COASTAL CAROLINA UNIVERSITY

Undergraduate Research Competition

April 11-12, 2017

The Undergraduate Research Competition is a spring tradition at Coastal Carolina University. This year, students and faculty mentors from 21 different majors and all university colleges have worked to produce 111 presentations, including 70 oral presentations and 41 poster presentations. These are the results of months, and in some cases, years of effort on undergraduate research projects, and demonstrate the strength of experiential learning at CCU. Congratulations, presenters!

Program Overview

Tuesday, April 11, 2017

Noon – 3:00 PM Oral Presentations, Brittain Hall (1st floor: rooms 101, 112, and 114)
3:00 - 5:00 PM Poster Session I, Lib Jackson Student Union Atrium
5:30 – 7:30 PM Poster Session II, Lib Jackson Student Union Atrium

Wednesday, April 12, 2017

2:00 – 7:30 PM Oral Presentations, Brittain Hall (1st floor: rooms 101, 112, and 114)

Concurrent Event

Senior Exhibition (portfolios from graduating Graphic Design and Art Studio majors)

- **Portfolio 1: April 10-April 21, 2017,** Rebecca Randall Bryan Art Gallery
  Reception: Thursday, April 20, 4:30-6:30pm
- **Portfolio 2: April 26- May 5, 2017,** Rebecca Randall Bryan Art Gallery
  Reception: Thursday, April 20, 4:30-6:30pm

2017 Undergraduate Research Competition Schedule

ORAL PRESENTATIONS
Brittain Hall, First Floor

TUESDAY, APRIL 11, 2017

Time	BRITTAIN HALL RM 101	BRITTAIN HALL RM 112	BRITTAIN HALL RM 114
12:00 PM	**Kerry Dittmeier, Emma Kroger, and Nancy Phillips** Generational Perceptions of Homelessness *Faculty Mentor: Sharon Thompson*	**Rachel White** "Space" is the Buzzword: Culture, Economics, and the North American Tiny House Movement *Faculty Mentor: Deborah Breede*	**Chelsea Shoben** Investigating ROS-Mediated Neurodegeneration and Aging in C. elegans *Faculty Mentor: Daniel Williams*
12:20 PM	**Donald Fuller** Meat-eating: A Review of the Literature *Faculty Mentor: Stephen Firsing*	**Romane Delay** Gender and Organization: Leadership in Collegiate Athletics *Faculty Mentor: Deborah Breede*	**Katherine Hart** Hurricane Landfall Probability in South Carolina by County *Faculty Mentor: Craig Gilman*
12:40 PM	**Celeste Benson** Altered States: Addressing the Opioid Epidemic Through Public Policy *Faculty Mentor: Sherer Royce*	**Alison Lane** Casual Sources: The Dangers of Latent Ideologies *Faculty Mentor: Emma Howes*	**Molly Aeschliman** The Brain Behind the Whale: The Effects of Killer Whale Captivity *Faculty Mentor: Amanda Grefski*
1:00 PM	**Quran Randall** Passion and Hunger Can Give The Youth a Chance *Faculty Mentor: Melissa Clark*	**Charlie Whittington** The Emergence of Leaders: State Supreme Court Justices *Faculty Mentor: Mikel Norris*	**Jesse Clark** Atlantic Tropical Cyclone Intensity off the Carolinas *Faculty Mentor: Craig Gilman*
1:20 PM	**ROOM CHANGE: BRTH 109** **Christopher Trinemeyer** Test Performance, Satisfaction, and Motivation *Faculty Mentor: Terry Pettijohn*	**Sarah Causey** Judicial Emergencies Pressure Reform on the Confirmation Process in District Courts *Faculty Mentor: Mikel Norris*	**Matthew Kurpiel** Spatial and Temporal Variability in Radium-226 Distributions in Gulf of Mexico Porewaters *Faculty Mentor: Richard Peterson*
1:40 PM	**ROOM CHANGE: BRTH 109** **Kaitlyn Powalie** The Case for Miracles: Mindsets and Beliefs *Faculty Mentor: Miranda Brenneman*	**Jolito Rivera** Mandating of Two Police Officer Per Patrol Unit and The Impact of Diversity *Faculty Mentor: Holley Tankersley*	**Katina Foley** Gulf Stream Ring Climatology *Faculty Mentor: Craig Gilman*
2:00 PM	**ROOM CHANGE: BRTH 109** **Andrew Bremser** Social Media, Technology and Self-Disclosure: A Relational Study *Faculty Mentor: Terry Pettijohn*	**Carlie Todd** The "Subtle Change in the Wind": The Lives and Influence of GI Jane and Rosie the Riveter *Faculty Mentor: Maggi Morehouse*	**Adam Hitt** Chlorophyll a in Intertidal Sands of South Carolina *Faculty Mentor: Angelos Hannides*

