedes and skinks, amongst pigmy rattlesnakes, *Sistrurus miliarius*, from three different regions in Florida**

In Florida, pigmy rattlesnakes from different regions strike and behave differently in their natural environments. We conducted a comparative analysis of post-strike behavior and consumption of two different prey types, centipedes and skinks, on pigmy rattlesnakes from three separate locations in Florida. We hypothesize that there will be significance between geographic location on post strike behavior and consumption of rattlesnakes in Florida. As well as hypothesize a difference among specific prey and location. We analyzed behavior of rattlesnakes with both prey types using videos collected from previous studies. We calculated different time components relating to post strike behavior as well as consumption time. We then compared these times amongst all the three regions.

P43 Lanielle Brown (Dr. Derek Barkalow) [Inbrown@stetson.edu](mailto:Inbrown@stetson.edu)

**Comprehensive analysis of genetic pathways within Non-Small Cell Lung Cancer of tobacco smokers**

Lung cancer accounts for the largest portion of cancer related deaths within the U.S. among men and woman. Roughly 85% of lung cancer is characterized as being Non-Small cell lung cancer with three main tumor types: Adenocarcinoma, Squamous cell carcinoma and large cell carcinoma. Those who smoke tobacco increase their risk of developing these tumors but are still present in non-smokers. Through the use of genetic sequencing it become apparent that the p53 tumor suppress gene exhibits a large role in lung tumor development. Mutations in this gene are found in 70% of lung tumors being one of the highest rates for any cancers. Unfortunately a majority of diagnostic

and prognostic methods focus on the histological elements. The analyst of the genetic pathways, specifically the p53 gene signaling pathway, of both smokers and non-smokers is novel to find differentiation. The TCGA data base of Lung carcinomas was analyzed through partner GDACs systems, primarily cBioPortal. Genetic profiles of smokers were analyzed to determine ranges of differentiation within genetic pathways. The results showed that tumors of non-smokers which had mutations in genes outside or within our specific genetic pathways were more likely to survive. This seems to indicate that while both have similar histology the genetic profile plays a larger role. It emphasize the importance that the development of cancer gene therapy might have over chemotherapy creating a more personalized medicine.

P14 Devin Burris (Dr. Missy Gibbs) [Dburris@stetson.edu](mailto:Dburris@stetson.edu)

**The age and growth of male and female *Pterygoplichthys disjunctivus* in Volusia Blue Spring, Florida**

*Pterygoplichthys disjunctivus* (Vermiculated suckermouth sailfin catfish) is an established invasive species in Volusia Blue Spring, Florida. Originally from the Amazon, *P. disjunctivus* is thriving globally in various habitats, although little is known about their ecology. We estimated age and growth rates between male and female *P. disjunctivus*. We hypothesized that male and female *P. disjunctivus* in Volusia Blue Spring would grow at different rates in different seasons, due to different energetic allocations at various times of year. Age was determined by reading rings on otoliths, whereas growth was determined by measuring standard length. Age readings from 185 current otoliths were combined with 187 previous aged otoliths (Gibbs et al. 2008 & 2013). Body weight and gender were also correlated with each fish. We utilized Coefficient of Variation (CV) and Index of Precision (D) to estimate accuracy and precision. An ANCOVA was conducted with the combined data to determine whether there was

a difference in growth rates between males and females while correcting for age. We found that there was a significant relationship between age and standard length and this growth rate did not differ between males and females, although absolute size at age was greater for male than female fish.

P6 Mark Burton (Dr. Nathan Wolek)  
[Mburton1@stetson.edu](mailto:Mburton1@stetson.edu)

### **ImmersiveArt: A Virtual Reality 3D Modeling Application**

Art is ever evolving and the next step, the next great frontier for art, will be mixed reality, the merger of physical and virtual imagery. As we take that next step, it will be important to reconsider the way we approach developing art. In considering, not simply the observers of our art, but the creative experience of the artists themselves, I introduce a new tool for creativity, *ImmersiveArt*. *ImmersiveArt* is a virtual reality 3D modelling application. By donning a virtual reality head-mounted display, along with accompanying haptic interfaces, an artist will be able to step into a virtual space, a virtual canvas. Instead of developing their art from beyond the screen, they will be able to inhabit the same space as their art as it fashioned, creating the world around them as they go. Throw down the paint brush, sketch pencils, and stylus pens. Exercise total control over the world of your piece. *ImmersiveArt's* natural user interface allows its artists to traverse the world and craft objects using only arm movements and a set of hand gestures. Pick up objects, reposition, and reorient them. Bend the forms of objects to your artistic will and make the world your canvas.

P18 Jeremiah Butler and Kort Braeutigam (Dr. Terrence Farrell and Sarah Smiley)  
[Jdbutler@stetson.edu](mailto:Jdbutler@stetson.edu)

### **Influences of population and individual variation in Pigmy Rattlesnakes (*Sistrurus miliarius*) venom on Brown Anoles (*Anolis sagrei*)**

Snake venom is a complex cocktail of proteins, which can differ in composition among and within populations. However, the significance of this variation is not well understood. We investigated venom lethality from 25 individual pigmy rattlesnakes (*Sistrurus miliarius*) from seven different locations on a model prey species, the brown anole (*Anolis sagrei*). In toxicity tests, lizards were randomly assigned to a specific snakes' venom and given a weight-adjusted dose close to the documented LD50 for brown anoles. A total of 12 trials were conducted; in each trial approximately 27 lizards were injected (25 venom and two saline). A total of 331 lizards were injected. Among the 300 lizards injected with venom 100 died, resulting in a mortality of 33%. Using logistic regression we observed statistically significant effects with regard to dosage (Chi-squared=55.51,  $p < 0.0001$ ), snake population of origin (Chi-squared=58.71,  $p < 0.0001$ ), and individual snake (Chi-squared=82.14,  $p < 0.0001$ ) on brown anole mortality. Our work shows that population- and individual-level venom variation in snakes likely has functional significance in a snake's ability to kill prey. This variation in functionality of venom could negatively impact the effectiveness of anti-venom's ability to neutralize venom following snake bite.

P19 Sheree Carter (Dr. Roslyn Crowder)  
[Scarter1@stetson.edu](mailto:Scarter1@stetson.edu)

### **Cell Death Induced by Puerarin in Jurkat Leukemia Cells**

Isoflavones are a class of naturally occurring organic compounds commonly found in plants. Puerarin is an isoflavone that is derived from the root of the Kudzu plant (*Pueraria lobata*) most commonly found in Southeast Asia. Due to Puerarin's various beneficial effects, such as, antioxidant properties, anti-inflammatory properties, and anticancer properties, Puerarin has the potential to be an excellent therapeutic for a variety of medicinal purposes. In the present study, we tested Puerarin's anticancer

capabilities, by learning whether Puerarin would induce cell death in Jurkat leukemia cells. We used a time course of 24 and 48 hour time points and of increasing concentrations of Puerarin in at from 100 $\mu$ M to , 200 $\mu$ M and 400 $\mu$ M. Using a Cell Count and Viability Kit (CCK), results show no significant decrease in cell survival after 24 hours of treatment, but a decrease in cell survival at 48 hours. Lastly, though Puerarin has been shown to induce cell death in Jurkat leukemia cells, its potential as a cancer therapeutic is limited if Puerarin also induces cell death in normal human cells. Therefore, our future research seeks to learn whether Puerarin will induce cell death in normal cells, thus enhancing its potential as a cancer treatment in which leukemia cells die only.

P44 Veronica Casal and Ana Perez (Dr. Damian MacLeod) [vcasal@stetson.edu](mailto:vcasal@stetson.edu)

#### **Evaluation of knowledge versus attitudes on nutrition among NCAA Division I athletes: a gender comparative analysis**

This study surveyed 137 male and 126 female Division I collegiate athletes at Stetson University with the purpose of analyzing gender differences on the level of knowledge that student athletes have about dietary intake and its impact on performance. Adequate nutrition plays a paramount role needed during training, competition, and recovery. An anonymous, scale-based survey was used to collect data on site at each teams practice. Preliminary results show that males are more likely to acquire nutritional information from their athletic trainers in comparison to female athletes whose parents are their primary nutritional information source. Both male and female participants indicated that a healthy diet is important. Overall, there was little difference between gender among athletes on knowledge about how nutrition could affect their performance, however results show there is a lack of knowledge on the adequate amounts of macro and micronutrients and their effects on the body. While supplementation and ergogenic

aids were shown to be a part of the male athlete's diet with the purpose of increasing muscle mass, it was not part of the woman athlete's diet.

P13 Jennifer Cherry (Dr. John Jett)

[jlcherry@stetson.edu](mailto:jlcherry@stetson.edu)

#### **Temporal and spatial trends in sea turtle stranding and nesting in Volusia County, Florida (1989-2012)**

As a conservation tool, stranding data can be a useful source of information on sea turtle mortality trends and population dynamics. We investigated the relationships and predictors of temporal and spatial trends in sea turtle stranding and nesting in Florida from 1989-2012. During this period, a combined 30,462 sea turtles were documented as stranded (M=1,234.43/year; SD=446.10) in Florida. Of these years, 2010 represented the highest number of strandings (2,148), while the lowest numbers of strandings (566) were recorded in 1986. A strong positive linear trend in total strandings over the years evaluated was established. Additionally, when evaluated at the county-specific level, both the human population of Volusia County and the total number of Florida strandings were significant predictors of strandings within the county, although mean ocean temperature anomalies failed to predict strandings in either the state as a whole or in Volusia County specifically. In Volusia County, total nestings and strandings were dominated by Loggerhead (*Caretta caretta*) and Green Sea turtles (*Chelonia mydas*). Results of the study generally demonstrate that while sea turtle strandings in Volusia County have risen over the years evaluated, it appears that aggressive conservation measures by the County has proven successful in simultaneously increasing the number of nests.

P45 Jordan Cockfield (Dr. Roslyn N. Crowder)  
[jcockfie@stetson.edu](mailto:jcockfie@stetson.edu)

**Flaxseed lignan, enterolactone, revealed to induce to cell death in large cell lung cancer cells**

Plant extracts have been an increasingly popular alternative remedy for patients undergoing cancer therapy. From previous studies, enterolactone, a mammalian lignan richly found in flaxseeds, was revealed to play a significant role in cancer prevention in Estrogen Receptor- $\alpha$  (ER $\alpha$ ) positive breast, colon, and pancreatic cancer via its weak estrogenic properties. In the United States, lung cancer has been the leading cause of death by cancer in both men and women; thus the purpose of this novel study was to investigate whether higher concentrations of enterolactone are associated with higher cell death activity in ER $\alpha$  positive NCI-H460 lung cancer cells in vitro. By using a Coomassie Blue Assay and Cell Count Viability Assay, I treated the following concentrations of enterolactone to the tumor cells: 0 $\mu$ mol, 1.0 $\mu$ mol, 2.5 $\mu$ mol, 5.0 $\mu$ mol, 10 $\mu$ mol, 25 $\mu$ mol, 50 $\mu$ mol, and 100 $\mu$ mol. The data from both experiments depicted an inverse relationship between the tumor cells viability and the enterolactone concentration: increased concentrations of enterolactone lead to decreased percentages of cell viability due to cell death. With further investigation, enterolactone can plausibly be incorporated into the endocrine therapy of ER $\alpha$  positive lung cancer cell lines.

P46 Keneil Codner (Dr. Kirsten Work)  
[kcodner@stetson.edu](mailto:kcodner@stetson.edu)

**Do changes in nutrient concentration and water flow affect the ecosystem stability of Volusia Blue Spring?**

Ecosystem stability is based on a number of factors: the amount of nutrients being introduced, species densities and diversities, and other physical conditions, which vary between habitat types, including aquatic ecosystems. Florida springs, such as Volusia

Blue Spring, are known to be very stable environments that support a diversity of aquatic organisms. We hypothesized that concentrations of a variety of ions, including nitrate and phosphate, would show significant increases from 2000 to 2014. We also hypothesized that increases in these nutrients and water flow would have a positive impact on algae coverage and fish and snail densities and diversities and that these biological variables would significantly affect each other. We estimated algal coverage, snail densities, and fish densities from samples collected from the spring and compared these data with spring stage, discharge and nutrient concentrations. Water flow significantly impacted ion concentrations and snail density, whereas spring stage significantly impacted fish diversity and diversity. Fish density significant affected fish diversity and snail density. By studying the stability of this spring under varying conditions, better management techniques can be implemented to ensure its continued stability.

P11 Constance Compton and Juan Polanco, (Dr. David Stock) [ccompton@stetson.edu](mailto:ccompton@stetson.edu)

**Anatomical and physiological changes induced in the Golden Shiner fish (*Notemigonus crysoleucas*) after exposure to the cyanotoxin cylindrospermopsin via oral gavage\*\***

The exposure to the cyanotoxin cylindrospermopsin (CYN) has been found to have a late and progressive, acute toxicity in the mammalian liver, which results in liver cell necrosis or, in some cases, rapid death. Therefore, it is thought that CYN could be a great potential threat to livestock and wildlife. Currently, the toxicological studies of aquatic organisms that have the greatest risk of coming into contact with CYN are practically non-existent with only one study reported on fish. In Florida, approximately 34 bodies of water contain cylindrospermopsin and may be associated with potential health risks due to water treatment plant negligence. Therefore, this study was designed to increase the overall understanding and awareness of the

detrimental effects caused by toxic CYN exposure on Florida aquaculture. During toxic exposure, the liver produces an antioxidant known as glutathione (GSH), which prevents damage to cells by defending them against toxins and free radicals. It has been found that approximately 24 hours after exposure to CYN, glutathione levels (GSH) deplete but then recover sometime during a 5 day period. For this reason we hypothesized that there would be a positive correlation between ingested CYN concentrations and amounts of hepatocellular necrosis, as well as consequent transcending GSH levels after only a 3 day exposure period. The Golden Shiner fish were exposed to varying concentrations of CYN via the oral gavage technique and sacrificed 3 days later. Analysis of variance (ANOVA) and two-tailed t-tests revealed significant variations among treatment groups as well as increases in both glutathione levels (GSH) and hepatocellular necrosis.

- Recipient of 2014 SURE Grant

P47 Zella Conyers (Dr. J. Abbott)  
[zconyers@stetson.edu](mailto:zconyers@stetson.edu)

### **The Key to Saving the Key Deer: Mapping Habitat Loss and How Adaptive Management Can Be Useful**

The effects of sea-level rise, especially displacement of habitat, are beginning to be of vital interest to policy makers throughout the Florida Keys. Displacement will not only disgruntle humans but a wide array of endemic species, such as Florida Key Deer (*Odocoileus virginianus clavium*). Big Pine Key and No Name Key are home to most of the Key Deer population and are identified as part of the National Key Deer Refuge (US Fish and Wildlife Service). Using SLAMM (Sea Level Affecting Marshes Model), IPCC predictions of sea level rise were used to project land cover change throughout the study area for the years 2040 and 2065. By analyzing the predictions produced and peer-reviewed journals, it will support the idea of using adaptive management in order to address Key Deer habitat loss.

P48 Dustin Dingus and Shannon McCarthy (Dr. Kenneth Nusbaum) [ddingus@stetson.edu](mailto:ddingus@stetson.edu)

### **Disordered Eating Habits in Physically Active and Sedentary College-Aged Students**

Our research analyzes eating habits in physically active college students and sedentary college students. We hypothesized that physically active students are more concerned with their self-image, and, since they exercise more often, they are more likely to display irregular eating patterns along with having a higher probability of having an eating disorder due to their concern with their physical appearance. We used a standardized eating disorder survey (EAT-26 test) in order to determine disordered eating habits along with determining an eating disorder. Along with this, we created a likert-scale physical activity survey in order to determine the level of physical activity in physically active students compared to sedentary students. The results of this test will help determine the prevalence and severity of disordered eating habits and eating disorders in all participants.

P42 Kate Ellis (Dr. Roslyn Crowder)  
[Kellis1@stetsohn.edu](mailto:Kellis1@stetsohn.edu)

### **The effect of green tea extract on H460 lung cancer cells**

Natural substances have not only displayed promise in inducing regulated cell death, also known as apoptosis, in multiple kinds of cancer, but have also shown potential in preventing cancer from developing at all. Green tea extract is a common natural substance in an individual's diet that can be easily acquired. Within green tea extract is a polyphenol called epigallocatechin gallate, or EGCG, which has been shown to prevent tumors from developing when used alone or in combination with chemotherapy. We investigated the effect EGCG has on H460 lung cancer cells in order to determine the optimum EGCG concentration for highest lung cancer cell death. Various time courses were used with various concentrations of EGCG of 24 and 48 hours was used along

with a dose response of EGCG ranging from 200 µg/mL to 3.125 µg/mL along with a negative control that had no treatment. Marginal lung cancer cell death was evident at 200µg/mL after a 48 hour treatment. Our preliminary results support further investigation of lung cancer cells treated with higher concentrations of EGCG. Our future studies will also examine which proteins get activated in EGCG-induced lung cancer cell death.

P12 Kate Ellis, Hailey Hernandez, Ashley Mullen, Joseph Potechin, Valeria Roati (Dr. Missy Gibbs) [Kellis1@stetson.edu](mailto:Kellis1@stetson.edu)

### **The Effect of Caffeine on Axolotl Embryos**

Caffeine consumption is at an all-time high internationally, with 90% of people in the world consuming at least one serving of caffeine every day. Since the majority of caffeine consumers drink around 3.1 cups of coffee daily, it has become necessary to observe the short-term and long-term effects it has on humans. The effects of any substance, including caffeine, on a pregnant female is of utmost concern considering embryonic development is one of the most fragile stages of an individual's life. To test possible side effects of over-consumption of caffeine, we exposed axolotl embryos, a common model system, to various concentrations of caffeine. We proposed that there would a dose-dependent response on the survival and development of the embryos. We found that our two highest concentrations showed no survival of axolotls, and some deformities were found at axolotls exposed to lower levels of caffeine concentration. Further investigation is necessary to pinpoint the maximum caffeine concentration that is safe for embryos, as well as what deformities the caffeine is inducing.

P49 Ryan B. Ellsworth and Valeria Villena (Dr. Michele Skelton) [rellswor@stetson.edu](mailto:rellswor@stetson.edu)

### **Comparative Analysis of Medical Students' attitudes toward Complementary and Alternative Medicine in the United States and Abroad**

Complementary Alternative Medicine (CAM) refers to diagnostic and therapeutic techniques that are not included in the area of what is considered conventional medicine in the United States. The interest in the use of CAM therapies such as yoga, biofeedback, chiropractic manipulation, use of herbal medications, homeopathy, traditional Chinese medicine, hypnosis, relaxation therapy, and self-help groups has increased, thus, leading to a need for CAM education for health professionals. With the increasing health awareness in CAM, it is important to understand the attitudes and beliefs of medical students toward CAM in order to build a strong foundation for medical education. Previous studies have shown that medical students tend to get "medicalized" during their years in medical school causing their attitudes toward CAM to get less positive as they reach their last year of medical school. A CAM Health Belief Questionnaire was administered to medical students in the US and abroad. The questionnaire is to measure medical students' attitudes towards CAM. Preliminary results illustrate that medical students studying abroad have a significantly more positive attitude toward CAM ( $56.3 \pm 8.3$ ;  $p \leq 0.05$ ) than medical students studying in the US ( $50.8 \pm 8.7$ ).

P41 Timothy Ermon, Sharjeel Quereshi and Juan Polanco (Dr. Melissa Gibbs) [termon@stetson.edu](mailto:termon@stetson.edu)

### **Effects of fluoride on Early Axolotl Development**

Fluoride is a common additive in tap water and commercial dental products. It is proposed to have dental benefits and is industrially produced by the U.S. government. Recently developed countries have banned the addition of fluoride in public water sources due to new research that questioned the toxicity of the chemical. Exposure to excessive consumption of fluoride over a lifetime has been proven lead to increased likelihood of bone fractures in adults, and may result in effects on bone leading to pain and tenderness. Children aged 8 years and

younger exposed to excessive amounts of fluoride have an increased chance of developing pits in the tooth enamel, along with a range of cosmetic effects to teeth. The EPA has set a limit to the concentration of fluoride in water to 4 parts per billion. We hypothesized that concentrations over 10 ppb would produce developmental complications in axolotl embryos our experiment tested this concentration along with higher concentrations of fluoride to determine how fluoride effects development of axolotl embryos. We found that concentrations over 10 parts per billion produced greater abnormalities than controls and concentrations under 10 ppb.

P50 Anja Erwin, Christopher Goolsby, Charles Lane, Callan Piazza, Jennifer Stone, and Ross Morison (Dr Erin Moore) [aerwin@stetson.edu](mailto:aerwin@stetson.edu)  
**Promoting Healthy Eating Among Students at a Liberal Arts University**

This research sought to evaluate the eating habits of undergraduate students in a liberal arts university and provide them with information about healthy eating habits and motivational tips to help change the students' eating habits. This study was guided by the Information-Motivation-Behavioral Skills Model. In the first phase, the researchers gathered information by taking photos of students' plates in the university's dining hall. A total of 457 photos were taken, which were then evaluated for food content according My Healthy Plate recommendations. The results of the photo analysis found that students were least likely to have fruit followed by dairy on their plates. In the second phase, 33 students attended an on-campus event and completed a pre- and post-test about their eating habits, knowledge of healthy eating, and motivation to eat healthier. The event included a 25-minute video about current nutrition guidelines, motivational home cooking tips, and easy, healthy home recipes. Students' motivation to eat healthier significantly increased from pre to post after the event. In the third phase, researchers implemented a social media promotion on

Facebook, where students took pictures of their healthy plates for a chance to win a \$30 grocery gift card. A total of 14 photos were submitted to the media promotion.

P51 Allison Evron and T. Garrett Franklin (Dr. Asal Johnson) [aevron@stetson.edu](mailto:aevron@stetson.edu)  
**The Impact of Training Intensity and Training Volume on Fatigue and Injury**

The purpose of this research is to examine the impact of training intensity and training duration on fatigue and injury in NCAA Division I collegiate athletes. We conducted a cross-sectional study in which a total of 89 student athletes enrolled at Stetson University completed an original, online questionnaire. Statistical analysis included multivariate logistic regression to determine whether student athletes with higher levels of training intensity and duration have increased odds of perceived fatigue and acute injury. We controlled for gender, sport season, type of sport, Body Mass Index (BMI) and year in school. Students with more hours of weight training were more likely to experience perceived fatigue. Additionally, students who rated their weight training sessions as hard had an increased likelihood of perceived fatigue, compared to those who rated their weight training sessions as easy. These findings reached statistical significance. This study provides information for coaches, trainers, and athletes about the relationship between fatigue and weight training intensity and duration. Intense training is necessary to improve athletic performance; however, sufficient recovery is needed to promote positive adaptations in athletes.

P52 Erica Gillespie (Dr. Missy Gibbs) [egillesp@stetson.edu](mailto:egillesp@stetson.edu)  
**The Effect of Fertilizer on the Embryological Development of *Danio rerio***

Nitrogen and phosphorous are essential chemical elements to both terrestrial and aquatic organisms, however, elevated

concentrations of these chemicals can have ecological risks. Nitrogen enters nearby water sources in the form of runoff from fertilizers and can cause negative effects on the aquatic life. For this reason, the Environmental Protection Agency (EPA) set a standard limit of 10 µg/L (X) of total nitrogen in a system. My experiment looked at the effects of fertilizer exposure on the development of a freshwater fish species, *Danio rerio*, to determine if the chemicals found in runoff can cause retardation of embryonic growth. I hypothesized that the zebrafish embryos would have a dose-dependent response to fertilizer. Zebrafish embryos were placed in petri dishes containing either a control solution or one of four concentrations of Scotts Turf Builder. I used concentrations several orders of magnitude higher than the EPA standard, but on the same order as reclaimed water nutrient levels. Development and mortality were monitored, and after hatching, zebrafish were anesthetized with MS222 and body dimensions were measured. Instead of a dose-dependent response to the fertilizer exposure, I found that total body length and body width of the zebrafish had a threshold response to fertilizer exposure; concentrations higher than 2000X resulted in significantly shorter and narrower bodies.