Time	BRITTAIN HALL RM 101	BRITTAIN HALL RM 112	BRITTAIN HALL RM 114
2:20 PM	**ROOM CHANGE: BRTH 109** **Avery Petschke** Examining How Dark Personalities, Academic Major, and Gender Affect Dishonest Behavior in College Students *Faculty Mentor: Terry Pettijohn*	**Alan Lam** Change Through Time *Faculty Mentor: Dennis Earl*	**David Klett** Cardiac Morphology of Deep Sea Sharks *Faculty Mentor: Daniel Abel*
2:40 PM	**ROOM CHANGE: BRTH 109** **Rachel VanRensselaer** Gender Stereotypes Within Advertising *Faculty Mentor: Amy Tully*	**Nelda Glaze** Student Choice in Homework: Findings from a Montessori Charter School *Faculty Mentor: Catherine Scott*	**Bridges Q&A Session** Keaghan Turner and Clayton Whitesides

WEDNESDAY, APRIL 12, 2017

Time	BRITTAIN HALL RM 101	BRITTAIN HALL RM 112	BRITTAIN HALL RM 114
2:00 PM	**Bethany Bebik** Creating a Safe Space for Safe Sex: Condom and Dental Dam Accessibility and Availability at Coastal Carolina University *Faculty Mentor: Fredanna McGough*	**Yaicha Ocampo** Dishonored Rights in the Military *Faculty Mentors: Amy Tully and David Holiday*	**Kavonna Butler** Attitudes Towards Police Brutality *Faculty Mentor: Mikel Norris*
2:20 PM	**Ashley Lynch** Horry Hope Initiative: Quantifying Perceptions of Opioid Addiction *Faculty Mentor: Sharon Thompson*	**Julia Emory** Cultural Calamity: Applying The Tale of the Heike to Contemporary Issues *Faculty Mentor: Ronald Green*	**Alexis DiMarzo** **T**he Individual, Party Polarization, and its Policy Effects *Faculty Mentors: Kaitlyn Sidorsky and Amy Tully*
2:40 PM	**Destiny Lewis** Health Behavior and Outcomes of First-generation College Students *Faculty Mentor: Lisa Winters*	**Cody Fongemie** Third Party Presidential Candidates and the Factors that Made Them Successful. *Faculty Mentor: Mikel Norris*	**Ariel Lasher** Right to Life, Right to Water *Faculty Mentor: Pamela Martin*
3:00 PM	**Juden Powell** The MIND Diet and Cognitive Ability. *Faculty Mentor: Sharon Thompson*	**Hannah Hamelman** Military Prostitutes: The Korean War's Prize for American Servicemen *Faculty Mentors: Maggi Morehouse and Brandon Palmer*	**Megan Foster and Carlianne Hanks** Newsroom Culture in a Time of Economic Change *Faculty Mentor: Wendy Weinhold*
3:20 PM	**Carlianne Hanks** The Newsroom as a Family *Faculty Mentor: Andrea Bergstrom and Wendy Weinhold*	**Maria Karahalios, Gabriella Dudley, Kelly Shelton, Kate Curran, Cat Sweeney, and Cassandra Ratliff** Coastal Carolina Solar Ambassadors: A Case Study of Solar Policy in the Grand Strand *Faculty Mentor: Pamela Martin*	**Nicholas Legut** How Much Seawater is Filtered through Long Bay, SC *Faculty Mentor: Angelos Hannides*