P53 Michelle Godun and Kelly McGehee (Dr. Christopher Ferguson and Dr. Camille Tessitore King) [jgodun@stetson.edu](mailto:jgodun@stetson.edu)

#### **Examining the role of the supraoptic nucleus in the social buffering of stress**

Social support can ameliorate stress but the underlying biological mechanisms that regulate social buffering of the stress system are not fully understood. A likely candidate is the supraoptic nucleus (SON) of the hypothalamus because it is a source of oxytocin, a hormone that has been implicated both in positive social interactions and attenuating stress responses. To examine SON function further, the neural activity of cells within the SON of rats (N = 15) was measured using fos-

immunohistochemistry, a procedure used to identify recently activated neurons (Fos-neurons). Previously, these rats were used to behaviorally assess the effect of familiarity and stress on social recognition. In that study, the duration of investigative behaviors (e.g. sniffing, following, grooming) of a familiar or non-familiar conspecific was observed before and after an audiogenic stress stimulus (~90 dBA for 30 min) or no stressor. The current analysis (using a two-factor (Stress x Familiarity) ANOVA) of the Fos-neurons within the SON of these same rats revealed a main effect of stress that approached statistical significance, (F(1,11)=4.50, p=0.058). In contrast to our hypothesis, the rats exposed to the stressor expressed fewer activated Fos-neurons than the non-stressed group, a finding that does not appear to lend support for the stress-buffering role of the SON.

P21 Jennifer Gooch (Dr. Missy Gibbs)  
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#### **The age and growth of male and female *Pterygoplichthys disjunctivus* in Volusia Blue Spring, Florida**

The Vermiculated Sailfin Catfish, *Pterygoplichthys disjunctivus* is a species of armored catfish native to the Amazon Basin. Ever since this invasive species was introduced to Volusia Blue Spring and other Florida waterways, it has been very successful and has caused great harm to native species and ecosystems. Male and female catfish appeared to develop differentially, so that males are longer and leaner than females, and so we hypothesized that male and female growth rates would differ in mature catfish. To gain a better understanding of the age and growth patterns of male and female *P. disjunctivus*, we obtained lapillar otoliths, ground the otoliths into thin sections, and counted annual growth bands to estimate age. Age estimates were made without prior knowledge of fish size by two independent readers, pooled, and then compared to standard length (SL). The data was then combined with an earlier data set to



obtain a larger sample size. After analyzing the data, we did not find a significant difference between male and female growth rates; however, males did appear to be significantly larger than females.

P40 Shantinique Graves (Dr. Kirsten Work)  
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***Melanoides tuberculata*'s (Muller, 1774) food preference when grazing on *Vaucheria geminata*, *Melosira varians*, and *Oscillatoria* found in Volusia Blue Spring State Park**

*Melanoides tuberculata*, over time, has been identified as a successful invasive snail species. It was likely introduced because of accidental releases from the aquarium trade. One of the areas in which it has been successful is Volusia Blue Spring State Park located in Volusia, Florida. The algal types present in Volusia Blue Spring and used in this experiment are: *Vaucheria geminata* (green algae), *Melosira varians* (a diatom), and *Oscillatoria* (blue-green algae or cyanobacteria). Knowing this, we wanted to know if *M. tuberculata* would exhibit a food preference for one of the algae. Of the three algae tested, *M. tuberculata* showed a food preference for *Vaucheria* while *Melosira* was the least eaten. *Oscillatoria* was the second most eaten algae. Results of this experiment showed a preference to what *M. tuberculata* are eating in the spring while also showing that placement of algae in each treatment mattered when it came to *Oscillatoria* and *Melosira* but not *Vaucheria*.

P8 Athena Jean Hale (Dr. Eric Kurlander),  
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**“The Most Wonderful and Worthwhile Experience’ of Her Life: Eleanor Roosevelt’s Leadership as Chair of the United Nations’ Human Rights Commission, 1946-1948\***

This project examines the extent of Eleanor Roosevelt's leadership of the United Nations' (UN) Human Rights Commission from 1946-1948 using primary source documents obtained from the FDR Presidential Library Archives in

Hyde Park, NY. The paper examines the publicized debate between Eleanor Roosevelt and Soviet Delegate Andrei Vyshinsky on the question of Post-War European refugees at the London session of the UN General Assembly in January 1946. Analyzed are the origins of the historiographical depiction of Eleanor Roosevelt's leadership being compared to that of a strict disciplinarian school mistress keeping bickering boys in line. The paper then examines Roosevelt's role in the significant issues discussed during the drafting of the Universal Declaration of Human Rights (UDHR) including changing the words of the document to reflect non-gender specific language and the difficult position Roosevelt found herself in when her leadership of the Human Rights Commission conflicted with her position on the board of the NAACP when they sponsored a late submission minority rights article for the UDHR. The paper shows that Eleanor Roosevelt was the organizational force behind the UDHR, a profound achievement that requires deep intellectual and political capacity, controlled and practiced patience, and sheer determination and will to succeed.

- This research was funded by a 2014 SURE Grant

P54 Ashely Hartman (Dr. Peter May)  
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**The mobbing intensity of resident and migrant passerine species in response to Eastern Screech Owl (*Megascops asio*) auditory stimuli**

Mobbing has many potential benefits: to protect offspring or kin, to teach juveniles of predators, to alert others, and to confuse or harass a potential predator out of an area (Curio 1978). In Florida, the learned aspect of mobbing can be observed in the different intensities of mobbing responses of resident and migrant passerine bird species in the presence of a common predatory bird, such as the Eastern Screech Owl (*Megascops asio*). If one of the primary functions of mobbing is to teach young birds the identity of predators and

to protect them, then I predicted that mobbing would tend to be more frequent or intense by birds that are near their offspring. A migrant species present in Florida during the post-breeding season may not be in close proximity to offspring and as a result may have a less intense mobbing response in the presence of a predator. In contrast, a resident Florida bird species is likely to be in closer contact with offspring and would therefore be predicted to have a more persistent mobbing response to protect their reproductive investment. To test this hypothesis, I broadcasted two playback calls (an Eastern-screech owl call and an Eastern- Screech owl call plus a mobbing alarm call) and recorded the total number of birds and species that responded. I also recorded the first bird to appear, the bird that got the closest, and the bird that was the last to leave for each trial as a measure of mobbing intensity. The results of the statistical analyses on my data had no significant difference between the mobbing intensities of resident and migrant responses. The lack of significant difference between resident and migrant mobbing intensities may be due to mobbing being multifunctional, and the formation of mixed-species flocks by both resident and migrant species.

P55 Jennifer Hennigan (Dr. Tandy Grubbs)  
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### **13C NMR lineshape determination of hindered internal rotation in N,N-Dimethylacetamide and N,N-Dimethylpropionamide**

We probed the barrier to rotation about the central amide bond in N,N-Dimethylacetamide and N,N-Dimethylpropionamide using temperature dependent <sup>13</sup>C NMR. As the amide bond rotates, the two carbon nuclei bonded to nitrogen undergo exchange between two chemical environments, cis and trans to the carbonyl. A sample of N,N-Dimethylformamide or N,N-Dimethylacetamide, dissolved in toluene, had spectra taken at equilibrium at eight temperatures. Over the 25oC -95oC temperature range the two carbon nuclei undergoing exchange appeared as two narrow

peaks at low temperature, but coalesced into a single peak as the temperature increased. Based on changes in chemical shift, a Mathematica template equipped with an exchange matrix was used to determine the rate constant for the reaction. Once the kinetic constant was determined, thermodynamic data such as  $\Delta G$ , enthalpy, and activation energy were extracted with an Eyring plot and Arrhenius plot. Both compounds had an experimental  $\Delta G$  value within .2 Kcal/mol of the literature value. Agreement with accepted thermodynamic data indicates <sup>13</sup>C NMR can be utilized to probe the hindered rotation about the amide bond of N,N-Dimethylacetamide and N,N-Dimethylpropionamide.

P56 Jessica Hiner (Dr. Alicia Slater)  
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### **Filling in the gaps: species distributions and habitat characteristics of the highly endemic silt snail genus, *Floridobia*\***

Many freshwater snail species are threatened because they have narrow habitat requirements and/or occur in limited geographic areas. One family, the Hydrobiidae, is experiencing multiple threats, mostly from habitat degradation/destruction. The hydrobiid genus *Floridobia* has a very high rate of endemism (an ecological condition where species are found only in a defined geographic location). Most *Floridobia* species occur in only a single location (usually a freshwater spring) while two species (*F. floridana* and *F. fraterna*) occur in only small parts of Florida. Because of the genus' high rate of endemism, the snails are classified as G2 by the International Union for Conservation of Nature (IUCN), which means that globally the family is imperiled or critically imperiled. Surprisingly, quantitative data on the population status of these unique but threatened snails does not exist. My study aimed to establish the current population status of 7 *Floridobia* species by collecting baseline data on their distribution and abundance and by characterizing the habitats in which they occur, 7 springs were sampled in the summer,

and 3 springs were sampled again in the fall. I hypothesized that the springs with the best water quality will sustain more abundant snail populations. Due to snail population data and depth measurements collected in the summer, I hypothesized that snails will be more abundant in water that is less than 1 meter deep versus greater depth. My project provided data that is vital to determining the conservation status of those *Floridobia* species throughout central Florida. Both hypotheses were supported, snails that lived in areas with better water quality were more abundant populations than those that live in lower quality water, and snails were mostly found in areas with less than 1 meter of water.

- I received funding for the summer portion of this project from the 2014 SURE grant.

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### **Reproduction in an invasive exotic catfish *Pterygoplichthys disjunctivus* in Volusia Blue Spring, Florida, U.S.A.**

A continuation of a long-term study focuses on the reproductive strategies and morphological adaptations of the loriciid catfish *Pterygoplichthys disjunctivus* over a span of nine years. By utilizing the statistical strategies of gonado-somatic indices, average mature oocytes and average oocyte size to quantify catfish fecundity, we identified reproductive tactics of this species that make a successful invader. Multiple egg classes have been observed in females that are highly variable, and have significantly decreased in size, resulting in increased batch fecundity and relative fecundity. Comparative analyses of the gonado-somatic index between the first reproductive season (2005) and latest reproductive season (2014) have revealed a significant increase in GSI. These results suggest that *P. disjunctivus* has become spawning-capable year-round, while increasing its capacity for egg laying. The plasticity of *P. disjunctivus* is evidenced in its ability to adapt accordingly when presented with ample

resources- a characteristic of an effective invader and formidable competitor to local species.

P9 Cherelle Leslie and Megan Harvey (Dr. Asal Johnson) [Cleslie@stetson.edu](mailto:Cleslie@stetson.edu)

### **Impact of Genital Hygiene Practices/Behaviors on the Prevalence of Urinary and Reproductive Tract Infections in Stetson University's Female Students**

The purpose of the present study is to examine the association between female genital hygiene practices/behaviors and the prevalence of urinary and reproductive tract infections. This cross-sectional study was conducted throughout the spring semester of 2015, on Stetson University's campus. Our study population included non-pregnant females between the ages of 18 and 24. Questionnaires were sent to approximately 1200 students via emails. Data was collected from 331 participants. We analyzed collected data using multivariate logistic regression models. The descriptive statistics included percentages and frequencies. Our logistic regression analysis included five models that were performed for the outcome variables of lifetime infection and having infection within the last twelve months, separately. In all of the models, we controlled for age and ethnicity. It was found that menstrual products, methods of washing and frequency of sexual intercourse are significantly associated with lifetime prevalence of infection. The above variables, in addition to scented menstrual products and undergarment usage, were significantly associated with a 12 month prevalence of infection. Our results suggest genital practices and behaviors are significantly associated with prevalence of genital infections. This may help health care providers better understand the risk factors for vaginal infections.

P22 Darina Linnik (Dr. Michael S. King)  
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**Electrical stimulation of the anterior gustatory cortex elicits ingestive taste reactivity behaviors in conscious rats**

The gustatory cortex (GC) is implicated in the discrimination of taste quality via inputs from brainstem nuclei. However, the GC's exact effects on taste reactivity (TR) behaviors are not well known. The goal of this study was to investigate the effects of electrical stimulation of the anterior GC on the gustatory brainstem, specifically the rostral nucleus of the solitary tract (rNST), the parabrachial nucleus (PBN), and the reticular formation (Rt), as well as on TR behaviors in conscious rats. Electrical stimulation was delivered via an implanted electrode and behaviors were captured on video. Immunohistochemistry for the Fos protein was used to identify neurons in the GC and the gustatory brainstem activated by the electrical stimulation. Electrical stimulation of the anterior GC resulted in an increase in the number of the active neurons in the GC, a decrease in the ventrolateral (VL) division of the PBN, and had no effect in the rNST or the Rt. Stimulation tended to increase ingestive behaviors which were accompanied by an increase in the number of active neurons in the dysgranular insula (DI) and the dorsal agranular insula (AID) subdivisions of the GC. In conclusion, electrical stimulation of the anterior GC resulted in an increase of active neurons as well as in an increase of ingestive TR behaviors. Hence, the anterior GC is implicated in modulation of ingestive TR behaviors.

P57 Jacob Lites (Dr. Nathan Wolek)  
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**Internet of Things Augmented Reality display**

This piece was made to inspire a feeling of being in the future to the user. I wanted to user to experience my piece in a way that made them feel comfortable with the world and all of its technology at their fingertips. I believe that one day we'll be able to access information

about anything in our environment in a moment's notice, and I wanted to begin to emulate that feeling with the tools we have available. I do not think that we are to the point that we can have this information available to us instantly and conveniently, but I wanted to see how close I could get with the devices we have today. I wanted the user to feel like they are on the brink of something new, and to have them become enamored by the idea that inspired such creations as the Google Glass. I chose to use the Google Glass to further emphasize the feeling of being in the future. I like the idea of information becoming a part of the user's vision without too much interaction on their part, as though it were a sort of "sixth sense". I think that one day soon this presentation of information will be an everyday occurrence, just like Wikipedia and Google have become today. I just want to get people excited about the future.

P23 Elizabeth Loudon (Dr. J. Anthony Abbott)  
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**Social Justice and The Human-Environment Relationship: A Two Week Unit for Middle School Students**

Middle School students commonly lack respect and appreciation for the natural environment. They frequently hold attitudes that emphasize self-interest, offering little or no positive valuation for that which is external and global. Teachers struggle to teach environmental ethics at this level because they are overwhelmed with new State Standards that must be interpreted and incorporated into their curriculum. For this reason, it is difficult to provide quality environmental education that challenges seventh and eighth grade students to consider the impact of their individual actions on our shared macrocosm. This project will design and present prepared curriculum lessons for middle grade classrooms. The innovative "Social Justice and The Human Environment Relationship Unit" will offer ten free lessons that connect Florida State

Standards to the interdisciplinary study of environmental and social justice issues. The lesson creation process will involve obtaining peer review feedback from experienced and diverse educators and school administrators. Lessons will be collected, sequenced, and provided online for teachers and parents to access.

*Social justice, education*

P24 Rachel Luke (Dr. Michael King)

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**Electrical stimulation of the posterior gustatory cortex in rats does not affect taste reactivity behaviors or elicit FOS-immunoreactive neuron responses in the gustatory brainstem.**

Taste stimuli elicit numerous types of taste reactivity (TR) behaviors in rats. These behaviors can be categorized as ingestive and aversive. The ingestive behaviors manifest in several accepting behavioral actions, in the same way that aversive behaviors present in rejecting mechanisms. In this experiment, rats were electrically stimulated in the posterior gustatory cortex (GC) and the subsequent behaviors observed. Fos-immunohistochemistry was used to identify the active neurons in the posterior GC, RF, PbN, and NST. Statistical analyses of the behaviors and number of Fos-IR neurons in the control rats against the stimulated rats was used to determine the relationship between the location of stimulation and responsive behaviors. Manual FOS-IR counts in the posterior GC confirmed that the posterior GC was stimulated. It was incorrectly hypothesized that the stimulated rats would perform significantly more taste reactivity aversive behaviors as well as express more activated neurons in the three regions of the brainstem (NST, RF, PbN) than the control rats.

P25 Sammie Jo Manning (Dr. Camille Tessitore King) [smanning@stetson.edu](mailto:smanning@stetson.edu)

**Social learning effects on the speed of learning fetch behaviors in *Rattus Norvegicus***

Scientists have long been interested in observational or social learning, whereby an animal learns a target behavior via observing a conspecific engage in that behavior. Social learning of food selection and some other behaviors has been successfully demonstrated previously in rats. Few, if any studies, however, have addressed the possibility that social learning may improve the speed at which social learning takes place. In this study, one group of rats, the social learning group (N = 5), socialized with and observed a demonstrator rat that had been trained previously and was proficient at fetching. The other group (N = 5) was allowed to socialize with the demonstrator but did not observe the fetching behavior. During the following ten day period both groups underwent training to fetch the ball. An ANOVA for a mixed-factorial design revealed that the social learning group more frequently engaged in the target behavior approximately one day before the control group ( $F(1,8)$ ,  $p = 0.03$ ). These results not only confirm that rats are capable of imitation or social learning but that social learning may lead to faster learning in these animals.

P26 Diane McColl (Dr. Terence Farrell)

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**The effects of pigmy rattlesnake (*Sistrurus miliarius*) chemical cues on the behavior of a major prey species, the ground skink (*Scincella lateralis*)**

Pigmy rattlesnakes (*Sistrurus miliarius*) are sit-and-wait predators that feed on mammals, amphibians, arthropods, and reptiles. Ground skinks (*Scincella lateralis*) occupy the same habitat as pigmy rattlesnakes and make up 30.7% of its diet. We investigated how ground skinks detect the risk of predation and how do they respond to pigmy rattlesnake chemical cues. We collected ten ground skinks and six

rattlesnakes from Volusia County, Florida. We placed four shelters inside a glass aquarium (51 x 25.5 x 28cm); we used two aquariums at a time, running one control trial and one snake odor trial. The control treatment received no snake scented pads inside any of the four shelters and the snake odor treatment shelters received three pigmy rattlesnake scented pads and one unscented pad. We recorded behavioral responses including number of tongue flicks, number of head scans, the time and choice of shelter use, and the distance moved in videotaped trials. We found no statistically significant differences in any skink behavior in the presence of snake chemical cues. However, when we compared these data to prior data from trials with skinks exposed to a live pigmy rattlesnake, we found that skinks had a significantly lower mean distance moved within the first two minutes of a trial. Ground skinks might have weak olfactory abilities or pigmy rattlesnakes may be olfactory cryptic and therefore the skinks appear to rely on visual cues for predator avoidance.

P7 Christie McNamee (Dr. Kirsten Work)  
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**Importance of the restoration of *Vallisneria americana* into Blue Spring State Park: increase in native fish habitats**

*Vallisneria americana*, also known as eelgrass or wild celery, is a native submerged macrophyte found in freshwater ecosystems. *Vallisneria americana* has declined in several springs and other freshwater ecosystems and the reintroduction of the plant back into freshwater ecosystems is vital. We conducted a study after the reintroduction of *V. americana* in Blue Spring State Park in Orange City, Florida, to see if these reintroduced habitats produced an increase in fish numbers residing in these eelgrass beds. Over a five week period, we observed and counted fish in the eelgrass enclosures and compared it to adjacent habitats. Our results showed that our hypothesis was supported and the newly introduced eelgrass habitats contained

significantly more fish found in these habitats. Therefore, we conclude that the reintroduction of eelgrass is important to the health of freshwater ecosystems and that *V. americana* is an important habitat to native fish.

P27 Emily Minter, Tara Quinteros, Molly Winsten (Dr. Michele Skelton)  
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**Dietary Effects on Endurance Athletic Performance: The Gluten-free and Vegetarian Focus**

The effects of diet upon exercise performance are important facets in the understanding of endurance athletes. The diets individuals choose to follow are dependent on many factors including health issues, religious beliefs, or simply taste. Gluten free and vegetarian diets are increasing in our current society, and understanding their role in aerobic performance is key. This investigation into the effect these diets have on training and performance provides information for the active population to consider upon planning or executing their diets. The objective of this study is to compare omnivorous, vegetarian, and gluten free diets in race times in competitive endurance athletes. Running clubs were contacted to generate data concerning race times in tandem with diet and changes in diet. The results express the relationship between diet and endurance performance, shedding light onto the differing diet types their potential benefits or drawbacks.

P28 Lauryn Mohler, (Dr. Roslyn Crowder)  
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**Genistein-induced apoptosis in Jurkat T-cell Leukemia\***

Genistein is a naturally occurring soy isoflavenoid that is a promising potential cancer therapeutic. When treated with Genistein, previously published reports have shown malignant cells undergo both cell cycle arrest and/or apoptosis. We are studying the ability of

Genistein to induce cell cycle arrest and/or cell death by the use of cell viability assays and flow cytometry in Jurkat T cell Leukemia cells. Both time courses and dose responses were utilized. With treatments of 25  $\mu$ M, 50  $\mu$ M, and 100  $\mu$ M of Genistein, it has been found that there is an increase in the percentage of cells that are in late stages of cell death as the concentration of Genistein increases at T=24 hr. As the concentration of Genistein increases, the percentage of cells that are live or in early stages of cell death is less than those of lower concentrations. With 100  $\mu$ M of Genistein at 24 hours, we have found 14.475% of the Jurkat T cell Leukemia cells to be in late stage of cell death, whereas in 25  $\mu$ M and 50  $\mu$ M the percentages of cells in late stage of cell death are 7.3% and 8.125% respectively. We found that with an increasing time point of 48 hours, Genistein caused a shift toward greater percentages of cells in the late cell death phase (68.95%). Our research findings highlight Genistein as a new potential treatment for leukemia. Our future work will examine whether Genistein-induced Jurkat cell death is associated with a decrease in protein levels of anti-apoptotic proteins belonging to the Bcl-2 protein family.

- 2014 SURE Grant recipient

P38A Dillon Moore and Ethan Deal (Dr. Nathan Wolek, Stephen Ellis) [dtmoore@stetson.edu](mailto:dtmoore@stetson.edu)  
**Metamorphosis**

The student created game 'Metamorphosis' questions the role technology has in our lives. To match the emotion and goal of these questions Dillon Moore created a soundtrack that is not written by human hands, but rather the functional hands of a computer. The soundtrack is dynamic and ever evolving, as it is synthesized in real time based on the player's actions. No two people will hear the same score, as each musical gesture is generated in response to the player's unique movement and progression through the game. The music and sound-scape reveal themselves cryptically at first, matching the confusion of the starting

player, and become more complex as the player uncovers more information about the story of the game. Dillon hopes to explore the realms of generative music and the impact it could have on the experience of a video game with this project.

P5 Ciara Nadelkov (Dr. Christopher Ferguson)  
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### **The Effects of a Visible Tattoo and Observer Personality on Perceptions of Attractiveness, Intelligence, and Similarity**

Although there have historically been conflicting views of tattoos, the increasing prevalence of tattoos has lead research to begin to examine interpersonal ratings of individuals with a tattoo. This study aims to examine the effects of a visible tattoo and a participant's personality on interpersonal ratings of attractiveness, intelligence, personality similarity, and friendship compatibility. Participants, consisting of adults 18-77, ranked clothed models in 14 stimulus photographs on attractiveness, intelligence, personality similarity, and friendship compatibility, self-reported openness to experience scores with the Big-Five Inventory (John, Donahue, & Kentle, 1991), and answered questions indicating whether or not they have a tattoo, age, and sex; all measures were anonymous. Results suggest that the gender and number of tattoos of the model, and the number of tattoos of the participants impacted ratings of attractiveness, intelligence, personality similarity, and friendship compatibility.

P29 Olaniyi Oke and Desmond King (Dr. Asal Johnson) [ooke@stetson.edu](mailto:ooke@stetson.edu)

### **The association between length of residence in the USA and the onset of Diabetes among Cuban Americans within Miami-Dade County**

The purpose of this study is to examine the relationship between the length of residence in the United States and the prevalence of diabetes among Cuban American immigrants. We conducted a secondary data analysis

utilizing Physical Challenge and Health study (Turner, Lloyd, and Taylor 2001). Participants of this cross-sectional study are Cuban immigrants who resided in Miami-Dade County in 2001 (N=463). We compared differences in independent variables across diabetes status by Chi-square tests. In addition to the length of residence, we included age, gender, disability, Body Mass Index (BMI), education, marital status, and insurance. Bivariate and multivariate logistic regression models were administered to examine the relationship between diabetes and independent variables. Cuban immigrants who lived in the United States for 21 or more years had a statistically significant increased odds of being diagnosed with diabetes, compared to those who lived in the US for less than 21 years. The finding was independent of age. This study concludes that the prevalence of diabetes among Cuban immigrants increases as their length of residence in the US increases. Health practitioners should consider this factor when they plan for diabetes prevention and intervention for immigrant populations.

P36 Kyle Oliveira (Dr. Terrence Farrell)  
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### **Olfactory snake recognition and avoidance of scented shelters by Florida Blue Centipedes, *Hemiscolopendra marginata***

Florida Blue Centipedes, *Hemiscolopendra marginata*, are myriapods that are commonly found under rotting logs or under leaf litter. *H. marginata* have antennae that are not only used for tactile information, they are also used for olfaction. This sense of smell is used to identify and hunt prey items and may also be used to avoid predators. I tested their sense of smell in regards to predatory snakes. I used the scents of two snake species, one that preys upon *H. marginata* (*Sistrurus miliarus*, the dusky pigmy rattlesnake) and another that does not (*Diadophis punctatus*, the peninsular ring-necked snake). I observed the behaviors exhibited by the centipedes when exposed to the scents of each of the snakes by putting them in a behavioral arena with four hiding

spots. One hiding spot was a control with no scent and the other three contained the scent of either the rattlesnake or ring-necked snake. I recorded the first and last shelter selected in a 24 hour period. I found that there was no statistically significant association between hiding spot selection and snake scent suggesting that there is no avoidance by the centipedes.

P31 Andrea Ortega, Casey Starchak and Ken Stevens (Dr. Dejan Magoc)  
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### **Gender differences and related beliefs associated with binge drinking and physical activity among college students**

Weight gain has almost doubled within the last ten years (Barbour, 2011). Statistics on college students are not promising as well with three in ten college students being overweight or obese (Savage, 2013). Besides healthy eating habits, lack of physical activity (PA) and binge drinking are some of the most prevalent factors that lead to obesity. The purpose of our study was to examine the relationship between PA, binge drinking, and various demographic variables among Stetson students. Besides various demographic variables, 118 predominantly white college students completed a questionnaire about their levels and perceptions of PA and binge drinking. The results indicated significant gender differences in levels of PA with men being significantly more physically active than women on two PA variables: Vigorous Days ( $F(1, 117) = 13.50, p < .001$ ) and Vigorous Minutes ( $F(1,117) = 25.28, p < .001$ ). In general, only 49.2% of our sample met recommended levels of PA, while 17.8% reported being not physically active at all. In addition, 47.5% of our sample reported binge drinking. Binge drinking was strongly correlated with belonging to fraternity or sorority organizations, household income and levels of PA. Although research has related various demographic variables to levels of PA and binge drinking, as of our knowledge a limited research has investigated such relationship focusing on



gender differences. Our results clearly demonstrated the existence of gender differences in levels of PA and perceptions of binge drinking in college students.

P32 Colleen Palmateer (Dr. Alicia Slater)  
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### **Resolving the phylogeography of montane Great Basin Stoneflies using next-generation sequencing**

Population genetic diversity is a major component of biodiversity in ecosystems. Understanding genetic diversity can help maximize conservation efforts and resource management. An ideal system for analyzing genetic diversity is the sky island populations of stoneflies in the Great Basin region of the western United States. A previous study of populations of *Doroneuria baumanni*, a montane Great Basin stonefly, based on mtDNA identified three major clades (distinct evolutionary groups); however, the relationship among the three clades was unclear. Clade divergence times were within the Pleistocene, but had very wide confidence intervals. My study sought to clarify clade relationships and narrow confidence intervals using a new technique, genotyping by sequencing (GBS), which generates tens of thousands of data points for genetic analysis. Samples were optimized using multiple methylation sensitive restriction enzymes. The restriction enzyme PstI was chosen to generate a GBS library. A 96-well plate containing DNA from 95 individuals across 10 populations was prepared and sent to the Cornell's Genomic Diversity Facility for sequencing. This GBS data set has the potential to provide more powerful conclusions about the relationships among the three clades, produce a gene tree with higher resolution, and provide better estimates of population divergence times.

P10 Alexis Patton and Timothy Ermon (Dr. David Stock) [apatton@stetson.edu](mailto:apatton@stetson.edu)

### **Presence of arsenic in Halomonas GFAJ-1 cell wall components**

GFAJ-1 is an extremophile strain of the family Halomonadaceae and it was first isolated from Mono Lake, California—a hypersaline and alkaline body of water, containing highly dissolved arsenic concentrations. A controversial study on GFAJ-1 claimed that this bacteria was able to sustain itself in high arsenic concentrations because it has the ability to substitute arsenic for phosphorous. Other studies later claimed that GFAJ-1 is not able to grow in 100% arsenic media and needs a small level of phosphorous to sustain its growth. We hypothesized that GFAJ-1 could in fact grow on 100% arsenic media and we hypothesized that arsenic would be found in either the lipid, protein, and carbohydrate components of the cell wall. We grew the bacteria on five separate media: 0% arsenic, 25 % arsenic, 50% arsenic, 75% arsenic, and 100% arsenic. The bacteria were able to grow and sustain themselves on all the media in the different treatment groups. We separated the cell wall of the bacteria using a French pressure cell for each treatment group. We performed three digests on the cell wall for the bacteria in each treatment group to obtain the lipid, protein, and carbohydrate component. We used an arsenic test kit to quantify the levels of arsenic present in all 15 samples and found that in all treatments—except for our control, which contained 0% arsenic—the lipid component contained the most arsenic, although we found levels of arsenic in the protein and carbohydrate component as well. Our findings supported both of our hypothesis. This suggests that GFAJ-1 could possibly substitute arsenic for phosphorus to sustain its growth in the absence of phosphorus. More research needs to be done on what the arsenic is binding to in the lipid, protein, and carbohydrate components of the cell wall.

P33 Ernest Phillips (Dr. Roslyn Crowder)  
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### **Daidzin induces cellular apoptosis in Jurkat Leukemia cells**

Daidzin is an isoflavone that is present in the Kudzu root (*Peuraria lobata*) and other soy products. I investigated the affect daidzin has on Jurkat leukemia cells. I treated Jurkat leukemia cells with 25 $\mu$ M, 50 $\mu$ M and 100 $\mu$ M concentrations of daidzin at various time points between 4 and 48 hours. I then used a Sigma Cell Counting Kit (CCK) to measure the metabolic activity within each sample. I determined that daidzin was able to cause significant cell death when exposed to leukemia cells for over 16 hours. I conducted a caspase-3 enzymatic activity to determine if the cell death observed was caused by apoptosis. I found that there was dose dependent response to caspase 3-enzymatic activity when treated with daidzin at a 14-hour incubation time. A flow cytometry assay was then conducted, with daidzin at 50 and 100  $\mu$ M concentrations; to produce quantitative values of jurkat apoptotic rate at a 48-hour time point. Future experiments will investigate if daidzin is toxic to non-cancerous cells at doses that cause death in leukemia cells. I intend to determine the optimal concentration of daidzin that cause the maximum amount of cell death and define the specific mechanism that is responsible for daidzin-induced apoptosis.

P4 Joseph Potechin, (Dr. Peter May)  
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### **The effects of crowding and isolation on *Zophobas morio* larval development\***

Crowding or grouping is an important phenomenon that plays many different roles in the lives of insects. Insects sometimes crowd together due to limited food resource, to stay warm, for mating, rearing, or even defense. A crowded environment has been noted to delay and even prevent metamorphosis of some darkling beetles. I studied how crowded larval rearing environments affect the ability of

*Zophobas morio* (darkling beetle) larvae to metamorphose into adult beetles. Utilizing various sized environments and population groups; I studied how different population densities affected *Zophobas morio* time to pupation. Statistical analysis showed there were only statistically significant difference in time to first pupation between the different population densities in the smallest environment; however, the study showed trends between different population densities in all the other environments. This is worthy to further study to determine if *Zophobas morio* disperses before pupation like other congeneric larvae.

- Stetson 2014 SURE grant recipient

P3 Deja Rivera (Dr. Cynthia Bennington)  
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### **Acidic soils benefit seedling growth in two perennial plant species native to the Florida sandhill ecosystem**

Sandhill ecosystems have been impacted heavily by logging, farming, and development, making their restoration a priority for land managers in the southeast. The soils associated with intact, mature sandhills typically have a low pH, and plant species native to sandhills may perform poorly in restoration sites where pH is close to neutral and/or where the native soil microbial community has been altered. Using soil from a small sandhill restoration site on our campus, we asked whether seedling establishment of narrowleaf silkgrass (*Pityopsis graminifolia*) and Florida paintbrush (*Carphephorus corymbosus*) is affected by soil pH, and also whether *C. corymbosus* establishment is affected by soil microbial composition. We germinated seeds of each species in petri dishes maintained under 24-hour light. Once germinated, 44 seedlings of *P. graminifolia* were transplanted to soil that had been collected from our restoration site, half of which was acidified to a pH of 4.5, while the other half served as a control (pH = 6.8). For *C. corymbosus*, 118 seedlings were similarly transplanted, but seedlings were evenly divided amongst treatments in a 2 x 2 factorial design

with pH and native sandhill microbes as the two factors. After five weeks, we measured survival, number of leaves, and the average length of the longest leaf. Neither survival nor leaf number was affected by treatment(s) in either species. Low pH, however, resulted in significantly longer leaves in both species. Our results demonstrate the importance of soil properties in ecosystem restoration.

P34 Cassandra Rodriguez (Dr. Alicia Slater)  
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**Comparative study of genetic population structure and phylogeography between the montane Great Basin stoneflies *Hesperoperla pacifica* and *Doroneuria baumanni***

Geographically isolated montane populations of some stoneflies have been found to have high levels of genetic structure and differentiation within the Great Basin. More specifically, Great Basin populations of *Hesperoperla pacifica* and *Doroneuria baumanni* are believed to have experienced genetic divergence due to isolation and climate fluctuations around 2.6 million to 11,700 years ago during the Pleistocene. However, past studies of *D. baumanni* and *H. pacifica* indicate that *H. pacifica* populations are less structured than those of *D. baumanni* which make up three distinct clades. This difference in genetic structuring is most likely due to a difference in habitat requirements; *H. pacifica* is more of a habitat generalist and occurs in lower elevations while *D. baumanni* is restricted to the upper elevations. Based on these observations, I plan to expand on the finding of the Schultheis et al. (2014) preliminary study by utilizing different populations and additional loci. I hypothesized that (1) there will be high levels of genetic differentiation among the different populations of *H. pacifica*. I predict that individuals within a mountain ranges will be more genetically similar to each other than those in different sky islands; (2) *H. pacifica* will exhibit higher levels of gene flow and lower levels of genetic structure than that of *D. baumanni*; (3) divergence times of *H. pacifica* populations will

coincide with the divergence times of *D. baumanni* and the shared geographic location between *D. baumanni* and *H. pacifica* populations will result in concordance patterns of genetic differentiation between the two species

P35 Amanda Roy and Alicia Von der Worth (Dr. Christopher Ferguson) [aroy@stetson.edu](mailto:aroy@stetson.edu)  
**Competitively vs Cooperatively? An Analysis of Stress Levels on Gameplay**

The present study tests the hypothesis that stress levels will decrease for competitive and cooperative game play, but the decrease will be greater for those who play cooperatively. It was also expected that males would have a higher post blood pressure/ heart rate after playing alongside a female confederate. The study used one game, LEGO: Marvel Superheroes on the Xbox One console, in two different modes: either with the confederate (cooperatively) or against her (competitively). Participants were students at Stetson University (44 male, 56 female). The computerized version of the Paced Auditory Serial Addition Task (PASAT-C, Lejuez, 2003) was used as a lab based stressor to give each participant a baseline stress level upon entering the lab.

Participants were also asked to complete the 9-question Psychological Stress Measures Questionnaire (PSM-9, Lemyre and Tessier, 2002) twice, once before and once after game play. Blood pressure and heart rate were also monitored before and after game play. Using a Multivariate Analysis of Variance (MANOVA), statistics showed a significant difference in Pre/Post blood pressure and gender, showing that males are more stressed out, regardless of game play mode, when playing alongside a female. A significant difference was not found between game play modes.

P2 Ethan Royal, Fletcher Eldemire, Mack Lemke and Andrew Barton (Dr. Melissa Gibbs)  
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### **Effects of Dextromethorphan and Ricola on Axolotl Development**

Dextromethorphan (DXM) is a cough suppressant drug found in many of the over-the-counter cough and cold medicines. When taken in large doses, DXM can have serious side effects that include hallucinations, which has caused its use to be abused by some. In our study, we examined the effects of DXM on the development of axolotl embryos. To compare the effects of this drug to a popular herbal alternative, we also ran trials using Ricola, which contains a blend of menthol and 13 different herbs. For our treatments, we decided to amplify the recommended dosage to identify the lowest lethal dose. We chose 5 concentrations of DXM (10x, 25x, 50x, 75x, 100x), based on the recommended dosage (x), the findings of other studies which examined its effects, and a round of preliminary trials we ran. We determined the Ricola concentrations (x, 10x, 20x, and 40x) using the recommended dosage (x). We exposed 5 axolotl embryos to each concentration for a period of 24 hours. Based on our preliminary trials, we expect that the DXM 100x and 75x concentrations to be lethal doses, and the 50x to have significant effects. We also expect the Ricola 40x and 20x to be lethal doses.

P36 Holly Saulsbery, Jackson Reddick, Eduardo Lopes, Elsa Guevara, Fatima Ramis (Dr. Melissa Gibbs) [hsaulsbu@stetson.edu](mailto:hsaulsbu@stetson.edu)

### **Comparison of the effects of Prednisone and Curcumin on axolotl (*Ambystoma mexicanum*) embryos**

Prednisone is a commonly prescribed steroid used for the treatment of a multitude of medical issues. While useful in the short-term, however, prolonged steroid use can result in health problems such as heart disease, muscle wasting, and uncontrollable weight fluctuations.

For this reason, we decided to investigate whether or not corticosteroids affect a developing embryo. In addition, we decided to compare the effects of prednisone to a natural alternative curcumin. Curcumin is a chemical found in turmeric that has been used in traditional medicine as an anti-inflammatory treatment for hundreds of years. In order to determine if this alternative is truly safer than Prednisone, we exposed axolotl embryos to differing concentrations of the two compounds and then observed their development for any significant changes or mutations. After our first trial, we did not observe any significant deformities or changes in rates of development for either treatment. After a second trial with increased dosages for both treatments, we have seen an increased amount of deformities and a larger amount of lethality in the group treated with Prednisone.

P37 Carla Sisi and Erika White (Dr. Kenneth Nusbaum) [csisi@stetson.edu](mailto:csisi@stetson.edu)

### **Impact of Cucurbita Moschata on Performance and Alleviation of Fatigue**

The purpose of this research study is to study the effects of cucurbita mosha (pumpkin seeds) on young athletes, in this case volleyball players, to see if performance on a fitness test can be enhanced by alleviating post-practice fatigue through the consumption of pumpkin seeds. The participants, ages from 12-14, will participate in a typical, rigorous 2 hour-long volleyball practice closely resembling one that they would have for their club volleyball team. Afterwards, the girls would either be given water to drink and 20 shelled pumpkin seeds to consume, or simply water for the control group. Then after this 30 minute break, all would be tested on a short, shuttle sprint test to determine performance. In the first week, all participants will be run through the shuttle test without first consuming the pumpkin seeds to get a baseline value. Our results will be presented at the showcase.

P38 Maya Suzuki (Dr David Stock)  
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**Detecting nucleotide excision repair of UV induced DNA damage in *Chlamydomonas reinhardtii* and *Euglena gracilis***

Nucleotide excision repair (NER) is a DNA repair mechanism that can mend damages caused by ultraviolet radiation (UVR). UVR can damage the DNA of a living organism by joining the adjacent pyrimidine bases, interfering with the nucleotide metabolism of the organism. NER mends such damages by excising the pyrimidine dimers and replacing with intact nucleotides using the undamaged DNA strand as a template. I hypothesized that NER is present in two different unicellular aquatic species, *Chlamydomonas reinhardtii* and *Euglena gracilis*, leading to increased cell survival. *C. reinhardtii* and *E. gracilis* were radiated with sublethal doses of UVR and were allowed to perform NER in the dark for increasing periods of time. I observed that increased level of UVR decreased survivors of *C. reinhardtii* and that survivors increased as time of incubation in the dark increased. Secondly, I hypothesized that increased NER would lead to decreased amount of DNA fragmentation when digested with T4 pyrimidine dimer restriction endonuclease. I used gel electrophoresis to analyze DNA fragmentation after varying periods of NER and observed longer fragments of DNA as NER increased. Thirdly, I hypothesized that after UVR, incorporation of 5-bromo-2'-deoxyuridine (BrdU) into DNA would increase as NER increased. I measured the fluorescence emitted by BrdU tagged with fluorescent-labeled anti-BrdU antibody to analyze the quantity of BrdU incorporated in the DNA of the damaged cells. The measurements of fluorescence showed that there was a pattern of increase in fluorescence levels as the period of NER increased.

P1 Shontell B. Verwayne (Dr. Carl D. Cochran)  
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**Development of the Generalized Intuitional vs. Analytical Decision Making Index**

This paper explores the development of brief scales for measuring the extent to which individuals prefer analytical or intuitional decision-making styles. The intuitional and analytical scale will come together to create the Generalized Intuitional versus Analytical Decision-making Index (GIADMI). In creating the two measures I look at reliability and validity of both of the scales. In order to prove construct validity I combined my test with other test into a packet, which also included other types of questionnaires (i.e. demographic). So the packet also included the Alternate Uses Test (Guilford, 1976), the Planfulness Test (CPI, Gough, 1996), the Rosenberg Self-esteem scale (Rosenberg, 1965), the Capacity for Love Test (VIA: Cap, Peterson & Seligman, 2004), the Talkativeness Test (AB5C: I+/IV-, Hofstee, de Raad, & Goldberg, 1992), and the Attractiveness Test (Big-7: 525, Saucier, 1997). The data showed that the Analytical and Intuitive scale appeared to be reliable. A factor analysis revealed two factors resulting in the discarding of some of the analytical and intuitional items. However, the correlation between the two scales was very low. Furthermore, the two scales showed different patterns of correlations with other measures and suggested some degree of construct validity. The Intuitional scale was predicted to show higher correlations with creativity, self-esteem, perceptions of attractiveness and capacity for love which involve more subjectivity. The Analytical scale showed lower correlations with the other measures but showed an unexpected significant negative correlation with Planfulness. The results of the study suggest that the Intuitional scale might be a useful research instrument providing a brief, reliable measure of intuitive thinking style. However, the Analytical scale needs further refinement to improve its validity even though its reliability seems to be adequate.

P39 Anthony Ward (Dr. Deborah Maxwell, Dr. Tandy Grubbs) [ajward@stetson.edu](mailto:ajward@stetson.edu)

**Complex formation of the protein Bovine Serum Albumin (BSA) to surface of Cadmium Selenide quantum dots established by fluorescence quenching**

The synthesis and application of Cadmium Selenide quantum dots have been a favorable research area for many years. Due to their High quantum yields, increased stability, broad absorbance spectra and size dependent emission spectra, they offer enhanced flexibility to the user. "Quantum dots" are semiconducting nanocrystals whose properties vary with size. CdSe quantum dots have a crystal lattice of alternating cadmium and selenium atoms that exhibits the same structure as bulk CdSe. In this Experiment, Cadmium Selenide quantum dots were synthesized then functionalized with Mercaptosuccinic Acid (MSA). The addition of MSA allowed the quantum dots to be water soluble. Also, functionalizing the CdSe dots with MSA permits me to test the interactions between the CdSe-MSA and Tryptophan residues in Bovine serum albumin (BSA). If the fluorescence of the CdSe-MSA quantum dots quenches, then interaction is occurring. Based on their unique properties, quantum dots have been broadly applied in the biological and chemical fields. However, relatively little is known about the interaction of quantum dots with some important biomolecules such as bovine serum albumin (BSA). In this study, the interactions between functionalized Cadmium Selenide quantum dots and bovine serum albumin were analytically examined by UV-visible absorption and fluorescence.

## ART AND DIGITAL ARTS

ART5 Hannah Bradford (Dr. Nathan Wolek) [hbradfor@stetson.edu](mailto:hbradfor@stetson.edu)  
Captivating Cages

*Captivating Cages* is about the positive side of animal captivity. I want to educate people on why we need animal captivity. The video features interviews from CEOs, and volunteers from different animal sanctuaries. Watching these interviews you will get a true understanding of why animal captivity is necessary. The staff members at the rescues are scared of the future for these animal sanctuaries. They believe that the negative point of views of animal captivity will destroy the animals because no one will want to visit the rescues to learn why animals need to be in captivity in the first place. *Captivating Cages* informs and inspires people to visit the sanctuaries and learn more about the exotic and endangered animals. Not only that, it shows them that these animals need our help and without us, they will slowly die out. My inspiration for this film was my personal experience working at a dog rescue. I learned about how much dogs suffer from extreme situations just like us. After working with them for so many years, I decided to create a documentary on rescued animals. While filming *Captivating Cages* I learned that exotic and endangered animals are suffering and they need our time and support to live. I hope that after watching my film people will be inspired to help out at a local rescue.

ART14 Spencer Carnahan (Dr. Nathan Wolek) [scarnaha@stetson.edu](mailto:scarnaha@stetson.edu)

**419**

Beginning with a blank page and working from the pre-production script writing and planning, through the filming and into the post-production editing and final processing, I have gained valuable insight into the world of professional film-making. This has been my leading motivator as I have worked on this

project. I sought to emulate filming styles used by horror and psychological directors such as Alfred Hitchcock and Dario Argento. My research into their work inspired me to make this film as well as pursue a career in professional film making post-graduation. Because this film can be defined as a psychological narrative, it is my goal for the viewer to understand and feel the overarching themes of psychosis and mystery that drive the protagonist through the plot. Along with the story line, the use of sound and camera movement helps to create a visual and aural atmosphere to help convey the mood of the film to the viewer. This form of story telling can connect the viewer to the film and is intended to keep and build interest up to the point of the climax.

ART15 Eliza Colmes (Dan Gunderson and Gary Bolding) [ecolmes@stetson.edu](mailto:ecolmes@stetson.edu)

### **Delirium**

I am a visual communicator projecting imagery from the dark place in my imagination. I have always believed that this imagery was more than the product of nightmares or some elaborate fantasy. These demons that I am depicting are representations of all that is dark and destructive within me. I am an observer of my own internal struggle. I have a common tendency to indulge myself in the poisonous thoughts that tug at my ego. Rather than to make a futile attempt to ignore my struggle or try and distract myself, I work through the darkness. I confront my spiritual aches and pains and I study them. I give them a name, a face, a physical body. If I can give things like fear, anger, animosity, anxiety, a physical body and a name, I can see them better and feel more exert control over them. I visualize myself physically reining them in. I also do this in order to and exorcising these things them from my soul. I make the intangible disturbances that swim the psyche tangible. I put them in a species and a class. This process is a way for me to keep these things from eroding the light in my soul. I'm using imagery from my nightmares

because they are subconscious projections of our existing fears and anxieties.

I spend a lot of time with each piece in the making, and in that production I have a lot of time to sit and reflect while I work on the source of my darkness, why it is dictating certain aspects of my life, why they obstruct me in this earth walk temporal existence. My intention in sharing this intensely personal body of work is to incite fantasy and feelings, and create an intimate interaction that mimics one we would have with our own soul, with all of its darkness and light.