Time	BRITTAIN HALL RM 101	BRITTAIN HALL RM 112	BRITTAIN HALL RM 114
3:40 PM	**Adrianna Seals** "Assault is not an Accident": A Case Study into the Media Portrayals of the Brock Turner Rape Case *Faculty Mentor: Deborah Breede*	**Ryan Case** The Effects of Presidential Rhetoric on the Public and Policy Execution *Faculty Mentor: Michael Julius Amy Tully*	**Madison Dahle and Emily Klouda** Evaluation of Phosphate Method Detection Limits for Coastal Carolina University's Water Quality Monitoring Program *Faculty Mentor: Susan Libes*
4:00 PM		**Tanya Jones** Oak Hall Plantation: Slavery to Citizenship *Faculty Mentor: Maggi Morehouse*	**Jacqueline McMillen** Human Interactions and the Effects on Mother-Calf Relations in Dolphin Societies *Faculty Mentor: Jeremy Killian*
4:20 PM	**Jeanie Serrette** How Social Media is Changing Language and Is it Bad? *Faculty Mentor: Amy Tully*	**justin LeSuer** Constitution Interpretation in Early American Politics *Faculty Mentor: John Navin*	**Sarah Davis** Human Development and Coastal Zone Impacts on the Behavior of the Ghost Crab, *Ocypode quadrata*. *Faculty Mentor: Eric Rosch*
4:40 PM	**Madeline Shaw** Hashtag Feminism: Activism in Digital Media *Faculty Mentor: Ina Seethaler*	**Amelia Dobbs** Jack Cole and Andy Blankenbuehler: The Influence of Ethnic Dance on Choreographic Style *Faculty Mentor: Adam Pelty*	**Michael Muir** Remote Sensing the Effects of Hurricane Matthew *Faculty Mentor: Louis Keiner*
5:00 PM	**Olivia Campbell** Maladaptive Personality Traits Relationship to Heredity *Faculty Mentor: Terry Pettijohn*	**Dara Potts** Clown Therapy: Healing One Laugh at a Time *Faculty Mentors: Amy Tully and Ben Sota*	**Stephen Penton** Rough Ocean Surface Effects on Atmospheric Refractivity Inversions *Faculty Mentor: Erin Hackett*
5:20 PM	**Tyler Marsh** The Relationship Between Narcissism and Spirituality as a Scientific Construct *Faculty Mentor: Joan Piroch*	**Jonathan Lawley** An Experimental Study on the Near Wake Flow Features of Boobook Owal during Flapping Flight *Faculty Mentor: Roi Gurka*	**Alyssa Risner** A New Generation of Maze for a Drosophila Olfactory Memory Assay *Faculty Mentor: Varavut Limpasuvan Fang Ju Lin*
5:40 PM	**John Rossano** Loneliness and Videogame Playing *Faculty Mentor: Joan Piroch*	**Austin Finley** "I Wanna Go Fast!" Designing an Engine Control Unit for Motorsport *Faculty Mentor: William Jones*	**Lisa Pieterse** Isolating *Staphylococcus Aureus* and *E. Coli* Bacteriophages from CCU Student Population as a Means for Alternative MRSA Treatment *Faculty Mentor: Paul Richardson*
6:00 PM	**Skylar Byrd** How Coffee and Cupcake Odors Affect Attentional Performance in College Students *Faculty Mentor: Dr. Terry Pettijohn*	**Marquay Byrd** Mechanical and Electrical Components in Aerospace Systems *Faculty Mentor: Louis Rubbo*	**Ashley Pribble** Characterizing Galactosemia in *C. elegans* *Faculty Mentor: Daniel Williams*