ART2 Kevin Dull (Dr. Nathan Wolek)

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### **At Summers End**

From the moment I first sat at a piano bench I have been writing music. Granted, my first attempts at the age of six consisted mostly of a nonsensical mashing of the keys, but my love for the creation of music began immediately. Over the course of my life, I have tried to keep an open mind about all genres and styles of music. Because of this, my own songs have been influenced by many different types of music, and as such have a unique, yet distinct sound. I have written music within a number of different genres, and no matter how different the pieces are, each can be recognized as a Kevin Dull original. This project, All Summers End, is an electronic pop EP comprised of songs written, performed, recorded, and produced by me. Having experience primarily with recording live instruments, this electronic venture has given me a chance to experience a new side of music production. My typical use of expansive vocal harmonies and counter melodies, along with the crafting of full, crisp synthesizer sounds has allowed me to create what I feel is a stimulating, complete sounding sonic experience in each of my tracks. The songs on this EP reflect themes such as love, longing, and loss to relate love's fleeting nature to the well-known feeling of urgency of the imminent end of summer.

ART17 Shasta Ford (Dr. Nathan Wolek)  
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### **Living in Color, The Man Who had No Words**

"As a filmmaker and digital artist, I am constantly looking for new ways to express my view of the world, different editing techniques, new ways of constructing a scene, or new technology. With all of these different mediums we possess an ability to present, and create a world in our vision. I have created two short films that hint towards different aspects of color and color theory: playing and contrasting warm oranges and gleeful yellows against cold blues and envious greens. They feature different stories, and revolve around completely different characters, however both pull focus on a few similar themes.

In *Living in Color*, we follow a young writer not quite sure of who she wants to be. Overwhelmed and in an artistic slump, she is not even sure how to do the one thing she knows: writing. Upon meeting a young boy, she soon releases not only an inspiration but her imagination as well. *The Man Who Had No Words* explores subtle metaphors of depression, A man not quite sure of who or where he is, looks to find some sort of meaning in the grand scheme of life, with an almost constantly blueish outlook on life, he often feels lost and unaware of time. "

ART3 Matthew Forkas (Dr. Nathan Wolek)  
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### **Romeo Actual - A New Slate**

"A New Slate" is a ten-song studio album created by Matt Forkas for his senior project. For his senior research Matt studied three of the biggest musical influences, analyzed countless tracks, and gained a better understanding of the scene's history and progression. With a much stronger insight into this world and understanding of what makes artists special he was able to create the album that he really wanted. The album consists of a blend of "deep-house" and "techno" music and what is special is that each song uses many different

elements from each of the genres. Each of the songs on the album tries to tell a story/ and establish some sort of mood. It is important for the listener to be able to get lost and to try to not to hold onto conventional listening and approaches to music. Matt wanted to relate to the music he has been listening to, but add his own spin on it all. This album represents a lot of what Matt has learned at Stetson and also his progression as a digital artist. "A New Slate" is a farewell to a great journey at college and an optimistic first step into an amazing future for the young artist.

ART9 Tara Hawkins (Dan Gunderson)  
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### **Saudade**

The modern childhood is often imagined as innocent, stable, and relatively pleasant. However, the transition from childhood to adulthood can be troubling and traumatic; it often causes one to become disillusioned with life. As adults, we find ourselves longing for our childhood existence and idealizing it in our minds, much like our child selves idealized the freedom and pleasures of adulthood. This conflicting duality is what I aim to represent in my project, *Saudade*. The primary way in which my work juxtaposes childhood and adulthood is in the visual language that it is communicated in. Representing the impulsive way in which children behave are oil paintings that are executed in a rough, gestural style that is reminiscent of children's chalk drawings. And representing the more stifling nature of adulthood are paintings that are comparatively realistic. They are executed in a manner that reflects reality in terms of form, lighting, and anatomical accuracy. But they are also purposefully stylized to make them more accessible and relatable to the viewer. In my work, the discrepancy between childhood and adulthood is also represented symbolically. Stuffed animals, tea parties, and budding plants represent the innocence and optimism of childhood; while images associated with alcohol, drugs, sex, and money signify our



struggle to cope with the harsh realities of adulthood. While my work illustrates this conflict, it does not provide a resolution for it. Children's longing to be "grown ups" and adults' longing to relive their childhood is merely a part of the human condition.

ART1 Jacob Helwig (Dr. Nathan Wolek)

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### **A 'Study on Faith'**

It is an interesting statistic that 80 percent of college students lose their faith while in school. "A Study on Faith" is a twelve-minute documentary focusing on faith life in college. College is a realm of higher thinking and transformation where incoming students' faith life is challenged. "A Study on Faith" investigates what happens to faith in college and explores the possibilities of why this statistic is so high. By looking into three different groups; students, faculty and religious leaders from all different denominations, this documentary gets a wide perspective of interpretations. Along with investigating into this phenomenon, "A Study on Faith" also dives into defining what faith means, exploring its purpose in the world today, and giving advice for incoming students coming into college. The faith transition from high school to college might be challenging, but this film hopes to educate incoming students on what to expect when they come to college, especially Stetson University. Overall, "A Study on Faith" launches an investigation to answer these great questions and aims to provide its audience with answers and advice. Are you ready to see what faith life is all about in college?

ART10 Kaleigh Jacobson (Dan Gunderson)

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### **Tainted**

My concept and style were always heavily influenced by cartoons and comics that I watched and read as a child. I vividly remember heroes such as the X-Men and Captain Planet which exposed me to important social issues,

such as environmentalism and social inequality, at a young age. The subject matter (the victory of the good) and art style (bright, enticing colors, and stylized, simplified forms) of these stories significantly influenced my art and led me to my current project, Tainted. With my art I want my viewers to become more aware of certain environmental issues and the effects that we as humans have on nature. I was inspired by concepts such as elementals and Mother Nature, so I created these nature spirit characters and anthropomorphized the elements in the hope of conveying my main message -- that our destroying of nature will eventually kill us too. Since comics were a big source of inspiration as well, I decided to tell the stories of these characters' battles through sequential art. While my paintings don't feature the subject that comics are most known for, such as superheroes, they do attempt to tell a narrative through multiple panels.

ART5 Kristina Lögdberg (Dr. Nathan Wolek)

[klogdber@stetson.edu](mailto:klogdber@stetson.edu)

### **It Is What it Is**

Recently, I have started to explore the relationship between the visual medium and the sonic medium. In order to support my exploration, I have begun to look closer at natural and ambient sounds in comparison to recorded instrumental sounds. I find natural and ambient soundscapes to be more interesting than instrumental sounds, so I plan to incorporate those soundscapes into my own films as a means of personal enjoyment and spreading awareness regarding the angelic sounds of nature and other ambient noises. For my senior project, I am creating a film that incorporates electronic music and natural soundscapes as the soundtrack, and I'm pairing the soundtrack with a nature film comprised of landscape shots. Many people may see nature the same way but don't hear nature in the same way due to their personal experiences with nature. I'm exploring the line between the abstract and the realistic with my film."

ART11 Ian McNabb (Dr. Nathan Wolek)  
[imcnabb@stetson.edu](mailto:imcnabb@stetson.edu)

### **Mundane Fantasy**

*Mundane Fantasy* looks into the lives of average folk living in a fantasy world. One thought that I often had while I read fantasy novels growing up was “Why don’t we ever see them poop?” This question arose when I noted that in literature many forms of mundane activities were present and used for various effects, such as providing a setting for character interaction, character development, insight into a character’s thoughts, plot progression, etc. However, defecation and other restroom activities were not present. It struck me as odd that in the many cross-country adventure that those heroes would partake in, restroom breaks were not included in the itinerary, considering equally mundane activities such as eating and sleeping were often included. Surely the act of wiping a bum with a leaf could have some symbolic significance to a story? The omission of such a mundane act from fantasy was in my mind equated to the Romanticism movement in the 17th and 18th centuries. I believe that this showing of these everyday acts akin to the work of Gustave Courbet and the 19th century French Realists who, unlike the Romantics, focused on everyday people, in everyday settings, doing ordinary things; a revolutionary idea in painting at the time. While not exactly an “old master” I nonetheless hope to mirror their ideas and capture similar sentiments by focusing on the average person, not the adventurers, who are often left behind and forgotten.

ART12 Leonard Novati (Dr. Nathan Wolek)  
[nleonar1@stetson.edu](mailto:nleonar1@stetson.edu)

### **Physical Modeling Synthesis: Inanga Virtual Instrument**

I grew up listening to music made by traditional instruments. It is always interesting how a handmade instrument can produce such beautiful sounds. As a final project for my Bachelor degree of Art, I am turning a very

traditional and piece of art instrument called INANGA into a Virtual Instrument(VST) allowing people to play such beautiful instrument on their computers and mobile devices. You will find Inanga in most East African countries especially Burundi and Rwanda. My main goal is to create Virtual Instruments of traditional instruments so they can be used in Electronic Music. Sounds from traditional instruments are not being used often in most music produced today . It’s mostly because most musicians and producers are into Electronic Music yet most of these instruments do not have Virtual Instruments to represent them. I hope to make it available as a Fruity Loop Studio(FL Studio) VST plug-in in the future.

ART13 Joe Palermo (Dr. Nathan Wolek)  
[jpalermo@stetson.edu](mailto:jpalermo@stetson.edu)

### **Displacement, Perfected**

*Displacement, Perfected* is an exploration into the relationship between the natural world and human society. The work is a two part project (the first half an installation, the second half being a performance) that is designed to confront the distance we as a society have injected between ourselves and the natural world. We as a society have continuously pushed nature to the edge of our “domain” with the expectation that everything will continue working perfectly, without ever thinking how absurd an ideal this is. The installation consists of a medium height palm tree with its fronds tied to several motors. A program built in MaxMsp continuously reads weather data from all fifty states and continuously simulates wind and rain from across the country. By bringing a live plant into a gallery and having it still interact with the outside weather the absurdity of our society’s ideas should become apparent. A performance will take place on the opening night of the exhibition between myself and my plant in a cross species collaboration. Using a camera read my body motions, the performance will shatter the barrier between me and the spirit and physicality of nature by mapping my body

to the physicality of the plant. Sounds collected from the inside the plant itself will serve as the source material to be performed with through our dance together. We as a species have continuously destroyed and separated ourselves from the natural world and this piece will hopefully help illustrate the connection we've lost.

ART 19 Rosemarie Santorelli (Dr. Nathan Wolek)  
[rasantor@stetson.edu](mailto:rasantor@stetson.edu)

### **Just Drive**

Just Drive ("Just Drv") is a texting and driving awareness campaign for Stetson University students. Posters in the campaign display ridiculous scenarios reminding us how cell phones, while convenient and necessary, interfere with our daily lives...sometimes more than we're willing to admit. The posters remind us to stay present in our lives and focus on the tasks in front of us, no matter how insignificant they may seem at the time. These posters are scan-able via the Layar app and showcase important texting and driving facts when scanned. The purpose of hiding these facts within the posters lends to a greater message: For every action, there is a consequence...even if you don't see it right away. These facts deliver the serious undertones of texting and driving. This campaign focuses on a simple message, delivered in a creative format that sends the message home. Just Drive! The music video serves as the campaign's motto. With thought-out lyrics aimed at reaching the audience in a fun, unique, yet informed approach, the song Just Drive pumps us up to make a change. The campaign is driven towards changing the driving habits of students at Stetson. Pledge cards signed by students give them a chance to commit themselves to be safe drivers. By leaving behind the marks of their thumbprints, students carry a new perspective and serves as a reminder to be cautious on the road. The creative content within the campaign empowers students to create this positive change from within.

*Social media, Activism*

ART7 Natasha Radovicz Schaidt (Dan Gunderson) [nschaidt@stetson.edu](mailto:nschaidt@stetson.edu)

### **My Livelihood**

I made this piece when I was getting my Associates Degree at Seminole State College. The objective was to create a piece that represents something personal. Whether it be something negative or positive. We were to create this piece mainly with clay, in turn becoming a ceramic piece. At first, it was a struggle. I tried my best to come up with something that was a positive representation of where I stand and what is most important to me. Being an artist, who mainly paints on canvas, I ended up coming up with this sculpture "My Livelihood." This piece represents a heart with its main arteries coming out with paintbrushes. The heart is a way for me to convey the message of how important Art is to me. It is a part of me, my soul, my being, my essence. The paintbrushes represent the importance of paintbrushes as tools. As cliché as it may sound, painting and art saved my life. It gave me direction. And fortunately enough, as an artist, I have received positive feedback and have this overwhelming feeling that I have found my place.

ART8 Robert Spellman (Dr. Nathan Wolek)  
[rpsellm@stetson.edu](mailto:rpsellm@stetson.edu)

### **Analyzing the Evil in A Clockwork Orange and its reflective view on mankind's moral codes**

The medium of evil presented in a Clockwork Orange is one that encapsulates a series of different themes through the usage of different images; which symbolically target both the subconscious and unconscious nature of the human mind; themes that can lead towards an analysis of the unintended rhetoric of the film. Utilizing Theories of Identification within film I identify an evil that latches on to the concept of reflective morality, and what it actually means to be evil according to the films underlying rhetoric.

ART6 Amanda Thomas (Dr. Nathan Wolek)  
[akthomas@stetson.edu](mailto:akthomas@stetson.edu)

### **The Peep Show**

Welcome to the Peep Show, except you will not find scantily clad women shaking in tiny sequin outfits on a dimly lit stage here. Welcome to a new face for feminism. The Peep Show opens the door to the idea that being a feminist is not limited to any one gender or type of person. A feminist does not have to look like a stiff, rigid, tight-laced woman. The main goal of The Peep Show is to empower individuals to wear the badge of feminism with pride. Through interactive digital media, viewers are exposed to different and unexpected flavors of feminism. Every individual is able to create his or her unique brand. Throw out the stigmas society has bestowed on this word and open your mind to the potential that it holds. Through augmented reality, this project demonstrates that individuals who identify with feminism do not fit one mold. Through the act of scanning the augmented reality enabled posters, viewers have to look past the over sexualized depiction of women to see their strength and potential within society. By incorporating interactive media and presenting ideas in a new way The Peep Show seeks to both surprise and change the mindset of viewers.

ART16 Jasmine Troche (Dr. Nathan Wolek)  
[jtroche@stetson.edu](mailto:jtroche@stetson.edu)

### **The Spirit of the Peony**

The way I went about crafting my senior project wasn't abstract, artistic or complicated. Instead, it was very selfish. I wanted to make something that I would watch and enjoy. A light-hearted story that wasn't driven by dialogue. As a result, my senior project is an eight-minute animated storybook adaption of the Japanese tale "The Princess Peony". The video is accompanied by an almost 50-page book that showcases all that went into the making of my project, original art and creative writing. I've always been fascinated learning about every detail that went

into the making of an animated film, so why not include that with my project? I will present snippets of my project during showcase week.

ART18 Michael Wood (Dr. Nathan Wolek)  
[mwood@stetson.edu](mailto:mwood@stetson.edu)

### **Scarce Supply**

Water scarcity is a current issue that many people consider to be a small and ignorable problem, especially in a place where clean water is very easy to get. Even with access to clean water, it is still very common to have droughts and other water shortages. The primary focus of this work is to educate the viewers on the importance of water consumption and how common water problems are, even in our own lives. This is not a problem that we can continue to ignore! The artist hopes to effectively educate on this topic by combining two mediums to more powerfully convey the message. The first part of the piece is the water installation that depicts a bucket losing water at a faster and faster rate, with water being recycled back into the project. The water will pour out faster and faster until a viewer interacts with the piece by visiting an informative website about how prevalent water scarcity is. When visiting the website, the viewer will be interacting with the installation by controlling the water loss in the piece. The viewer can also sign a roster to say that they have contributed to the art piece and they will receive a small guide to how they can help conserve water in their everyday life. Everyone who signs the roster will be displayed on a separate page that people can view later. This allows people to feel like they have contributed to not only the cause but the art piece in general.

## MUSIC

**M6 Rebeca Baquerizo (Dr. Routa Kroumovitch)** [rbaqueri@stetson.edu](mailto:rbaqueri@stetson.edu)

### Violin

Sonata No. 2 in A minor BWV 1003  
Johann Sebastian Bach (1685-1750)

### III. Andante

Sonata No. 3 in C minor, Op. 45  
Edvard Grieg (1843-1907)

### III. Allegro Animato

Jeremy Vigil, piano  
Concerto in D minor, Op. 47  
Jean Sibelius (1865-1957)

### I. Allegro Moderato

Edit Palmer, piano

**M8 Ellen Broetzmann (Dr. Lloyd Linney)**  
[ebroetzm@stetson.edu](mailto:ebroetzm@stetson.edu)

### Soprano

Kristie Born, piano  
"The Soldier Tired," Thomas Arne (1710 – 1788)

"Der Hirt auf dem Felsen," Franz Schubert (1797 – 1828)

featuring Victoria Buffkin, clarinet

"Air Chantes" by Francis Poulenc (1899 – 1963)

Air Romantique

Air Champêtre

Air Grave

Air Vif

"Caro Nome," *Rigoletto*, Giuseppe Verdi (1813 – 1901)

**M2 Victoria Buffkin (Dr. Lynn Musco)**  
[vbuffkin@stetson.edu](mailto:vbuffkin@stetson.edu)

### Clarinet

*Sonatine pour Clarinette en la & Piano*  
Arthur Honegger

(1892-1955)

### I. Modéré

### II. Lent et soutenu

### III. Vif et rythmique

*Three Studies on Flight*

Russell Riepe

(b. 1945)

### I. Your laughter frees me and gives me wings

### II. I wandered lonely as a cloud

### III. Wild Spirit...moving everywhere

*Première Rhapsodie*

Claude Debussy (1862-1918)

**M4 Meghan Dempster (Dr. Jean West)**

[mdempste@stetson.edu](mailto:mdempste@stetson.edu)

### Flute

Fantasie für Querflöte ohne Bass, e-Moll  
TWV 40:9

Largo

Georg Philipp Telemann (1681-1767)

Spirituoso

Allegro

Sonatine pour Flûte et Guitare

Erik Marchelie (b. 1957)

II.

I.

accompanied by Leonardo

Quintero, guitar

Sonatine pour Flûte et Piano

Henri Dutilleux (1916-2013)

accompanied by Jeremy Vigil,

piano

**M3 Ian Morin (Dr. Ashley Heintzen)**

[imorin@stetson.edu](mailto:imorin@stetson.edu)

### Bassoon

Cello Suite No. 2

Johann Sebastian Bach (1685-1750)

Prelude

Courante

Gigue

Sonata in G Major, Op. 168

Camille Saint-Saens (1835-1921)

Allegro Moderato

Allegro Scherzando (Kristie Born,

Piano)

Konzertstück  
Franz Berwald (1796-1868)  
(Kristie Born, Piano)

**M5 Stephanie Rasch-Chaves (Dr. David Schmidt)** [sraschch@stetson.edu](mailto:sraschch@stetson.edu)

**Trombone**

Danse Sacrae – Henri Tomasi (1901-1971)  
A la maniere de Stravinsky – Jean Michel Defaye (b. 1932)  
Aria for Adina – Richard Lane (1933-2004)  
Concertino for Trombone – Lars-Erik Larsson (1908-1986)

- I. Preludium
- II. Aria
- III. Finale: Allegro Giocoso

**M1 Chris Schiefelbein Dr. Stephen Robinson** [cschiefe@stetson.edu](mailto:cschiefe@stetson.edu)  
**Guitar**

Tango.....  
.....Francisco Tárrega (1852-1909)  
Cello Suite No. 1, BWV  
1007.....Johann Sebastian  
Bach (1685-1750)  
I. Prelude  
II. Allemande  
Scherzo and Trio,  
D.593.....Franz  
Schubert (1799-1828)  
L.B.  
Story.....  
.....Roland Dyens (b. 1955)  
20 Lettres pour guitar  
solo.....Rolan  
d Dyens (b. 1955)  
II. Lettre à la Seine  
III. Lettre Noire  
XVII. Lettre encore

**M7 Griffin Weber (Tom Macklin)**  
[gweber@stetson.edu](mailto:gweber@stetson.edu)

**Trumpet**

“Let the Bright Seraphim”  
George Fredrick Handel (1685-1759)

“Eternal Source of Light Divine”  
Ellen Broetzmann, Soprano  
Jeremy Vigil, Organ

“Air for Erin”  
Phil Snedecor (b. 1963)  
Jeremy Vigil, Organ

“Concerto for Trumpet and Orchestra”  
Alexandra N. Pakhmutova (b. 1929)  
Jeremy Vigil, Piano

**HONORS TUTORIALS**

H1 Melissa Abramson (Dr. Aaron Distler) **ASL & Deaf Culture**

[Mabrams@stetson.edu](mailto:Mabrams@stetson.edu)

Since this Honors course is on Deaf Culture and ASL there was a heavy emphasis on Deaf culture along with learning some ASL ourselves. That being said, for the first five minutes I will show a video we looked at of a Deaf poem that when translated and explained is symbolic of the history and difficulty of being Deaf in school systems and the emotions and experiences associated with that. This is a great way to mention some of the history of the experience of deaf student's education in schools. For the next five minutes I will segue into a discussion teaching on the basic sentence structure of ASL as well as tackle some of the most common myths when it comes to Deaf culture and the use of ASL. Finally, I'll lead the audience in a quick activity/game that trains and engages hand eye coordination for helping follow along with a deaf person who is signing.

H4 Brianne Boldrin, Sompi Harmetz, Kendal Diehl, Abigail Moore, Aryn Lazarus, Victoria Marsh (Dr. Hari Pulapaka) **The Art of Eating: Sustainable, Affordable and Nutritious Meals**  
[bboldrin@stetson.edu](mailto:bboldrin@stetson.edu)

The Art of Eating: Sustainable, Affordable and Nutritious Meals is a class designed and taught by second year Honors students. For our final project we will be giving a presentation

informing students about our findings from a semester long curriculum that included classes on sustainable foods, nutritional labeling, food additives, eating wisely at restaurants, and shopping locally while on a budget. For our midterm project, we gave Stetson students a sample of four different foods: two healthy and two unhealthy. We videotaped the student's reactions after trying each of these dishes and asked them about their eating and shopping habits. During this presentation we will show video of our experiment along with additional facts and findings. This class was built upon the desire to show students that they can cook healthy, affordable, sustainable meals as college students. We will provide food samples of several easy to cook dishes to all in attendance.

H3 Ted Mitchell, Joe Beery, Laura Davis, Tracy Cleary, Vivian Motta, Tyler Sims, Natalie Applebaum, Lynn Walsh, Paxton Reil, Jacob Martin, and Paul Petrowski (Dr. John Rasp) **Bug House Chess**  
[tmitchel@stetson.edu](mailto:tmitchel@stetson.edu)

Bug house is a 4 player team play chess variant where two games are played side by side until one game experiences check mate. In presenting this chess variant we will include a demonstration game followed by audience participation a few further games and a discussion of what could be learned from bug house.

H2 Justin Quigley, Christine Chase, Gary Rouse, Mariana Prado, Kyle Edgar, Cory Zirkel, Stella Parris, Caleb Cheatham (Dr. Camille King) **Cannabis Culture**  
[jqigley@stetson.edu](mailto:jquigley@stetson.edu)

As members of the Honor's Program at Stetson, we had the unique opportunity to design our own class for the Spring 2015 semester. We took this opportunity to research the controversial issue of cannabis use, a subject that we would not otherwise have had the chance to study in depth in an academic

fashion. Each student selected and researched a topic of special interest, prepared a presentation, and served as the discussion leader for a class session. The topics included international and national politics (e.g., legalization, decriminalization), the business of marijuana, its pharmacology, medical marijuana, its cultural history, and the war on drugs. Both the pros and cons of these issues have been deliberated such that we are better positioned to make our own informed opinions, based on research and facts, on cannabis use. . A highlight of the course has been the special invited guest speakers who have shared with us their expertise or personal stories related to one of the topics explored. We aim to show how this tutorial increased our knowledge of cannabis and contributed to our Honors and Stetson educational experience, and to share some of the knowledge we have gained with our peers.

## ORAL

C6 Manny Alamo (Dr. Philip Lucas)  
[malamo@stetson.edu](mailto:malamo@stetson.edu)  
**Spiritual but not Religious”: People and the Continued Saliency of Traditional Religious Symbols**

For decades, the religious environment in the United States has shifted dramatically as institutions such as church and family have changed in structure. Many Americans today are turning away from traditional doctrines in institutionalized religion and identifying as “spiritual but not religious.” This subgroup of young and old Americans has typically moved beyond traditional confessional doctrines such as the Trinity, heaven and the Vicarious Atonement. At the same time, they have embraced new interpretations of traditional religious symbols. They use these traditional symbols to enhance their own spiritual growth, finding a sense of security, beauty, and meaning in them as they explore a wider range of

spiritual options. This paper explores how “spiritual but not religious” people use these symbols in their personal lives.

E1 Aykhan Alibayli Dr. Kirsten Work)  
[Aalibayl@stetson.edu](mailto:Aalibayl@stetson.edu)

**Differential predation on melanic and silver *Poeciliidae* fish by large-mouth bass (*Micropterus salmoides*) in clear and stained water**

Fresh water fish exhibit color polymorphisms, for example males of the Eastern mosquitofish (*Gambusia holbrooki*) occur as a rare melanic or a common silver phenotype. Studies that analyzed the role of sexual selection in the persistence of the melanic phenotype in Poeciliid males are contradictory; thus I hypothesize that natural selection in the form of differential predation is the main driving force of the persistence of color morphs in Poeciliid fish. This study aims to discover whether there is a significant correlation between water clarity and differential predation on the two morphs of the Poeciliid fish, sailfin molly (*Poecilia latipinna*). I expect that in the presence of a predatory fish, the melanic males are at a selective disadvantage in clear water and at a selective advantage in stained water in comparison to the silver males. This hypothesis was tested in two twenty gallon arena tanks: one with clear and one with stained water. The largemouth bass (*Micropterus salmoides*), common in Florida water bodies, was used as a predatory fish. Statistical analysis of the results showed no significant association between water clarity and the rate of predation on the two types of morph fish.

F2 Maranda Altilio and Breanna Howell (Dr. Michele Skelton) [maltilio@stetson.edu](mailto:maltilio@stetson.edu)  
**The Effectiveness of Therapeutic Application of Kinesio Tape (KT) on the Performance of Competitive Athletes**

Competitive runners often experience pain, inflammation, and feel a lack of support in their lower body while running. Kinesio Tape (KT) is

used by runners to help diminish these complications and improve performance. While its use has increased in popularity in recent years, there is limited research on the use of KT in runners. An online survey was distributed to competitive runners (those who run more than 3 races a year) to determine the effectiveness of therapeutic application of Kinesio Tape. Participants were asked to report on their use of KT and the perceived effect of KT on changes in symptoms (inflammation, pain, and support) and performance. Preliminary results indicate a decrease in reported race time with the therapeutic application of KT.

E3 Jessica Anderson (Dr. Cynthia Bennington)  
[jmanders@stetson.edu](mailto:jmanders@stetson.edu)

**The effects of *Passiflora incarnata* floral compounds on the walk/run speed of carpenter ants (*Camponotus floridanus*)**

*Passiflora incarnata* (Passionflower) is in a mutualistic relationship with *Camponotus floridanus* (Carpenter ant), where the plant provides the ants with nectar in exchange for protection against some herbivores. These ants prey on potential herbivores, but can also be nectar thieves or florivores, so many plants in a mutualistic relationship with ants have extrafloral nectaries outside of the floral region. Previous research has shown that ants of many species, including *Camponotus floridanus*, are repelled by the presence of floral parts, presumably because of a mix of volatile substances. This study exams whether those volatiles and/or compounds that would be consumed during florivory, affect the behavior of carpenter ants. The results, analyzed using paired T-tests to determine whether walking speed is affected by floral compounds, showed significant differences between walking speeds, supporting the proposed hypothesis.



D1 Jasmine Banegas (Dr. Christopher Ferguson)  
[jbanegas@stetson.edu](mailto:jbanegas@stetson.edu)

### **The Influence of Facebook Usage on Interpersonal Functioning and Relationships**

Facebook is a potentially significant resource for individuals with low self-esteem and other interpersonal conflicts to connect with others. However, recent studies indicate that those who are in most need of social benefits from Facebook may hinder their chances of benefitting interpersonally as a result of using ineffective online communication strategies. The present study will investigate whether reassurance seeking via Facebook negatively influences self-esteem and if change in self-esteem mediates the relationship between thwarted belonging, perceived burdensomeness, and social anxiety. Participants will be asked to take an online pre- and post-survey using Amazon's Mechanical Turk approximately 2 weeks apart. Multiple linear regressions will be used to evaluate the relationships between key variables, while controlling for relevant demographics.

E9 Gregory Barroso, Jr. (Dr. Richard Medlin)  
[gbarroso@stetson.edu](mailto:gbarroso@stetson.edu)

### **"How Do You Hear Best?" Individual Perception of Auditory Environments**

Everyday auditory environments are complex and unpredictable, with countless qualities that are out of our control. Research on everyday hearing often focuses on abilities such as sound localization, and uses techniques like systematically varying specific aspects of sound while participants simply listen. The purpose of this study was to use a free-field experimental design, in which participants were asked to move speakers around a marked circle to represent their perception of how they would hear the best. Student volunteers were told they would be hearing sound or music, and were given one, two, and four speakers in succession to place around the circle. Placement positions were noted, and participants were asked why they chose the

positions they did. Clarity of auditory imagery (the ability to imagine different kinds of sounds) and other variables such as prior musical training were also measured. The results showed that expectations of hearing sound or music and clarity of auditory imagery did not affect speaker placement. People tended to place one speaker directly in front, two speakers symmetrically in front, and four speakers symmetrically both in front and in back of themselves.

F1 Rebecca Beaudet (Dr. Missy Gibbs)  
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### **Effects of anti-nausea drugs (Ondansetron and Metoclopramide) on the Embryonic Development of Axolotls, *Ambystoma mexicanum***

Nausea and vomiting are common during pregnancy and are treated with drugs such as Ondansetron (Zofran) and Metoclopramide (Reglan); although little is known about these drugs having adverse fetal outcomes. I hypothesized that as the concentrations of Ondansetron or Metoclopramide increased, there would be an increase in malformed axolotls. Two trials were conducted, the first with drug concentrations ranging from 10ug/mL to 50ug/mL, and the second ranging from 30 ug/mL to 70ug/mL. Axolotls were exposed to each concentration for 24 hours, and then reared in embryo water. Axolotls hatched at two weeks and were sacrificed with MS-222 and preserved in formalin. Experimental and control axolotls were measured for body length, head depth, head width, eye distance, and gill length. A linear regression analysis was performed and found that axolotls have significantly shorter heads in both Ondansetron and Metoclopramide, but no significant differences in any of the other measurements. As concentrations of Metoclopramide increased, there was an increase in the loss of one or both eyes. The question of whether the shorter heads was due to a malfunction in their Hox genes, developmental body patterning, or brain development still remains.

B3 Carmen Bernecker (Dr. T. Wayne Bailey and Dr. Anna Eire) [cberneck@stetson.edu](mailto:cberneck@stetson.edu)

### **How International Law, Institutionalization, and Inertia Perpetuate a System of Human Rights Violations – The Case of Detention Centers for Foreigners in Spain**

Detention Centers for Foreigners are institutions with the purpose of detaining undocumented immigrants during the administrative process of their expulsion. In the last 15 years, non-governmental organizations have strongly criticized these institutions in Spain for a variety of violations of Human Rights. The question that I investigate is why the process of incorporating these human rights concerns has been so difficult and slow. My research suggests, that there are three main reasons for this. One problem is the weak enforcement of international and human rights law. In addition to this, Spain seems to follow a global trend of institutionalizing stricter immigration policies at the expense of the immigrant. And lastly, the Spanish government and bureaucracy seem to have a very passive approach to dealing with this problem. Since detention centers are a rising phenomenon all over the world, including the United States, my case study gives insight into some of the current obstacles in dealing with Human Rights issues related to irregular immigration in a globalizing world.

D14 Jacob Billups (Dr. Michael King)

[jbillups@stetson.edu](mailto:jbillups@stetson.edu)

### **Reduction of Stress During Musical Performance**

This experiment investigated musicians playing in both concert and rehearsal settings; attempting to map their physiological stress response to the activity. Cortisol is commonly known as the stress hormone and was used as a diagnostic marker of stress for this study. Previous work on musicians has focused on performance anxiety, solely focusing on the stressor of an audience and not the act of

playing itself. Twelve healthy individuals within the Stetson School of Music were studied during Stetsons annual Christmas Candlelight performances. To quantify the stress response, the participant's salivary cortisol levels were measured in both a night rehearsal and concert setting. It was expected to find a significant decrease in cortisol concentration while rehearsing, and an increase while performing a concert. After analysis of salivary samples taken from participants; it was found that cortisol concentrations significantly decreased in both rehearsal and concert trials. There was also no significant difference in the amount that the cortisol concentration dropped between trials. The hypothesis was incorrect however the results imply that playing music has a physiologically relaxing effect despite other concert stressors such as audience presence.

C11 Cameron Black (Dr. Eric Kurlander)

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### **Class vs Politics: Political Apathy in the German Bourgeoisie**

I will be discussing the origins of the First World War; this topic has a wealth of scholarly research. One of the original thesis was the Sonderweg: essentially, Germany took a special path towards development, one that concentrated power into old elites into a top down approach that drove Germany towards war. Additionally, revisionism has shed light into this study; according to revisionists, the German middle class was not an archaic middle class; it was lively, and powerful, both socially and politically. However, neither of these cases truly fit: Germany was not led to war a reactionary Junker class; they were not hoodwinked into war, fitting the Sonderweg thesis. The German bourgeoisie additionally did not provide a political challenge towards the executive branch as the revisionists would claim. The German bourgeoisie fit an interesting paradox: they were socially powerful, but politically indifferent; this political apathy occurred because of the major social and economic stratification throughout the bourgeoisie.

Therefore, the political indifference represents a revised Sonderweg theory: one in which the German bourgeois was so overly concerned with their social standing that it disillusioned them from politics, preventing them from blocking the path towards war.

B10 Emily Block (Dr. Tara Schuwerk)  
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### **School Lunch at SunnySide: The Communicative Practices Regarding Food and Nutrition at a Public Elementary School**

This qualitative analysis, examines the communication and perception concerning the school lunch program at a local elementary school, seeking to better understand recent controversy surrounding these programs, and to answer the questions: “What are the communicative practices regarding food and nutrition at school?”; and “What perspectives do administrators, faculty, and staff have about food and nutrition communication on their campus?” Data was collected through interviews, observations, and document analysis. Throughout my research, I discovered that the majority of communication is heavily influenced by federal policy. My research can be used to inform school systems and the general public about the effects that federal lunch policies have on individual public schools and their districts. In turn, it could also serve as a starting point for schools to create positive change to their lunch programs.

B9 Mallory Brooks (Dr. J. Abbott)  
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**Creating Environmentally Conscious Children Through Curriculum: Examining Federal and Florida State Environmental Education Curriculum Standards**

This research project will examine the impact of the curriculum standards set by the United States Department of Education through the National Science Education Standards on the subject of environmental education. The environmental themes most associated with

human impact will be of most importance when examining the curriculum guidelines through the United States Department of Education and the National Science Education Standards. The resulting Florida state curriculum will be investigated using the standards set through 2008 Science Next Generation Sunshine State Standards. The national to state curriculum guidelines and standards will be assessed and rated on scales of effectiveness and implementation through a series of point based measures determining the relationship to each other. The environmental education guidelines most associated with human impact within the curriculum will be the central topic when addressing curriculum standards set by both the federal and state levels. The system used to assess the relationship of the federal and state curriculum will clearly define the relationship between these levels of curriculum guidelines.

F10 Melanie Cain (Dr. Alicia Slater)  
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### **Identification and removal of mutational hotspots provides new insights into killer whale phylogeny**

Killer whales are distributed globally and travel vast distances across large geographical ranges. Killer whales are reproductively, not geographically isolated. Killer whale foraging preference defines distinct and separate social structures, which drives the lack of genetic differentiation conveyed by analysis of mitochondrial DNA. Low genetic diversity in cetaceans is difficult to explain given that marine ecosystems are highly connective for mobile species such as *Orcinus orca*. Past phylogenetic research conveys some low posterior values for nodal support between Atlantic and east North Pacific ecotypes. Confounding variables include possible migration and rare dispersal events. This study analyzed 141 killer whale control region alignments representing the entire global range to assemble a more comprehensive phylogeny to provide better nodal support within branches that previously were low. Mutational hotspots

were considered, identified by fitting a Poisson distribution, and removed from final analysis. Reduction of unique haplotypes within a new phylogenetic tree was assembled, which conveyed new nodal values. This study utilized three samples not previously analyzed. Unexplained connectivity is noted between tropical and polar ecotypes as well as with Atlantic and Pacific ecotypes. The results infer incomplete lineage sorting among the possible confounding variables of killer whale phylogeny.

E7 Miranda Camp et al\* (Dr. Alicia Slater)  
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### **Caribbean Spiny Lobster (*Panulirus argus*) Dispersion Dynamics in the Sargasso Sea**

Larval dispersion via ocean currents connects benthic adult populations of Caribbean spiny lobster, *Panulirus argus*, throughout the Caribbean Sea. We propose the potential for connectivity between populations in the Caribbean and Bermuda via the Sargasso Sea. Sequences of the hypervariable domain of the control region of the mitochondrial DNA (HV-CRd1) for 6 Bermudian adult samples were compared to two existing data sets of adult samples (Diniz et al., 2005; Naro-Maciel et al., 2011). There was no indication of an isolated population, but rather a mixture of individuals from several different lineages and locations. Additionally, we carried out twice-daily net tows at both surface and subsurface depths to collect *P. argus* larvae along the Sea Education Association C-252 cruise track. We compared HV-CRd1 of 4 larval individuals to existing genetic sequences from adult populations to pinpoint an origin, and calculated the amount of time an individual would need to reach their collection location based on current speed and direction. In each case, the calculated travel time exceeded the entire length of estimated pelagic larval development time, meaning that our crude calculations suggested that larvae were experiencing longer travel times and distances than existing data for larval development duration. This is in support of the

delayed development theory (Phillips and McWilliams, 1986).

- Research conducted through and sponsored by Sea Education Association, Woods Hole, MA

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### **Queen B: A Rhetorical Critique on Beyonce and Feminism**

This rhetorical study was designed to look at what functions metaphors and clusters serve the culture at larger when looking at public discourses surrounding two events; Beyoncé's featured interview in UK Vogue, where she shared for the first time her thoughts and beliefs on feminism, and bell hooks comment about Beyoncé being a terrorist when referencing her recent photograph on TIMEs cover as one of the 100 most influential people. Both of the events occurred a year apart from each other, UK Vogue was released in in May 2013 while the TIME's cover was released the following year in 2014. In order to thoroughly analyze the artifacts collected Osborn's Metaphoric Criticism Theory was used. Many public discourses surrounding Beyoncé and feminism often discuss metaphors of Beyoncé as Queen Bee or Mama Bee and challenge her statement claiming that she is 'modern day' feminist. Along with using Metaphoric Criticism while looking at the public discourses the theme of double bind surfaced, where in all the artifacts collected the authors each had different ideas on why Beyoncé was or was not considered to be a feminist.

B14 Alex Chalhub (Dr. Ranjini Thaver)  
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### **A Cointegration Analysis of the New York Stock Exchange and the American Economy**

This motivation of this research study is to investigate how well the New York Stock Exchange (NYSE) indicates the United States gross domestic product (GDP) from 1970-Q1 to

2014-Q4. Even though GDP in the main variable, other independent variables in the model includes inflation, interest rates, oil prices, foreign direct investment, and money supply, according to the literature review. The dummy variables to the model include the most recent market crash in 2008, and the party holding the presidential office and the majority in the House of Representatives. The study employs the bound testing approach to co-integration analysis and the Error Correction Model developed by Pesaran, Shin and Smith (2001).

E6 Zachary Cole (Dr. J. Abbott)  
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### **Studying the Effectiveness of Cover boards; Native Dominant Woods in Comparison to Plywood**

I examined the effectiveness of cover boards in biological surveys. I tested the effects of cover boards crafted from native dominant woods over three different ecosystems in Longleaf Preserve. I used treated plywood as a constant in comparison to the native dominant wood of each ecosystem. I examined Bayhead Woods, Flatwoods and Scrub habitats. The Bayhead and Flatwood habitats are dominated by the *Pinus* trees so I used cover boards made of *Pinus* trees. While the Scrub area is dominated by the *Quercus* tree so in this area I used *Quercus* cover boards. I had a total of 30 cover boards, with each ecosystem containing 10 cover boards half of which will be the native dominant wood cover boards and the other half plywood cover boards. These cover boards were in groups of 5 and were distanced at 40 meters from one another to avoid overlap of the zone examined. I focusing on the Herpetofauna of the area for calculating my results found. However my data ended up being based upon invertebrates. I had also placed the cover boards in isolated patch areas so that I do not encounter overlap between my study sites. My findings were that there was no statistically significant effect of habitat on the mean species diversity, species richness or species evenness among the three habitat types. However there

were statistically significant values in species diversity and species richness among the two types of wood, but not species evenness. Therefore my data demonstrates there is a much higher chance of encountering an organism by using natural and untreated wood, in comparison to using treated woods.

C2 Katelynn Coleman (Dr. Carol Corcoran)  
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### **Redefining Cooperative Learning**

Cooperative learning requires more than just placing students into groups and giving them a task to complete. In order to implement cooperative learning effectively you must first aid students in the establishment of positive interdependence. This interdependence creates a desire to not only work with each other, but for the other team members to succeed. Furthermore, specific social skills may need to be taught. This project describes a semester long internship in a fourth grade classroom that utilized cooperative learning strategies. Findings suggest that if implemented correctly students can benefit from cooperative settings in which they get to work with and learn from their peers.

B12 Patrick Cone (Dr. Eric Kurlander):  
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### **Nothing to Fear but Fear Itself: Franklin D. Roosevelt and the Theory of Political Religion**

Can the theory of political religion be applied beyond merely a totalitarian or fascist state to a democratic state? This study looks at Adolf Hitler and Franklin D. Roosevelt during their times in leadership to find out if the theory of political religion not only relates to Hitler and Nazi Germany, but also to FDR and the U.S. from 1934 to 1945. This study provides a brief background to the theory of political religion, reviews the historiography on Roosevelt's presidency, creates a concrete definition and application of political religion with five defining components, and then delves into Roosevelt's time in office to see if political religion can apply

to his leadership in view of the five components of political religion. The preliminary hypothesis of this research follows that Roosevelt's success in the United States can, as with Adolf Hitler in Germany, be explained by the theory of political religion.

C14 Andrew Coniglio (Dr. Eugene Huskey)  
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### **Justice and The Godfather: Political Philosophy in Popular Fiction**

I am obsessed with justice. Questions about justice are everywhere. They encompass every issue that gets debated in government, and are at the heart of every argument between siblings. However, we often take justice for granted, and think we understand it intuitively, that even if we are unable to easily define it, in the words of Potter Stewart we "know it when we see it." Traditionally, one would acquire knowledge about justice by reading philosophical texts, but I am interested in finding out what one can learn about the philosophy of justice from contemporary popular fiction. This paper explores questions of justice by analyzing Mario Puzo's *The Godfather*. Popular fiction, like all forms of art, holds up a mirror to society and allows us to see its faults clearer. I believe *The Godfather* offers thought-provoking insights into the philosophy of justice that challenge our preconceived notions of what we think is the right thing to do.

D7 Kerstin Cook (Dr. William Nylan)  
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### **Hashtag Activism in #Ferguson: Analyzing the Influence of Social Media on Protest Movements, a Case Study of Ferguson, Missouri**

My research observes the use of social media as a tool for protest movements, specifically in Ferguson, Missouri. Today's scholars debate whether social media has an active or passive effect on protest movements: activism or 'slacktivism.' In spite of this division, both sides regard certain properties of social media as

supportive of their arguments. Consequently, I propose that a grey dimension exists apart from both activism and slacktivism. This ability to express support and reshare information through social media shall be termed 'practivism,' as in practical activism. This study focuses on the research question: Does social media produce an active or passive effect on protest movements? I hypothesize that social media does produce an active effect on protest movements because the combined efforts of activism and practivism outweigh the absence of action proposed by slacktivism. This study analyzes the use of the hashtag, #Ferguson, from August 9 – December 5, 2014 using the social media analytics tool, Topsy, to evaluate the purpose of the content as either activist, practivist, or slacktivist. In conclusion, compared to the standard debate of activism versus slacktivism, practivism alone produces an observable form of consciousness raising and engagement with the protest movement.

D8 Kathryn Curvino (Dr. Tara Schuwerk)  
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### **If Facebook Content Could Talk: Self-Perceptions of Online Communication**

This research explores the perceptions of college Seniors at a small university in the South in relation to their content on the social media site Facebook. This research project used a qualitative approach to better understand how college Seniors perceive their social media use on Facebook as they prepare to leave college. I interviewed six Seniors who are actively seeking and/or applying to jobs to hear how they self-identify through their Facebook usage as well as to learn about their knowledge and feelings regarding potential employers accessing their personal profiles. Using a modified grounded theory approach in conjunction with the ideas of Erving Goffman, I have analyzed my data through open coding and axial coding. The goal of this project is to further explore and provide new insight to the field of Communication on how Facebook content communicates the perceptions of graduating college Seniors and

the relationship between self-identified user roles, level of consciousness, and stereotypes.

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### **From Theatre to Film**

Dark to Light is a film project that I chose to direct to explore design methods of theatre in a different media. In my study here at Stetson I have found that theatre is an art that integrates different technical aspects that is found in many forms of entertainment and for my research I incorporated these familiar design aspects into my film. For this project, I wrote, directed, and edited this film with the help of my assistant director and co-editor Elyessa Rivera. In this presentation I will be discussing the concept of my screenplay and describing my experiences to the execution of that concept by explaining my design methods and providing a clip from my film and the trailer. My experiences I will share include the development of the script, working with actors not familiar with acting on film, and editing the footage, which by the end of the presentation will conclude a connection and differences between theatre and film based on my experience.

C1A John Dieck (Dr. Eric Kurlander)  
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### **Assimilation, Association, or Heterotopia? French Colonialism and Urban Planning in Algeria and Morocco, 1830-1914**

The theories of assimilation and association have been of the major way to view France's North African colonies. The traditional narrative goes as such: France invaded Algeria in 1830 and began the process of assimilating its Algerian natives. By 1912, however, the French colonial administration realized that assimilating an entire colony was too grand a venture. Instead, France would rule together-but-apart through the policy of association. This work will challenge that traditional narrative by using the urban environment as its litmus test. By examining early Algiers and early

Casablanca's urban environment, we can see evidence of assimilation and association working in tandem. I will do this by examining the cities of Algiers and Casablanca's urban development. In both cities at different times, assimilation and association are present. Finally, this paper will offer an alternative view to both theories—the idea of a heterotopia.

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### **Using Sculpture to Educate Boaters and Create Awareness about Manatee Protection**

Ecological art, or Eco-art, is created to advocate and inspire awareness of environmental issues while connecting the viewer to the natural world around them. A quarter of manatee fatalities in Florida are the result of collisions with boats. Boater education and manatee protection programs promote awareness while encouraging boaters to practice safe boating techniques reducing manatee mortality rates. My study involved creating an ecological art sculpture designed to promote boater awareness and encourage participation in safe boating techniques helping to protect Florida's endangered manatees. The sculpture, a full-sized manatee wearing a life jacket, was displayed at the Titusville Municipal Marina in Titusville, Florida, and Sunrise Marina in Cape Canaveral, Florida, next to an informational poster about safe boating techniques. This study used an anonymous survey of boaters taken after they viewed the manatee sculpture. Results of the study determined the majority of boaters felt they were more likely to follow the speed limit signs and practice safe boating techniques after viewing the sculpture.

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### **The Integration of Stetson Athletics**

Stetson University become the first private University in Florida to integrate when it admitted Cornelius "Neil" Hunter in 1962.

However, Stetson did not see its first black athlete until three years later in 1964 when it admitted 15 black students, including Jimmie Johnson, who became a baseball star and the first black athlete at Stetson University. The basketball team was the next athletic program to integrate at Stetson with the signing of Ken Showers in 1967 and Ron Beal and Stetson-great Earnest "Big E" Killum in 1968. My research focuses upon the integration of Stetson's baseball and basketball programs. The primary sources of this research include a quantitative interview with Jim Johnson as well as documents from Stetson's archives and the archives of the West Volusia Historical Society.

E4 Erica Eddy (Dr. Dwayne Cochrane)  
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#### **Birth Order and its Effects on Perceived Narcissistic Personality Traits**

The word narcissism is referred to as "a tendency for the sexual emotions to be lost and almost entirely absorbed in self admiration" (Ellis, 1898). This study examines the effects of birth order and its correlation to the social perception of one's narcissistic personality traits among young adults in a variety of birth order positions, ages 18-24. Undergraduate students at the Stetson University campus, who volunteered, as participants are asked a series of different demographic questions, randomly assigned descriptions of people to read and reflect upon, and asked to complete the Narcissistic Personality Inventory- 40 by Raskin and Hall (1988). There are four different descriptions that will be randomly paired to each participant. These descriptions will vary in gender and birth order to study these effects through many different possible scenarios. After reading the description each participant will be asked to complete the NPI as if they were the person in the description. This study is presented to examine the effects of NPI scores based on the measures of how birth order effects the perception of a persons level of narcissistic personality traits.

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#### **Increases in the Number of Fos-immunoreactive Neurons in the Gustatory Cortex Following Lateral Hypothalamic Stimulation Correlate to Behavioral Responses to Intra-Oral Infusion of Taste Stimuli in Conscious Rats**

The connection between the lateral hypothalamus (LH) and the gustatory cortex (GC) is well documented; however, it is unclear how this connection influences behavioral responses to taste input or neural activity in the GC. In the Riley and King (2013) study, the LH in conscious rats was stimulated with and without simultaneous intra-oral infusion of taste stimuli. Results showed that projections from the LH as well as intra-oral infusions alter taste reactivity (TR) behaviors. Only one of the changes in behavior was associated with changes in the number of Fos-immunoreactive neurons in the gustatory brainstem (Riley and King, 2013). The purpose of this study was to further investigate the neural substrate underlying these behavioral changes following electrical stimulation of the LH and to investigate how different tastants also effect neuron activation in the GC and TR behaviors.

Immunohistochemistry of the Fos protein was used to identify and count the number of activated neurons in the GC subareas in three coronal sections and in both hemispheres of rat brain tissue. Results showed an increase in multiple GC subareas in response to intra-oral infusions and LH stimulation. Three of the four behavioral changes observed in the Riley and King (2013) study are negatively correlated with increases in the number of Fos-IR neurons in specific GC subareas. This finding indicates a potential neural substrate underlying behavioral responses to taste and LH stimulation. Ultimately, this study allows for the LH influence on GC activation and TR behaviors and their anatomical connections to be more clearly understood.



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### **Effect of water level on populations of diving ducks and dabbling ducks at Emerald Marsh Conservation Area**

Dabbling ducks and diving ducks have reasons for their choice of habitat that include water level to availability of prey. This wide range of variables leads to different habitat use patterns in most cases, but there can be habitat overlap between the two ducks. Previous studies of these guilds in wetland areas have shown a positive correlation between abundance of diving ducks and water level and an inversely correlation between abundance of dabbling ducks and water level. Using data collected over a 7-year period by Dr. Peter G. May at the Emerald Marsh Conservation Area, I analyzed the abundance of seven species dabbling ducks and four species of diving ducks in the large impoundments at EMCA (Airport Road and T-J Levee). I hypothesized that a) diving duck population size will be greatest at higher water levels and b) dabbling duck population size will be greatest at lower water levels. The population size of dabbling ducks and diving ducks among three different stages of water levels and whether the levels were rising, falling, or staying the same were analyzed using a two-way ANOVA. I also analyzed the correlation of each duck guild population vs increasing water levels.

D9 Kimberly Foley (Dr. Christopher Ferguson)  
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### **Big Five Traits and Musical Preference: Can Personality Traits Dictate an Individual's Music Preference?**

This study examined the correlations between personality traits and musical dimensions. It was hypothesized that there would be significant correlations between specific musical dimensions and specific personality traits: Reflective & Complex and Intense & Rebellious musical dimensions would have positive correlations to the Openness to New

Experiences personality trait, Upbeat & Conventional musical dimension would have a positive correlation to the Extraversion, Agreeableness, and Conscientiousness personality traits. 64 undergraduate students completed the Big Five Inventory, the Short Test of Musical Preferences, a musical clips questionnaire, and a demographic survey. Correlational analyses were performed between participants' scores for each personality trait and their scores on the STOMP. The results of these correlations showed that Openness to New Experience scores were significantly related to scores for the Reflective and Complex musical dimension, as well as the Energetic and Rhythmic musical dimension. Agreeableness scores were positively correlated to the scores for the Upbeat and Conventional musical dimension. Conscientiousness was negatively related to scores for the Reflective and Complex musical dimension. Neuroticism was positively correlated with scores for the Reflective and Complex musical dimension. The results of this study suggest that there is an undeniable link between personality traits and musical preferences.

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### **Fair Play: Ethics in the Game World**

Since the Twentieth Century, games have come under increasingly more critical and legal scrutiny due to the creation and proliferation of the video game market and culture. Many of these cases assume that it is something in the nature of these games that causes any aberrant behavior enacted by the players within or outside of the game world. What this paper tries to present is a different narrative, noting both what the nature of games lend themselves to in ethical situations and in what ways the culture the creators of the game live in impacts design decisions. Cases this paper addresses are congressional discussions about the effects of video games in the United States, the "Gamergate" controversy regarding sexism in the gaming community, and the "Cinderella"

laws in South Korea, among others. Before doing so, the paper addresses some concerns about the definition of games and whether the actions taken in a game are always, or could ever be, ethical actions.

B15 Garen Freed (Dr. Eric Kurlander)  
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### **Alcibiades as Statesman: Incarnation of Intelligence or Icon of Ineptitude?**

Who is Alcibiades? Why should you care about him? He is the subject of many of Plato's works and is purported to have a relatively close relationship with Socrates, yet, Alcibiades is never really examined. And then when historians actually examine the Athenian statesman, the general consensus that is formed tends to be quite permeable. A just evaluation of primary sources pertaining to Alcibiades and the Peloponnesian War reveals that Alcibiades was far from "the figure of the great man" within the realm of politics and warfare; rather, his "overwhelming personal ambitions" and absolute "need for public recognition" furthered his incapability to achieve greatness. While historians like Hatzfeld and Ellis tend to over-exaggerate and glorify Alcibiades' military exploits and political involvement in light of his significant social status and rank during the Peloponnesian War, I argue that a proper objective examination of Alcibiades' career as a statesman will accentuate the fact that the egocentric Alcibiades lacked the ability and intelligence necessary to assert himself as a successful military and political leader.

C12 Corey Brainna Garswick (Dr. Tara Schuwerk)  
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### **What Are We Really Reading? A Burkean Analysis of Online News Articles Surrounding the Situation in Ferguson**

This thesis analyzes 31 online articles written by journalists and contributors of CNN and Fox News about the fatal shooting of Michael Brown by Officer Darren Wilson in the town of

Ferguson, Missouri. The thesis uses Kenneth Burke's theory of Victimization and Mortification, as well as other Burkean theories to supplement the analysis to explain how and why Darren Wilson, Michael Brown, and the community of Ferguson are all victims. In addition to a Burkean analysis, Teun A. Van Dijk's theory on New(s) racism is incorporated to explain how the online articles display subtle and new racism.

C3 Matthew Gerken, (Dr. Will Miles and Dr. William Nysten) [mgerken@stetson.edu](mailto:mgerken@stetson.edu)  
**Measuring Relationships Among Social Capital, Civic Engagement, and Volunteerism in the United States\***

Despite widespread assertions of declining levels of social capital and civic engagement within the United States over the past few decades, social scientists do not agree with the extent or even existence of this decline. Given the degree to which the nonprofit sector utilizes volunteer labor, this paper attempts to measure the relationships among social capital, civic engagement, and volunteerism through quantitative analysis using recent national data. This analysis is extended to specific regions within the United States: those offered through the General Social Survey and those offered by Colin Woodward (2011). A most similar case study is then introduced with Canada. The results show that civic engagement positively predicts levels of social capital in the United States, but not vice-versa. In comparing the United States and Canada, social capital is predicted more by civic engagement in the United States than it is in Canada: in Canada, social capital is predicted more by levels of political engagement and views on government. The results of this analysis have several implications for how nonprofit organizations can use the relationships discovered from this analysis to improve their impact. The analysis also suggests that it is valuable to engage in regional analysis when examining rates of

volunteering, civic engagement, and social capital within the United States.

- Recipient of a 2014 SURE Grant

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### **Master Class- Journey of Characterization**

This presentation outlines the process of character development for actors. The methods used to bring to life a production by discovering the playwrights' incentive to write the script, exploring the creative team's artistic vision and coupling that with the actors own interpretation of the character and research invested in discovering purpose. Terrence McNally's play Master Class explores what a potential class room looked like at Julliard with the opera phenomenon Maria Callas. The play also hosts a combination of fictional characters in addition to Callas. Our presentation will unmask the actors' journey of creating both a fictional and non-fictional character, what measurements were taken to explore characterization in order to enhance efficiency and create believability for the audience contributing to the overall success of the production, and its realization in the performance of a short scene from the play.

A9 Christian Gowan (Dr. Eric Kurlander)  
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### **Disney's America: Re-Imagining the Past and the Corporate Interpretation of History**

This paper seeks to examine the role of corporations, specifically the Walt Disney Corporation, in the area of historic interpretation and asks how well rather than should these entities interpret the past. This paper analyzes the scholarly debates which surrounded the proposed Disney's America project as well as the community and national reaction and seeks to understand why the project ultimately failed. Using case studies, Disney's California Adventure and Disney

Springs, the paper then moves to analyzing how Disney has gone about interpreting the past. This evidence helps answer the central question, how well can Disney interpret the past?

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### **#redefineperfect: A Selfie Campaign**

The issues surrounding media-created ideas of perfection and beauty standards are not new. Most people have experienced some instance of not feeling up to par in comparison those in magazines, on tv, and on the internet. In our country, "approximately 91% of women are unhappy with their bodies" and for college-aged girls, "58% feel pressured to be a certain weight." In Fall 2014, Victoria's Secret launched a campaign titled "The Perfect Body;" the ad featured a line of their models in nude-colored underwear creating a problematic connection between the image of the models and the idea of "perfect." #redefineperfect, our social media campaign, was created to challenge this ad and many others like it by using selfies and tagging them with #redefineperfect. Relying on the social media sites Facebook, Tumblr, and Instagram, we asked girls, boys, and non-binary individuals from Stetson and elsewhere to post photos of themselves using the hashtag. In creating our selfie campaign, we hoped to celebrate the natural and real individual by redefining the image of "perfect." As evidenced by the positive response we have had and being featured on the site hellogiggles, we feel that our project has been a small, yet successful step, to doing just that.

D11 Leo Gregory and Ivan Wetherington (Dr. David Houston) [lgregory@stetson.edu](mailto:lgregory@stetson.edu)

### **Russian Music**

Russia has a great history of music throughout the years whether it is in Classical Music, Rock Music, and Pop Music. What we want to do in our presentation is want to explain the history

and progression of music throughout the years of early Russia to the modern influences on society. How we want to do this is using factual information through primary knowledge and additional research to deliver a visual and audial presentation and taste of Russian musical culture. What we plan to have in this presentation is a poster board of brief factual information throughout the years of key composers and artists. In addition we want to have auditory examples of more recent music that we knew during our childhood in Russia. These examples would be of great use to this presentation because it would be of example Russian music and especially during our generation. The music would be picked from both of us according to songs that we distinctly remember when we were growing up in Russia. One of the songs we are sure of doing is from a Russian cartoon about birthdays. The main line of the song says "it's a shame that a birthday is only once a year". This song we both knew and were thinking of singing along with and do a translation of the song because its easy to follow.

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### **Calibration System for the Dark Energy Spectroscopic Instrument**

The project aimed to prototype and define a fast and high precision spectrophotometric calibration system for the Dark Energy Spectroscopic Instrument (DESI). The calibration system was created using monochromator controlling program in an attempt to achieve a full calibration for the spectrometer. To do this the full spectrum of a Xenon arc lamp was recreated by dispersing its light onto a linear CCD, which records the light's relative intensity and creates a correlation between the wavelength and its position on the CCD. This resulted in a complete understanding of the position of every wavelength on the spectrometer and matched the expected results. The calibration system is expected to be a great improvement from the usual way

calibrating spectrometers since it will provide a full understanding of the position of each wavelength.

B2 Zaygamali S. Hemani (Dr. Ranjini Thaver)  
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### **What makes a nation desirable?**

My mind has always been baffled as to why certain nations are considered more "important" than others, why some nations have global hegemony and desirability while others have never even been heard of and remain in solitude. My research study examines the different factors through qualitative and quantitative research that affect the desirability of a nation. What truly determines the image of a nation? How do you define a "good" country from a "bad"? These are questions I seek to answer. In the increasingly interconnected world that we exist in, it is crucial to understand the fundamental differences between nations and their economies. Is it healthcare? Is it democracy? Or is it the nation's ecological footprint? This study is crucial to understanding why the world sees certain countries the way that it does, and what we could do possibly to change that.

A7 Bianca Hernandez, (Dr. Lori Snook)  
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### **Re-Imagining Austen Through The Lizzie Bennet Diaries \***

Though Jane Austen died with little notoriety in 1817, she left behind a legacy that only continues to grow through her devoted followers, Janeites, and the constant production of adaptations and sequels that continue the stories of their beloved heroines. Austen's constant presence in the 21st century raises the question: Living in a time that promotes feminism and individualism, how do contemporary adaptations of Austen interpret and come to terms with a society driven by social dictates and propriety, wholly unlike the contemporary world? My research answers that question by examining Austen's presence and

applicability in contemporary society by analyzing the Pemberley Digital web series The Lizzie Bennet Diaries, an Austen adaptation developed in 2012 and 2013. The web series not only reflects that Austen holds a place in contemporary society, but it also reflects the values of the generation that developed it. Production time, sales, and online Austen communities all point to her popularity, raising the question: How much of Austen's original themes and messages are found in contemporary adaptations? My research explores that question by analyzing how The Lizzie Bennet Diaries, the most recent adaptation of Pride and Prejudice, translates Austen's 19th century world onto a contemporary setting.

- Recipient of 2014 SURE Grant

E11 Stephanie Hernandez (Dr. Cynthia Bennington) [Sherna2@stetson.edu](mailto:Sherna2@stetson.edu)  
***Passiflora incarnata* floral volatile effects on butterflies and caterpillars of the specialist herbivore, *Agraulis vanilla***

Plants are known to release floral volatiles to mainly attract pollinators in order to spread pollen for reproduction; however, it accidentally attracts herbivores as well. Butterflies use their antenna to read olfactory cues; these floral volatiles may help them identify appropriate host plants. Caterpillars' olfactory senses are less well understood; however, it is possible that they use their olfactory senses to detect floral volatile in order to identify food source. We hypothesized that butterflies of the specialist herbivore, *Agraulis vanillae*, would choose *Passiflora incarnata* plants with flowers over those with no flowers. In addition, we hypothesized that the caterpillars of *Agraulis vanillae* would prefer leaves with floral scent over those with no flower scent. In order to study this plant-insect interaction we set up two experiments. The first was regarding butterflies and their choice on plant host with flowers and plant host with no flowers. The second experiment was regarding the caterpillars' choice of leaves with the

presence or absence of flowers. In the field experiment, we found that plants with flowers experienced more caterpillars damage than those that had flowers removed. In the lab, we found that caterpillars showed no significant preference for leaves with or without flowers.

C10 Tara Hunter (Dr. Tara Schuwerk)  
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### **Justifying War: A Study on the Military Use of Film Propaganda for the Vietnam War**

Propaganda is a serious matter in a time of war. Some propagandists send a strong rhetorical message supporting the war while other propagandists go against the war, intending to influence their audience to do one or the other. While propaganda comes in many forms of media, I narrowed my study to film propaganda. During the Vietnam War, film producers were not as universal in their message of supporting America's wars. Few war propaganda films were produced at this point in history, but one government documentary film, entitled Why Vietnam?, did try to convince its audience to support the war. Why Vietnam? was produced in 1965 by the Department of Defense and is the focus of my study. This film was not released to the general public of the United States but instead was only shown to target audiences of American soldiers prior to deployment and to citizens likely to be deployed (primarily students with the potential to be drafted). Using Kenneth Burke's theories of ideographs, myth and transcendence, and identification, I study how the government film's rhetoric attempts to justify participating in the Vietnam War. The symbolism in this film targets the American soldiers to believe that they are the only ones who can help defend a country like South Vietnam against the mighty power of the evil communists. Not only is it right to participate in the Vietnam War, but is truly a moral obligation that America must uphold to protect the South Vietnamese.

A4 Ashley Johnson and Ellen Smittle (Dr. Kenneth McCoy) [Ajohns2@stetson.edu](mailto:Ajohns2@stetson.edu)

### **An Actor's Approach to Playing a Shakespearean Character**

After performing the roles of Isabella and Marianna in Stetson University's production of Measure for Measure by William Shakespeare, Ellen Smittle and Ashley Johnson will be presenting An Actor's Approach to Playing a Shakespearean Character. The presentation will discuss the plot of Measure for Measure as a problem play through its classification as having a comedic story line and the inclusion of serious and dark subject matter such as blackmail, sexual harassment, and the corruptness of government officials. In addition to the plot there will be discussion on reoccurring stock characters and plot scenarios that are found in the majority of Shakespeare's works and ways to use these ideas in character development. With the concept of character development, the presentation will outline methods to effectively analyze a role with concepts such as the given circumstance, magic if, and the establishment of the world of the play, determined through the dissection of the Shakespearean text. The character development process will be showcased through the performance of two scenes from the play.

C13 Mark Johnson, (Dr. Paul Croce) [Mbjohnson386@gmail.com](mailto:Mbjohnson386@gmail.com)

### **The Role of Osceola In The Second Seminole War (1835-1842)\***

In the first year of the Second Seminole War, the Seminole outfought the American soldiers on every count. From Dade's Massacre; to the series of battles at the Withlacoochee; the Americans suffered high casualties for little to no gain. The Americans, assuming the only way the Seminole could outfought them as they had done so well, placed the leadership on a single, vocal figure, a man by the name of Osceola. Early American sources put Osceola as the "commander-in-chief" of the Seminole forces,

leading them as any American general would, but this was simply not the case. Osceola did not fit in to the traditional hereditary Seminole leadership, as did Micanopy, Wildcat and other mostly forgotten Seminole Leaders. So then, why did Osceola gain so much popularity? This was likely due not only his influential position within his clan as the leader of the Black Drink ritual, but also his charisma and personal leadership, traits that would assist him in influencing those leaders that held the traditional roles of power in the Seminole tribe. Though he deserves a great deal of credit for his personal leadership, by the time of his capture and subsequent death, his influence had greatly diminished.

\*2014 SURE Grant recipient

E12 Molly Kaelin (Dr. Michael King) [mkaelin@stetson.edu](mailto:mkaelin@stetson.edu)

### **Electric stimulation of the Central Amygdala and its effect on Taste Reactivity Behaviors in Rats and Fos-IR neuron quantities in the GC**

This presentation will explore the connection between the central amygdala, gustatory cortex, and taste reactivity behaviors in rats. Rats were given central amygdala stimulation paired with various intraoral infusions and the taste reactivity behaviors they displayed were recorded. Using Fos-immunohistochemistry, the gustatory cortex neurons that were involved in this process were labeled and quantified in order to draw conclusions about the role of central amygdala stimulation and the gustatory cortex in the processing of taste reactions. Findings include that the gustatory cortex receives information from the central amygdala contralaterally and that areas of the gustatory cortex play a role in taste reactivity behaviors.

F3 Michaela Kearney, (Dr. Michael King)  
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**The effects of anthocyanins on motor coordination in a hereditary *Drosophila melanogaster* model of Parkinson's disease\***

Parkinson's disease (PD) is caused by the loss of dopaminergic (DA) neurons in the brain and can either be inherited or environmentally-induced. The loss of the DA neurons leads to the observable symptoms of the disease such as tremors, hindered movement, and muscle rigidity. While there is currently no cure for either form of PD, there is ongoing research being conducted on ways to reduce the symptoms experienced; much of this research has focused on different antioxidants and their neuroprotective effects on environmentally-induced PD. Recent studies have shown that anthocyanins, a type of antioxidant, display strong neuroprotective effects in vitro; however, research has not been done on the behavioral effects of anthocyanins in vivo. Therefore, this experiment looked at the effect of three different concentrations of cyanidin-3-glucoside on movement coordination in a *Drosophila melanogaster* model of PD. We exposed the *Drosophila* to the cyanidin-3-glucoside by either raising the flies in a medium containing the cyanidin-3-glucoside or placing a cyanidin-3-glucoside saturated filter paper in the bottles with the *Drosophila*. To determine the motor coordination of the *Drosophila*, we determined how many *Drosophila* were able to climb above 8 centimeters. We hypothesized that motor coordination would improve in the flies that were exposed to the cyanidin-3-glucoside. In fact, our results showed an improvement in the motor coordination of the *Drosophila* raised in the cyanidin-3-glucoside concentrated medium as compared to the *Drosophila* that were exposed to cyanidin-3-glucoside though the filter paper and those that received no treatment.

- 2014 SURE Grant recipient

F4 Brandi Koehler, Julia Stullken, and Esteban Tapias (Dr. Dejan Magoc)  
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**The relationship between physical activity and dietary habits in college students at attending a private institution**

More than one-third of U.S. adults are obese and are at higher risk of hypertension, coronary heart disease, diabetes, and some types of cancer (CDC, 2012). The purpose of our study was to examine the relationship between physical activity (PA), dietary habits, and various demographic variables in college students. Besides various demographic variables, 71 predominantly white college students completed a questionnaire about PA and dietary habits. Nearly 52% of our sample met the recommendations for PA, while 23% reported not being physically active at all. The results of this study did approach the significant gender differences in levels of PA ( $F(1, 55) = 3.40, p = .071$ ). Nearly 23% of our sample was overweight, including 10% of those classified as obese. The results also indicated that PA was strongly correlated with reading nutrition information and labels, specifically related to fat content. In addition, reading nutrition labels was strongly correlated with the perception of importance of fat, sugar, and calorie content. Although research has related various demographic variables to PA and dietary habits, a limited research has investigated these relationships in predominantly white college students at private institutions. Our study indicated strong correlations in perceptions of dietary habits and PA among this population.

D4 Britany Kovalskaya and Taylor Grinnen (Dr. David Houston)  
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**Russian Russophone**

Russophone was only recently started by the professors of the Russian Studies program to develop each student's speaking skills. As a class, we try to do the Russophone activity in Dr. Houston's classroom at least once a

semester. For the Russophone project we contact a person named Daniyar to set up a skype session. He is all the way in Kirghizstan, so a main challenge in skyping him is the 11 hour difference. When we do decide on a time, we skype and record our conversation so Dr. Houston can evaluate it. For every time we speak to him, we have to give him a topic we want to talk about in Russian. For this showcase we (Taylor and Brittany) chose a topic we both like. That topic is tennis. Some talking points we would like to possibly discuss with Daniyar includes: the tennis point system, Russian versus American tennis, the rules of tennis, our own playing experiences, stringing rackets, etc. We will be recording our talk with Daniyar and presenting it with subtitles. We will also go over why Russophone helps develop your speaking skills and why it is so unique.

E13 Kassie Ledoux (Dr. Alicia Slater)  
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**Using cell fractionation techniques to eliminate pseudogene contamination in *Hesperoperla pacifica***

MtDNA is the most common genetic marker used to make inferences about phylogenetic relationships and population genetics. While use of MtDNA has its advantages, some major downfalls include the presence of transcriptionally inactive nuclear copies of mitochondrial genes called pseudogenes or numts. Numt sequences can confound analyses of phylogenies in insects and animals by disguising themselves as genuine mitochondrial DNA and altering estimates of genetic diversity. Efforts to diminish or eradicate mis-amplification of numt sequences during PCR have been made with variable success. However, some of these techniques are costly and labor-intensive. This study utilized kits (NEPER Nuclear and Cytoplasmic Extraction Reagents No. 78833 and Mitochondrial Isolation Kit for Tissue No. M8296) specially designed to separate nuclear and mitochondrial DNA in an attempt to eliminate pseudogene contamination. This would allow us to

distinguish the mitochondrial cytochrome b gene from the nuclear pseudogene. Cell fractions isolated using these kits were successful, but did not eliminate cross-contamination of mitochondrial and nuclear DNA. Thus, these kits cannot be used to detect pseudogene presence in several amplified cytochrome b sequences.

C8 Carly Lees (Dr. Tara Schuwerk)  
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**Communicating Hope: Involving Volunteers in the Mission of a Non-Profit Organization**

This project looks at the language and strategies that Give Kids The World (GKTW), a local non-profit organization, uses to involve volunteers in the mission of their organization to give “the gift of hope” to children facing life-threatening illness. Give Kids The World is a resort located in central Florida that partners with the Make A Wish Foundation in providing such children and their families with a cost-free vacation to visit Orlando attractions, such as Disney World. Data was collected from interviews with current and past employees of GKTW and volunteers, as well as through observation. This study is important for understanding the success of non-profit organizations designed to provide secondary health support and recruiting volunteers to aid in their objective.

E15 Cody Malloy (Dr. Cynthia Bennington)  
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**Increases in extra-floral nectar production in *Passiflora incarnata* attract greater numbers of ants to defend the plant**

Plants use many different defenses to protect themselves from herbivores. Many of these defenses are induced defenses. Extra-floral nectaries are a common induced defense in many plants. These are nectaries outside of the flower which attract ants. The ants then discourage herbivores from attacking the plant. *Passiflora incarnata*, or passionflower, is one of the plants that uses extra-floral nectaries. Previous studies have demonstrated that extra-floral nectar production is increased when



jasmonic acid, a naturally occurring plant hormone, is applied exogenously. Jasmonic acid induces release of a volatile chemical known as methyl jasmonate. This chemical is paired with an increase in nectar. We determined the effectiveness of the increases in nectar by setting up passionflower plants treated with methyl jasmonate, sucrose, and distilled water as a control, around a natural anthill and recording ant activity on each plant. Each trial included two of the three treatments. Through this data, I concluded that the ants can detect the presence of both the volatile and the sucrose solution in the short term. In the long term, however, the ants prefer the sucrose solution.

A10 Eryn McCoy (Dr. Kimberly Flint-Hamilton)  
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### **The Cross Cultural Globalization of Women's Magazines: A Content Analysis**

Women's fashion magazines depict an image of what is expected of a woman and what defines a woman. Around the world, women are reading magazines like Glamour, Marie Claire, and Vogue. These magazines are considered international magazines as they publish content unique to each country that they are published in. The research objective of this study is to see if even though the content of the magazines are different in each country, if the same message on beauty, sex and careers is being spread as a globalized phenomenon inducing cultural hegemony. This objective is explored through a content analysis of women's fashion magazines in Spain and the United States to compare content and focus on the similarities and differences among each culture's expectation of women. From the results, it can be seen that there is a globalized expectation of women through fashion, beauty, sex and careers between Spain and the United States although there are small culturally unique aspects. There is a strong European and British influence on women's fashion which is a form of cultural hegemony. Overall, mostly the same ideas and concepts are presented to both countries.

A2 Holly Mae Meadows (Dr. Tara Schuwerk)  
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### **Mothering and Southern Identity in Contemporary Films: the Fantasy Theme of Southern Motherhood**

This study focuses on the role mothering plays in southern identity as it is portrayed in the popular films Steel Magnolias, Sweet Home Alabama, and Hope Floats. Using Ernest G Bormann's formulated rhetorical fantasy-theme analysis I have examined southern mothers as a fantasy theme group. Relevant literature aids in setting this project into context of women in film, Southern identity, and motherhood. Through the lens of fantasy-theme I have conducted my analysis on the fantasy theme of Southern motherhood.

E16 Jordan Miller (Dr. Kirsten Work)  
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### **Does *Micropterus salmoides* (largemouth bass) display differential predation upon native and exotic surface dwelling guppies in water of differing clarity?**

The introductions of non-native species into Florida's productive fresh water ecosystems often pose great threats to the native fauna. *Poecilia reticulata* (fancy guppy) is a surface dwelling guppy that is considered exotic within the continental United States. Studies show that *Poecilia* may overlap the niche of *Gambusia holbrooki* (eastern mosquitofish), an economically important species used for mosquito control worldwide. Many studies show that the success of an exotic species is heavily dependent upon its response to natural selection within the new ecosystem that it has been introduced to. The purpose of this study was to see if natural selection acted more heavily upon either of the two species in the form of predator-prey interactions with *Micropterus salmoides* (largemouth bass) in waters of differing clarity. *Poecilia*, *Gambusia*, and *Micropterus* were placed in tanks filled with clear and tannin-stained water. Their predator-

prey interactions were observed and recorded to determine if differential predation occurred. It was predicted that preferential predation would be displayed towards the exotic species. The data however showed that this did not occur, having a P-value of 0.09 in a t-Test for means to determine if either species was involved in more predator-prey interactions per trial. It was found that the native guppy was able to more successfully evade the predator than the exotic species (P-value: 0.001). By using a Chi-square test we determined that the predator did not have higher success rates in the clear and tannin-stained waters, despite using different predation tactics in each (P-value: 0.780).

F13 Breanna Mott (Dr. J. Abbott)  
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**Herbicide effectiveness on weeds in longleaf pine (*Pinus palustris*) Florida sandhill and its effect on germination of wiregrass (*Aristida stricta*)**

Longleaf pine (*Pinus palustris*) sandhill forests throughout Florida are a threatened ecosystem due to degradation and fragmentation. In order to protect these forests and the endemic species they support, it is important to restore and maintain these ecosystems. Many restoration projects include the use of herbicides to eradicate invasive weedy species as well as hardwood invaders that tend to overrun these fragile ecosystems. There are a variety of herbicidal techniques that have been implemented in various restoration projects throughout sandhill forests. On the grounds of the Gillespie Museum at Stetson University, the Volusia Sandhill Ecosystem teaching landscape serves as a restoration site for longleaf pine and other sandhill species. This teaching landscape is predominantly inhabited by Bahia grass which must be removed in order for sandhill species to survive. In this experiment, four potential herbicide techniques (glyphosate (RoundUp), citrus oil (Avenger), vinegar, and plastic mat) were tested for their efficacy as an herbicide as well as their relative effect on wiregrass

(*Aristida stricta*) seedling germination following the removal of existing vegetation. Glyphosate (RoundUp) was found to be the most effective herbicide while plastic mat was the least effective. Wiregrass seeds did not germinate in any plots and may have needed more time to do so. These results could assist in further restoration projects in longleaf pine sandhill forests.

C4 Drew Neitzey (Dr. Tara Schuwerk and Dr. Ken McCoy) [jneitzey@stetson.edu](mailto:jneitzey@stetson.edu)

**“There Goes the Neighborhood:” A Dramatistic Approach to Race, Community, and Memory in Bruce Norris’ Clybourne Park**

Bruce Norris’ Clybourne Park analyzes the treatment of marginalized groups in the United States, both in the 1950s and the 2000s. The play begins in a home on Clybourne Street, Chicago in 1959 as a black family moves into a white enclave. Act Two takes us back to the same house in 2009 as gentrification sets in and the roles are reversed. The focus of this presentation is to examine Norris’ depiction and treatment of racism, with a focus on issues of gentrification, communities in crisis, and public memory. While using Lorraine Hansberry’s *A Raisin in the Sun* as a theatrical lens for Norris’ play, this thesis uses the Burkean theories of the dramatistic analysis through the use of the Pentad and Burke’s theories on identification for an analysis of Bruce Norris’s approach to these socio-economic situations that are presented in Clybourne Park. This presentation will also cover the directing process of Stetson’s upcoming process of Norris’ Pulitzer and Tony Award-Winning play.

F5 David Nutting (Dr. J. Abbott)  
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**Measuring the Repellency Effect of Spinosad on *Aedes Albopictus***

In central Florida, mosquito control is a stark necessity used to efficiently combat mosquito-borne illness. However, because of the local mosquito population’s natural tendency to

thrive in Florida's humid climate, control methods are often harmful to more than just mosquitoes, or simply inefficient at providing adequate levels of control. This experiment will examine the effects Spinosad has on gravid *Aedes albopictus*. More specifically, I am concerned with the repellency effect that the larvicide spinosad might have on *A. albopictus* (larvicide is an insecticide that only targets the larval stage of mosquitos). My goal is to test whether *A. albopictus* is affected by cues given off by spinosad, using a range of concentrations. If it is shown that *A. albopictus* is in fact repelled or attracted by spinosad, it could open up further research on larvicides to examine previously unforeseen effects on differing species of mosquitos, and help us to command greater control over what we are putting in our environment.

F6 Shannon O'Shell and Victoria Nieves (Dr. Kenneth Nusbaum) [soshell@stetson.edu](mailto:soshell@stetson.edu)  
**Efficacy of Home Washing Solutions on Reduction of *E. coli***

As bacterial outbreaks of *E. coli* have been increasing in recent decades many have begun to question the cleanliness of produce. Even though produce manufacturers post-wash produce with chlorine, questions of efficacy are a concern. In this experiment, the efficacy of home sanitizing solutions on reducing the presence of *E. coli* is tested. We use a serial dilution to examine the effectiveness of the solutions to reduce *E. coli* counts. Our experiment consist of two vegetable washes. Replicate plates at each dilution are used to calculate the residual bacterial load.

E14 Jacob Paine (Dr. Kevin Riggs)  
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**Study of Cosmic Rays**

During my senior research at Stetson University, I conducted a study with the Physics Department Chari, Dr. Kevin Riggs during the summer of 2014. The research was to detect when and where cosmic rays hit the earth.

Cosmic rays are the loose term given to high-energy charged particles, originating in outer space that travel at nearly the speed of light and strike the Earth from all directions. Most cosmic rays are the nuclei of atoms, ranging from the lightest to the heaviest elements in the periodic table. We detected these rays using a Geiger Detector.

D5 Alexandra Paulus (Dr. Tara Schuwerk)  
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**The Facebook Application: A Communication Tool or Used Out of Boredom?**

This qualitative study is about the transformation of mobile devices and how they have expanded the way we communicate with one another. In the past, a mobile device's main purpose was to allow humans to verbally communicate with one another. Although the main purpose for mobile devices is to communicate, smartphones and its applications have revolutionized the meaning of communication. By conducting interviews, this study will provide the reader with information on what influences college students, ages eighteen to twenty-two, at a small southern university, to use the Facebook application on their iPhones compared to their computers or tablet. This study will also answer if leisure boredom is a factor into why the college students use the Facebook application on their iPhone. The Grounded Theory will help analyze future data of owning an iPhone today and how the Facebook application has affected our communication.

B18 Richard Andrei Pemberton (Dr. T. Wayne Bailey) [rpembert@stetson.edu](mailto:rpembert@stetson.edu)

**The Post-Soviet Media Landscape: A Comparative Analysis of Informational Democratization in Russia and Ukraine**

After the fall of the Soviet Union, modernization theorists and neoconservative thinkers such as proposed that the new states emerging would, almost dialectically, become liberal democracies. Instead, in many cases these new

“post-Soviet” states have decidedly reversed their initial, fledgling course of democratization. The most noteworthy case is that of the Russian Federation, which I argue has backslid significantly when gauged by its contradictions of even minimal standards for democracy, such as those set forth by the prominent sociologist and once president of the London School of Economics, Anthony Giddens: a dysfunctional multiparty system, illegitimate elections, and an ineffective framework of civil liberties caught between, as Richard Sakwa writes in *Putin Redux*, *de jure* laws – what is written – and *de facto* practices – what is actually done. This is seen within a comparative microcosm between the mass media in Russia and Ukraine, two post-Soviet states that also share an older cultural relationship. The media has a key role to play in civil society – however, its use in Russia is perhaps an un-civil society. The question I ask here is not so much “is” or “if” Russian media exemplifies its failures in democracy, but “how” and “why.” Using a “most similar systems” approach, I will examine the structural, cultural, and rational elements of both Ukraine and Russia in an attempt at understanding both the difference between the two states’ media landscapes after the collapse of the Soviet Union.

A14 Lauren Polhill (Dr. Tara Schuwerk)  
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### **Analyzing Post Traumatic Stress Disorder as Presented on *Grey’s Anatomy*: Testing Positive for Realism**

The purpose of this project was to examine the role of mental health within the constraints of a medical television show. In analyzing the portrayals of mental health as presented on the popular medical drama, *Grey’s Anatomy*, a rhetorical criticism on how the television show represents a specific mental illness is provided. The rhetorical lenses through which this topic was studied include the Burkean perspective of dramatism through the pentad. The focus of the inquiry is on Post Traumatic Stress Disorder (PTSD), and the surgeons being scrutinized that

have the condition include the characters Owen Hunt and Christina Yang. Select episodes of the show were reviewed throughout its ten seasons that pertain to PTSD affecting these two different doctors on *Grey’s Anatomy* in order to theorize about the role that the media plays in regards to mental health perspectives of viewers. This helps readers develop a better understanding of the quality of information that they receive about mental health conditions via television and the positive implications for what it means to have a highly rated television show focus on a specific mental illness in the first place.

D6 Katelyn Pomfret, (Dr. Michelle DeMoss)  
[kpomfret@stetson.edu](mailto:kpomfret@stetson.edu)

### **Influence of Eco-labeling and Eco-claims on Consumer Attitudes and Purchase Intention\***

The purpose of this study is to determine whether the presence of eco labeling or eco claims impact consumer’s attitude and intention to purchase when making high and low involvement purchase decisions. Previous studies have already determined that consumers are cautious when evaluating green products and the role that strong claims play on the consumer’s decision choice. This study will dig deeper into the role of high and low involvement decisions as well as whether eco labels or eco claims have more of an effect on consumers. A survey will be distributed to a sample of consumers in order to measure their attitudes and intention to purchase. The findings will help marketers better create packaging and promotional material to meet the needs of consumers and overcome the battle of perceived credibility.

- Funded in part by the 2014 Davis Sure Grant

B1 Joseph Potechin, (Dr. Peter May)  
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**Please don't eat me! A study of cannibalism in juvenile *Zophobas morio***

Competition is one of the factors behind natural selection. Organisms often compete due to limited resources in their environment. Intraspecific competition can drive behaviors that an organism can use to ensure dominance over their competitors. One behavior organisms utilize to overcome intraspecific competition is cannibalism. Cannibalistic behavior helps organisms to overcome intraspecific competition by reducing the number of competitor and increasing available food. I studied what role food plays in cannibalistic behaviors of *Zophobas morio* (Tenebrionidae family) larvae. By limiting both water and other nutrients, I found that *Zophobas morio* would cannibalize more frequently when there is a limited food supply in their diet.

F12 Cailyn Prewitt (Dr. John Tichenor)  
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**The Global Water Crisis: A CSR Perspective**

Water scarcity has become an increasing issue and is more prominent today than it has ever been. 1 in every 6 people worldwide does not have adequate access to clean water. In this research paper, I examine water scarcity from a strategic corporate social responsibility perspective. Shortages in water do not only affect industries that use millions of gallons in their industrial processes and products, it also affects almost all firms that do business in water-stressed countries, as well as all of the stakeholders of the company. According to Gregory Millman, "Over two thirds of global companies reported that water risk could generate a substantive change in their business, operation or revenue." Although water is becoming more and more scarce, companies can play a large role in conserving water. I examine business responsibilities on this issue, including environmental sustainability and innovating new ways to be more water efficient

in their practices. Nestle, for example, has opened its first zero water factory expansion in Mexico, conserving water resources equivalent to an Olympic-size swimming pool per day. However, many companies may not look into ways they can conserve water due to the expense. In addition, they have the right to do what they want with the water they purchase. Yet, water is becoming such a finite resource that initiatives must be taken by businesses to better this international issue. Water scarcity will continue to remain a large issue worldwide, but companies can make a massive impact in water conservation by continuous innovation.

D12 Leonardo Quintero, (Dr. Stephen Robinson)  
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**Italian Opera and Its Influence on Classical Guitar Repertoire: A Focused Study on Mauro Giuliani's *Rossiniana No.1, Op. 119*\***

With the data I have collected from the help of the Sure Grant, and the lessons I have received from many teachers throughout the year, I will have a presentation where I discuss *Rossiniana No.1, Op.119* and how this piece, like many other pieces of the 19th century, derived from the influence of Italian Opera. I aim to illustrate how pieces like this helped to expand the classical guitar's repertoire, while at the same time push the limitations of the instrument. In my presentation, I will perform the piece and talk About Giuliani, discussing his life, his works, and his relationship with Opera composers. I will also discuss the many themes Giuliani used in writing the piece and relate them to the Operas they belong in. I will play the themes, and then perform them briefly on the guitar. For each theme, I will explain what is happening in the scene and briefly discuss a summary of the Opera the particular theme belongs in. I will then discuss the lyrics found in the libretto, explaining the character of the theme. I will then explain how Giuliani implemented advanced techniques in order to liven the piece and challenge the performer.

\* 2014 SURE Grant recipient

C1 Sierra Railey (Dr. Tara Schuwerk)  
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### **Investigating Communication of Emergency Response Management**

The following study completed an in-depth qualitative analysis of how college students perceive emergency response. This study evaluated the outlets in which the institutional administration utilizes to communicate emergency response management through a qualitative analysis. The researcher conducted individual respondent interviews where a standard interview guide was generated for each interview. The interview guide consisted of different questions that allowed the participant to recollect situations in which communication between the university and student population had been effective or not for the sake of the community. Various questions were asked that allowed me to understand whether or not the circumstances that the participant shared with me reflected the effectiveness of the communication response function. After the interviews were completed a modified grounded theory approach was used to analyze my feedback. Once the interviews were analyzed the characteristics of the Crime Prevention through Environmental Designs model was applied to each interview, on a case by case basis. A thorough process of coding occurred at this point which led me to my final analysis and assisted me in discovering the answers to my research question.

A3 Kimberly Reading (Dr. Paul Croce)  
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### **A Pineland Understory: Women and African Americans in the Historical Environment of Orange City, FL**

Historical works written about this community are largely deficient in their representations of African Americans and women in relation to the early success of Orange City. This research follows available historical records, extracting the stories of women and African Americans interactions with the environment where

Orange City began. Pulling also from the town history beginning in 1875, the lives of pioneering women and African Americans bring to life a thriving community that provided opportunities for social mobility and economic independence. Holding vital economic, social and leadership roles enabled them to shape the development of the town while remaining in the shadows of tradition. Highlighting their contributions has revealed uniquely progressive attributes held by this piney settlement in western Volusia County.

F9 Kathleen Renner (Dr. Michael King)  
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### **The presence of FOXO transcription factor, a key component in the insulin signaling pathway, does not affect learning and memory in *Drosophila melanogaster***

Insulin receptors are found in high densities in the olfactory bulb and hippocampus of the brain. In the insulin signaling cascade, the FOXO transcription factor is a key downstream signaling component which ultimately results in learning and memory formation in both mammals and *Drosophila melanogaster*. I hypothesized that *D. melanogaster* with normal expression of the FOXO transcription factor would be able to learn and retain information better than *D. melanogaster* with FOXO deletion. Both groups of flies were trained to recognize two different odors that were paired with either a positive or negative reinforcement. The test presented the two odors simultaneously and allowed flies to choose an odor in a t-shaped apparatus. After training, FOXO flies showed a statistically significant learned preference for the positive reinforcement, whereas the no-FOXO flies did not show a learned preference. However, t-test results when comparing the retention of the two groups showed no statistical significance that one group learned and retained better than the other. The hypothesis was not supported; data suggested that one group did not learn or retain the training better than the other. In today's world when *diabetes mellitus*

is becoming more prevalent, it is important to build a better understanding of how insulin could affect cognition.

F15 Deja Rivera (Dr. Michael King)  
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### **Electrical Stimulation of the Anterior Gustatory Cortex Increased the Fos-IR Neurons in the Anterior Region and TR Behavioral Output in Conscious Rats**

The taste pathway ascends from the nucleus of solitary tract (NST) to the parabrachial nucleus (PBN) then to either the reticular formation (Rt) or the gustatory cortex (GC). These regions of the brain that are part of the taste pathway produced either an ingestive or an aversive behavior depending on the type of stimulant. In the taste pathway the GC is important for perceiving tastes but it remains unclear as to how Fos-IR neurons in this region influence the behavioral output (MacDonald et al, 2012). Because this influence on the behavioral output is unknown, in this study the anterior GC was electrically stimulated to see what taste reactivity (TR) behavioral outputs were displayed in conscious rats. The amount of Fos-IR neurons was counted in the GC, as well as the NST, PBN, and Rt, to see if there was an increase when stimulated. Along with if the amount of Fos-IR neurons in the GC and the brainstem were correlated to the TR behaviors displayed to determine if there was a relationship between the activated neurons and behaviors performed. It was hypothesized that by electrically stimulating the anterior GC would increase ingestive behavior and increase the Fos-IR neurons in the anterior GC. It was also hypothesized that there would be an increase of Fos-IR neurons in the waist region of the PBN. The results supported the first hypothesis that there would be an increase in the number of Fos-IR neurons in the anterior GC. Also, that by stimulating the anterior GC there would be an increase in behavioral displays. But there was no connection with the amount of Fos-IR neurons in the GC to the increase in behavioral outputs in the conscious rats. The second

hypothesis on the increase of Fos-IR in the waist region of the PBN was not supported.

C7 Maria Rodriguez, Erin Long, Margarita Parris, Joshua Jude, and Conner Mitchell (Dr. Tara Batista) [mmrodrig@stetson.edu](mailto:mmrodrig@stetson.edu)

### **Stetson ENACTUS: Bettering Our Community through Entrepreneurial Action**

This presentation is the accumulation of the work, conducted over the past six months, by Stetson University's Enactus chapter. It is being presented by ENACTUS members: Erin Long, Margarita Parris, Josh Jude and Conner Mitchell. The presentation will be a shorted version of the one being presented at the Nation ENACTUS competition by Emma Campbell, David Sawyer, Stella Parris, and Tanner Gunderson. The program is sponsored by Dr. Tara Batista and is under the social enterprise minor. This year, we have started three projects that apply business ideas and concepts to improve the quality of life and standard of living in local communities. Our presentation will highlight the successes from these projects, the outcomes that we have achieved, and impacts that we anticipate.

F14 Niulma Rodriguez and Elsia Williams (Dr. Kenneth Nusbaum) [ncrodrig@stetson.edu](mailto:ncrodrig@stetson.edu)  
**Perceptions of the Human Papillomavirus Vaccine among College Students at The University of the Virgin Islands and Stetson University**

The purpose of this research is to investigate attitudes towards the Human Papillomavirus vaccine and any knowledge, racial, and gender disparities that may exist among college students at The University of the Virgin Islands and Stetson University. The data obtained from the research will help gain a better understanding of the frequencies of vaccination along with the awareness, barriers, and attitudes. Results can be used as a tool to address and improve public health measures and HPV immunization programs.

D13 Jessica Rosenblum (Dr. Carol Corcoran)  
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### **The Effects of Integrating Music and Movement in Elementary School Classrooms**

Music and movement can affect learning in many different ways. There are connections to how the brain functions, to students' mental health, and to students' behavior. In addition to the advantages that music and movement provides to students' learning and achievement in school, it provides a way for teachers to engage their students in the curriculum. Through a semester-long internship, I was able to incorporate music and movement into a first grade classroom. Findings indicate that integrating music and movement into the classroom helps with differentiating instruction, motivating students, and deepening their understanding of information taught.

F11 Ethan Royal (Dr. Terrence Farrell)  
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### **The Effects of Prey Species on Pygmy Rattlesnake (*Sistrurus miliarius*) Foraging Behaviors**

Pigmy rattlesnakes are dietary generalists that eat amphibians, reptiles, mammals and centipedes. We investigated foraging in pigmy rattlesnakes in field behavior trials. We filmed rattlesnakes that were found in typical foraging postures for 40 minutes. We randomly exposed each snake to one of three treatments: frog, anole, or control. In the frog and anole treatments snakes were presented with either a green treefrog (*Hyla cinerea*) or a green anole (*Anolis carolinensis*) tethered approximately one meter from the snake using string, while control snakes were exposed to string with no prey. We found that pigmies tongue flicked and respired at significantly higher rates if they relocated at some point during the trial, and that pigmies were statistically less likely to relocate in the presence of an anole. We observed three instances of caudal luring; twice in anole trials and once in a frog trial. There was no statistically significant difference in the

frequency of caudal luring between the treatments. All snakes that used caudal luring in field trials were mature adults, contradicting previous studies that hypothesized caudal luring in pigmy rattlesnakes was limited to juveniles.

D8A John Salis, Nathan Hilliard and Christian Micklish (Dr. Gary Oliphant)  
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### **Xeres: An Adaptable Reservation System\***

Xeres is a reservation system that can be adapted to the needs of any business or university. Designed for ease of use, scalability, and customization, the system allows users to change how and what they are reserving, and add or remove features as they see fit. The purpose of Xeres is to replace the current archaic formats of reservation systems. Rather than tailoring to specific needs and devices, Xeres improves upon flexibility and responds to the variety of devices in today's market.

- Second Place, 2015 Cairns Innovation Challenge

C15 Susan Scaggs (Dr. J. Abbott)  
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### **Effective Public Engagement: A Case Study of Oil Spill Restoration Engagement in Mississippi and Louisiana**

The Deepwater Horizon oil spill of 2010 caused widespread and long lasting issues for ecosystems and communities across the Gulf Coast. Despite many of these problems being severe, the litigation required for Gulf States to receive money from BP has taken longer than was initially anticipated. As a result, the restoration work needed to help the coast recover is just beginning. Several different institutions that cover the public and private sectors are all interested in participating in restoration, and thus the necessity for strong communication has become essential. In each state, funds are being distributed by governmental organizations, and there is a need for those organizations to communicate with their public. This communication, called public



engagement, is what I will be focusing on. By taking an in depth look at the public engagement strategies and their results in both Mississippi and Louisiana, I would like to determine what effective public engagement looks like, and why it is essential for successful restoration strategies across the five Gulf States.

B11 Justin Snyder (Dr. T. Wayne Bailey)  
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### **The United States of Inequality: How Elites Have Undermined Democracy, Exacerbated Inequality and Created an Oligarchical State**

The United States has entered an era political scientist Larry Bartels has identified as a new Gilded Age where a small number economic elites have received a disproportionate share of the growth in national income and in turn, exude the most influence over lawmakers in Washington DC. In a political system that proclaims to be a beacon of hope and democracy, America's perverted democratic system appears to eroding as the policy priorities of the top .01 percent of income earners have become the priorities of Congress. But why, as the federal government and media alike claim that the United States has recovered from the Great Recession of 2007-2008, does it seem that economic inequality is continuing to worsen? What effect increasing economic inequality gap had on the democratic system? The paper will seek to answer these questions by utilizing a hybrid methodology that will include a historical analysis and qualitative analysis featuring data from Thomas Piketty and others. The paper will argue that in its current form which is not democratic in the true historical sense of the term, the United States' version of democracy is incapable of solving its growing problem of inequality and furthermore until substantive and structural reforms are made, the American system can only and will only exacerbate the problem further.

A11 Preston Stanger (Dr. Ken McCoy)  
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### **Theatre Performance through Gardner's Lens**

Most modern acting is based on the methods of Constantin Stanislavski, some components of which are in his 1936 book *An Actor Prepares*. Some of the features of Stanislavski's Method have some common ground with Howard Gardner's theories of multiple intelligences as described in his book *Frames of the Mind* (1983). In my presentation I will compare and contrast the two, proposing 'Gardner's Lens,' which I define as using Stanislavski's Method supplemented by Howard Gardner's multiple intelligence theory in both text analysis and experimentation in rehearsal. The key point of similarity between Gardner's Theory and Stanislavski's Method is in the area of motivating behavior, that is, of employing tactics to pursue and obtain something the subject desires. My study yields a step by step process for character analysis in a dramatic text using Gardner's Lens.

C9 Dylan Stearns (Dr. Eric Kurlander),  
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### **The Rosewood Exception: A Unique Case of Race, Class, and Violence in the Interwar South**

This presentation will attempt to uncover why the Rosewood Massacre of 1923 is a unique case in studying race, class, and violence in the South during the Interwar period of American history. The event commonly known as the Rosewood Massacre took place over the first week of January in 1923 in Rosewood, Florida, a small predominantly African-American community which was located a few miles east of Cedar Key, FL and about an hour west of Gainesville, FL. At least six blacks and two whites were said to have been killed during the Rosewood Massacre. The presentation will go through the events of the week in Rosewood and those who were connected to the killings. By explaining the events and how both whites and African-Americans responded in Rosewood to what was going on around them, the

presentation will show that the proceedings at Rosewood in 1923 made this an exceptional case study in Southern violence history at the time compared to other Southern race riots and massacres going on in this time period. It will also explain how the event can be considered a race riot instead of the commonly accepted term of massacre by going over the definitions of race riot and massacre. The presentation will show how the Rosewood Exception can fit into being called a race riot instead of a massacre.

C5 Marcus Stovall (Dr. Ranjini Thaver)  
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### **Analyzing Various Community Development Strategies Being Implemented To Revitalize the Spring Hill Community of Deland, Florida**

The Spring Hill community of Deland, FL consists of 4-miles of dilapidated homes dependent on septic tanks, roads obsolete of sidewalks, and nearly half of its' residents living well below poverty level. Community revitalization and maintenance is one of the most essential tasks to successful economic development of this community. The Spring Hill Community Redevelopment Agency (CRA) has been the driving force behind the resurrection of the somewhat forgotten community. Being composed of seven representatives, ranging from council members to resident appointed spokespersons, the local government looks to the CRA for guidance on stimulating the Spring Hill Community. This Spring Hill community center serves as the chief source of further development and revitalization for the community and its' members. Community revitalization and economic development has been the driving force behind several sources of research and study into successful practices of said methods. Many of these sources offer great insight into the history of community revitalization practices and strive to further develop their theories as to why those projects either fail or succeed. I strive to discern the strengths and weaknesses of their initiatives and discover the keys to success in rebuilding and restoring low-income areas.

F7 Allison Sutherlin, (Dr. Will Miles)  
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### **An Analysis of Forces and Motion in Weight Lifting\***

Collegiate athletes undergo intense physical training to gain an advantage against their competitors. A mathematical model that can analyze weight lifting motions would be beneficial to players, coaches, and weight lifting trainers. To represent the human body mathematically, the body is broken down into 5 links consisting of the forearm, upper arm, trunk, upper leg, and lower leg. A force and torque analysis is performed for simple, single link motion, motivated by the bench press exercise. The link and corresponding joint for the seated leg raise exercise are considered in the analysis. The tangential component of force contributes to the torque acting on the body. The equation for torque is set equal to the gravity, tangential, and moment of inertia components that yield the total torque acting on the link. A relationship between torque and angular acceleration is established using arc length. Applying this relationship, a homogenous, nonlinear, second order differential equation is derived and solved in Matlab. This project aims to analyze lifting motions to create a generalized differential equation that describes a particular lifting motion. The analysis is presented, and proposed future work is put forth.

- Recipient of a 2014 SURE Grant

A7A Catherine Thuruthiyil (Dr. D Wayne Bailey)  
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### **A Dark Story: How Queer Theory Lends A Critical Perspective in Analyzing Racial Inclusion at Stetson University**

Stetson University's recent Gender and Sexuality Conference (GSC) left many people and their constructed realities destabilized in a very queer way. Darkmatter Rage (DMR), the spoken-word queer South Asian activist group

gave two workshops and a closing performance at the conference. DMR was able to share its critical analysis of capitalism and colonialism with an audience that was mostly unfamiliar with how queer theory could help change their life. In going to their workshop about deconstructing the academic industrial complex, I saw how queer theory could lend itself as an important political tool in analyzing Stetson University's inclusiveness as an institutional case study. Through multiple interviews of faculty and student attendees of the GSC and data gathered from Stetson's Fact Books and Institutional Student Outcomes, I have used queer theory to reveal a competing narrative to PR's marketing of the nature of racial inclusion at Stetson University and have provided action steps for where our political imagination should be extended.

A6 Katherine Tonner, (Dr. Erin Moore)  
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### **Staying Together: Influence of Love Styles and Jealousy-Evoking Behavior\***

Jealousy is a complicated factor in romantic relationships. Many theories have explored jealousy and relationship satisfaction using couples, but few studies have sought to identify how exactly jealousy and satisfaction are tied to relationship longevity and compatibility. We have compiled a survey to explore the use of jealousy-evoking behavior, actions intended to create jealousy in one's partner, and comparing individuals and couples according to their perceived level of commitment, love styles, attachment styles, emotional, intellectual, and sexual satisfaction within the relationship, and relationship stressors. We hypothesize that certain love styles will be more compatible with each other, and that certain love style and attachment style matches will be indicators of relationship longevity. We also hypothesize that relationship longevity will be tied to overall relationship satisfaction. Our goal is to shed light on relationship length and we seek to

understand more about what keeps couples together.

- 2014 SURE Grant recipient

D3 Kiara Urena (Dr. K. C. Ma)  
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### **Netflix (NFLX)**

I will be presenting a stock recommendation for Netflix (NFLX), focusing on five main points: Reengineering Hollywood, ground breaking original content, revolutionizing television culture, international expansion, and stock valuation. Reengineering Hollywood: Netflix remains the industry leader in providing a stand-alone online streaming service, and provides personalized profiles for each individual user; even within each household subscription. Netflix's award-winning CineMatch algorithm, which identifies traits and user patterns for each subscriber, enables the company to accurately reach individual target markets. Ground Breaking Original Content: Netflix is investing big in its original programming and is looking to bring in large numbers of subscribers through their exclusive series and movies. Revolutionizing Television Culture: Netflix has transformed the way we watch our favorite shows. They have started a popular trend called binge watching, which involves watching complete television seasons or series in one day or for hours in one sitting. 79% of binge watchers say that this is a more enjoyable form of watching television, while 53% say they enjoy it even more if they binge with someone else. Relatedly, Netflix is also changing family dynamics by adapting to their schedules and encouraging the spending of quality time among family members. International Expansion Domination: With continuing focus on growth through international expansion, Netflix is expecting to turn profit on its Canada operations for 2014. Stock Valuation: Due to their new original content, strong margins, and potential opportunities for market share penetration, we estimate that Netflix's stock is undervalued by 18% with a fair value of \$445.61.

C8A Billie Ventimiglia, Neri Ordaz, Rachael Rades, Maxwell Droznin (Dr. David Houston)  
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### **Cultural Comparison Amidst Political Conflict**

By using common and differing experiences through study abroad programs in Russia and Central Asia we will explore differences in the areas available for Study abroad in Stetson's SPREES Program. We will discuss differences in culture between the cities of St. Petersburg, Russia and Moscow, Russia during our time spent abroad and will also discuss the colloquial linguistic phenomena we encountered. We will also explore broader political observations and cultural variances to explain the general mood and opinions we encountered from Russian citizens regarding the annexation of Crimea by Russia in the spring of 2014.

*War, Stetson, politics*

A12 Andrew Venturella (Dr. Sven Smith)  
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### **Brony Fandom and Gender Identity**

My senior thesis was a look into the Brony fandom through a sociological perspective. The Brony fandom is made of adults who enjoy the *My Little Pony* franchise in its current iteration. The primary members of this group are males, therefore there is a question of whether or not the males participating in the fandom are still following common gender identity. My research is a pilot study into the fandom in hopes of generating further research, but I personally focused on whether or not the males in the Brony fandom are doing a new form of gender identity by being a part of the group.

B13 Tabea Wanninger (Dr. Eric Kurlander)  
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### **The 'German Question' revisited: Continuity and Change from the Hallstein Doctrine to Ostpolitik\***

The policies pursued under the Hallstein Doctrine and Ostpolitik are usually perceived as being diametrically opposed. Adenauer's uncompromising west-orientation did not allow a meaningful dialogue with the East. It was a policy of confrontation based on the claim of being the sole legitimate representative of the German Volk. Conversely, Brandt's Ostpolitik was based on acknowledging the factual existence of two states on German soil. Change could only be achieved through *Wandel durch Annäherung*. However, both policies need to be evaluated against the then prevailing international environment and concurrent domestic changes in public sentiment, effectively reshaping the 'German Question.' Bearing in mind the corresponding different 'wiggle room' for an independent approach, there appear to be more commonalities between these two main pillars of West German foreign policy than is usually acknowledged by the general public. Putting this into context with the two overarching issues confronting both Adenauer and Brandt – sovereignty and reunification - it reveals a number of striking similarities between both Chancellors' policies. Consequently, the thesis maintains that, while the means were radically different, the fundamentals of their long-term goals were identical.

- Recipient of Grant from Dean's Fund, College of Arts and Sciences

B4 Kayleigh Watson (Dr. Melinda Hall, Dr. T. Wayne Bailey) [kwatson@stetson.edu](mailto:kwatson@stetson.edu)

### **The War on Individual Rights: Hypocrisy of Torture in Democratic Society**

Torture is the most dangerous threat to individual rights which liberal democratic states claim is their duty to protect; why is it then that some of these democratic states persist in their practice of torture? Individuals have never been freer than in today's globalized society. Across the world, citizens place pressure upon systems of government that bolster the rights of the

individual. In liberal democratic society, the person is empowered to make their own decisions and has a basic set of rights agreed upon at the core of their government. This ensures that people are able to play an active role in government and that the government is driven by the will of the people. People are inherently valuable; the virtues that people want to preserve become the cornerstone of this society. Yet, these states also engage in the complete opposite of what people desire. Torture is the single most dangerous threat to the very rights that liberal democratic states claim is their duty to protect. If these states are devoted to the people, why is it then that some of these democratic states persist in their practice of torture? This paper hopes to tackle this question head-on.

F16 Patrick Watson (Dr. Melissa Gibbs)  
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### **Changes in Reproduction Strategies in Invasive Exotic Catfish *Pterygoplichthys Disjunctivus* in Volusia Blue Spring, Florida, U.S.A.**

A study was conducted on the reproductive strategies of the invasive exotic catfish, *Pterygoplichthys disjunctivus* in Volusia Blue Spring Florida, from May 2005 to June 2007 by Dr. Gibbs of Stetson University. In the study, *P. disjunctivus* was found to have large seasonal change in ovary mass. *P. disjunctivus*, a native to the Rio Madeira river basin in South America, likely evolved large seasonal ovary changes due to the seasonal flooding in its native range. High water brings in more food allowing breeding season to begin. During breeding season the ovaries get larger allowing them to hold more eggs. In Volusia Blue Springs, they are known as a pest to the West Indian Manatees (*Trichechus manatus*) that use the Spring as a winter refuge. We collected *P. disjunctivus* by spearing them from the Volusia Blue Springs. From the specimens collected, 20 were randomly selected from each month to be dissected. Using morphological characteristics and previous data gathered by Gibbs et al., (2008),

we have created a better picture of *P. disjunctivus*'s reproductive patterns over time.

A13 Stephanie Wattigny (Dr. Ken McCoy)  
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### **Friday Night Live**

This presentation describes my work as head writer of the sketch comedy show, Friday Night Live performed March 27th at Stetson. Throughout the writing process, I applied Henri Bergson's "Theory of Laughter" and Second City Writer Kelly Rand's, guidelines for sketch writing. Bergson begins with an anti-empathetic posture from the audience; as he states, "Indifference is its natural environment, for laughter has no greater foe than emotion." He then identifies five techniques to prompt laughter based on this orientation. . Repetition is obvious. Jack-in-the-box describes a repetitive movement that causes either punishment or annoyance. Machine-like behavior is also repetitive but it refers to a human acting as a thoughtless machine. Dancing Jack refers to when a character is interpreted as a toy in the hands of another. Snowball Effect is one terrible event one after another accumulating towards a large climax. Kelly Rand presents an outline that includes adherence to certain patterns associated with time limit, plot structure, and character development. The result was 5 live sketches and 4 short films that each contain one or more of Bergson's frameworks and that follow the guidelines that Kelly Rand proposes.

A5 Andrea White (Dr. Sven Smith)  
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### **Gender Wage Gap: Does it Exist?**

The purpose of this study was to explore the relationship between the income of male and female head of households (HOH) in the United States and the social status variables of that head of household. The research is longitudinal, using three different data sets from the Survey of Consumer Finances from 1989, 1998, and 2010. The framework of the

study is Marxian Feminist Theory and rests upon human capital theory. Human capital theorists states that people are compensated as a reflection of their skills and overall societal value (Wallace and Wolf 2006: 148). The specific question for the research project is, Do women who are head of household face a gender pay gap? If so, is it influenced by social status of HOH? The specific data collection that was used was secondary data analysis. This was a longitudinal study that three separate interviews were chosen from. The first one was from 1989, the second one from 1998, and the third one from 2010. For each of the three years I ran univariate, bivariate, and multivariate statistics. The results suggest that gender does influence income of head of household, however not as greatly as social status. The trends are consistent throughout each of the years with more influence on social status, but there is still an effect with gender. Conclusions that were reached from this research support the ideas posited by human capital theory and its proposition that people are paid depending on their skills and their overall societal value, more so than gender.

B17 Brooke Wickham (Dr. T. Wayne Bailey)  
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### **The Case of Midterm Elections and the Development of Party Identification**

The study of party identification provides a basis for understanding the overall political behavior of the American electorate. Party identification is defined as a person's long-term psychological attachment to a political party. Several scholars have found that a person's party identification is largely inherited from their parents. However, this does not explain the number of college-aged students that have developed a political attachment that is different from their parents. The purpose of this study is to gain a further understanding of a college-aged student's development of party identification over the course of a midterm election. In order to test this relationship, data will be used from a pre and post midterm

election survey conducted on a random sample of Stetson students. In doing so, this paper will test how the events surrounding a midterm election influence a person's short term development of party identification.

F8 Molly Winsten (Dr, Michele Skelton)  
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### **To be or not to be gluten free, that is the question**

Specialty diets are a notable topic of interest in our current society. Gluten free diets are on the rise, thus calling for an investigation into the potential benefits or drawbacks a diet without gluten may offer. The purpose of this presentation is to review current literature about gluten and gluten free diets, as well as to distinguish between a gluten intolerance and celiac disease. Additionally, data from a recent study on gluten free diets in competitive endurance athletes will be shared.

E5 Emily Sloane Workman (Dr. Kirsten Work)  
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### **Variation in the Volusia Blue Spring food web as determined by stable isotope analysis**

Florida springs have experienced a variety of disturbances, such as changes in flow rates, changes in nutrient quantities and ratios, and introductions of exotic species. To evaluate the effects of these disturbances, a picture of spring food webs is vital. Stable isotope analysis (SIA) of carbon and nitrogen was used to determine nutrient sources and trophic levels of organisms in Volusia Blue Spring, and to construct a food web. We collected seasonal samples of leaves, algae, amphipods, sailfin mollies (*Poecilia latipinna*), and mosquitofish (*Gambusia holbrooki*) at three different locations: the spring boil, approximately midrun, and the St. Johns River. We collected fecal samples of Florida manatee (*Trichechus manatus*) and fecal samples of sailfin suckermouth catfish (*Pterygoplichthys disjunctivus*) to determine how migratory and exotic species fit within the food web. Isotopic signatures of many

organisms differed seasonally (between fall and spring/summer) and spatially (between the spring run and the river), possibly due to fertilizer inputs to the spring from the aquifer. Isotopic signatures of exotic armored catfish, sailfin mollies, and mosquitofish were similar. However, manatee nitrogen signatures indicated a lower trophic level than the permanent spring vertebrates, and carbon signatures consistent with its presumed reliance on aquatic plants in the river.

C18 Christian Wright (Dr. Dixon Sutherland)  
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### **Celtic to Christian: A Deconstructive Analysis of Religious Assimilation**

The Celts are one of the most mysterious civilizations in history. Much of their history is embedded within legends formed by their spiritualistic religions. Many of these legends were combined with a spreading Christian faith to form stories of new saints, some of whom were originally Celtic gods and goddesses. This process has often been described as assimilation. However, this is a poor understanding of the events and evidence. Using deconstruction methods of textual analysis, first developed by Jacques Derrida, this paper illustrates the mixing of pagan Celtic religion with Christianity by comparing two legends, one prior to St. Patrick's voyages and the other after. It argues that Irish-Celtic religion needed to subvert (undermine) the incoming Christianity in order to ensure its own survival and that efforts at subversion were successful.

## **SCHOOL OF LAW**

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### **The Equality Paradox: Countering the Antonymic Trend of LGBT Equality**

This paper will argue the need of comprehensive and uniform legal protections against workplace discrimination for members of the LGBT community. Despite progressive holdings in the Supreme Court and pending legislation all in favor of inclusion for the LGBT community when it comes to workplace discrimination, politicking has inevitably prevented full protection. Through an analysis of relevant employment and constitutional law cases, this paper will conclude that the Supreme Court must act in order to include the LGBT community within the class of citizens protected from workplace discrimination.

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### **Motor Vehicle Licensing Schemes: The Not-So-Obvious Solution to State Drone Legislation**

Those interested in using drones range from your average citizen interested in a new hobby to public service entities interested in using drones for investigatory purposes to major corporations interested in being the first to capitalize on the innovative technology. Whatever one might wish to use a drone for, a plethora of legal issues is implicated, and there is very little law currently in place to provide guidance on the use of drones on both the federal and state level. Florida, like many other states, has only regulated law enforcement use of drones, but regulations for private use may soon be on the horizon. Amidst the ambiguity and confusion surrounding federal proposed laws and the reach of state legislation, lies a surprisingly simple, yet overlooked solution: motor vehicle licensing schemes. This presentation will provide insight on the legal implications incited with the growing use of drones and will suggest that states, particularly Florida, can combat these implications while avoiding federal preemption by adopting a system similar to their already well-functioning motor vehicle regulations.

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### **Playing the Game: Using Online Games to Prepare Pro Se Litigants for Court**

The number of individuals deciding to forego hiring a lawyer and choosing representing themselves continues to rise. There is continued discussion regarding systematic and procedural reforms aimed at helping pro se litigants navigate the legal system, but there has been little discussion of how online games can help. This Article discusses how online games can be used to help pro se litigants learn to effectively advocate their own cases in court.

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### **A Puzzle of Privileges With a Missing Piece: Why Guardians Ad Litem Should Enjoy a Privilege of Confidentiality With the Children for Whom They Advocate**

It is no secret that teens keep secrets, especially from caregivers such as their parents. Children who have been removed from their parents and placed in the state's welfare system may be even more likely to be deceptive or withdrawn because of the trauma they have experienced prior to removal and resulting inability to trust. These children are forced to interact with many adults while they are in a state's custody—lawyers, case managers, guardians ad litem, to name a few—and these adults must make decisions regarding the welfare of the children, knowing that the children are not likely to be completely forthcoming and honest due to their pasts. A Guardian Ad Litem ("GAL") and the child that he or she represents do not enjoy a privileged relationship, but there are significant

reasons to establish such a privilege between the two individuals. The Guardian Ad Litem program assigns volunteers to represent the interests of children that are in the state's custody. A GAL stands in the shoes of the child and acts as the child's surrogate voice in court proceedings and case plan activities. The GAL also makes recommendations to the court on behalf of the child's best interests. A vital component of the GAL's goals is the relationship with the child. The GAL meets with the child regularly, and takes the child's input, including concerns, into consideration. It is important that the GAL and the child have a rapport that lends itself to the child being open and honest with the GAL about the child's thoughts and circumstances. However, GALs are barred from assuring a child that conversations between the child and GAL can be confidential, because no such privilege exists between the GAL and the child. Because children in the state custodial system tend to be well aware that the statements they make to GALs—and other adults in the "system"—must be disclosed to the court at the court's request, children may withhold information for fear of it being disseminated to others. The withholding of information may preclude the GAL from being able to take into account all relevant information and make a fully informed recommendation to the court on behalf of the child. This paper discusses the need for the imposition of a privileged relationship between the GAL and the child. The paper discusses the benefits and potential drawbacks for such a privilege, and crafts a proposed privilege specific to the GAL-child relationship.



### **Stetson Undergraduate Research Committee:**

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