Time	BRITTAIN HALL RM 101	BRITTAIN HALL RM 112	BRITTAIN HALL RM 114
6:20 PM	**Daniele Aguilera** College Students Attitudes Toward Deservingness of Government Assistance *Faculty Mentor: Joan Piroch*	**Aaron LaValle** Exploring Multi-Stage Rockets and Escaping from Earth *Faculty Mentor: Louis Rubbo*	**Rebeccah Rodger** Effects of Hypoxia and Temperature on Growth and Differentiation of *Eublepharis macularius* and *Rhacodactylus ciliatus* Embryos. *Faculty Mentor: Scott Parker*
6:40 PM	**Kaitlyn Benson** Gender, Perceived Stress, and Coping Strategy as Predictors of Emotional Eating in College Students *Faculty Mentor: Linda Palm*	**Steven Manz** Building a Competitive Robot from the Ground Up. *Faculty Mentor: Louis Rubbo*	**Katherine Hunt** Optimal Context for Play Based Pedagogy in Science *Faculty Mentors: Brandi Neal, Steven McCartney, and Louis Rubbo*
7:00 PM	**Kyla Powell** Social Media's Impact on Public Relations: How Professionals are Adapting and Making Use of Social Media *Faculty Mentor: Wes Fondren*		

2017 Undergraduate Research Competition
POSTER PRESENTATIONS
Lib Jackson Student Union – Atrium

Session I: Tuesday, April 11, 2017, 3:00pm-5:00pm
Session II: Tuesday, April 11, 2017, 5:30pm-7:30pm

POSTER SESSION I
Tuesday, April 11, 2017, 3:00pm-5:00pm

SEAN CARTER, Exercise Sport Science (# 25)
The Effects of Repeated Bouts of Foam Rolling on Hip Range of Motion and Functional Assessment Compared across Different Tissues
Faculty Research Mentor: MacGregor Hall, Kinesiology

ELIZABETH CHRISTMAS and ALEXIS SETTA, Biochemistry (# 32)
Comparison of Bacteriophage Found at Residential and Commercial Environments
Faculty Research Mentor: Paul Richardson, Chemistry

NICHOLAS CONWAY, Marine Science (# 2)
Tracing Extreme Floods of the Waccamaw River Using Oxbow Lake Deposits
Faculty Research Mentor: Zhixiong Shen, Marine Science

GARRETT ELMO, Marine Science (# 4)
Selective Occupancy of Nesting Sites by Co-occurring Oyster Reef Fishes
Faculty Research Mentor: Juli Harding, Marine Science

CAITLYN GOODWIN, Exercise Sport Science (# 27)
Foam Rolling Duration for Greatest Improvements in Range of Motion
Faculty Research Mentor: Jason Smith, Kinesiology

IVY HANCOCK, Marine Science (# 7)
Bridge The Gap
Faculty Research Mentor: Suzan Libes, Marine Science/Coastal Marine Systems Science

TAYLOR HINDS, Biochemistry & Psychology (# 34)
Characterization and Cloning of myr1, a vab-1 allele that Causes Developmental Defects in *C. elegans*.
Faculty Research Mentor: Daniel Williams, Biology

JAMES JOHNSON and CARRIGEN MANNS, Marine Science (#19)
Assessing the Impacts of Hurricane Matthew on Ghost Crab Populations and An Examination of Morphometrics
Faculty Research Mentor: Eric Rosch, Marine Science

BAILEY KIRKLAND, Psychology (# 11)
Aromatherapy Effects on Anxiety Levels
Faculty Research Mentor: Andrew Terranova, Psychology

MADELEINE LEE, Marine Science (# 9)
The Movement of Nitrogen through a Stormwater Retention Pond System
Faculty Research Mentor: Angelos Hannides, Marine Science

LAUREN LETTIERE, Exercise Sport Science (# 29)
The Effects of Externally Paced, Velocity Specific Resistance Training on Power and Performance
Faculty Research Mentor: MacGregor Hall, Kinesiology

CIERRA LUCAS, Biology (# 36)
Digestive Efficiency and Energetic Content in the Prey of Diamondback Terrapins
Faculty Research Mentor: Scott Parker, Biology

EMILY OTSTOTT, Marine Science (# 20)
Underwater Video Observations of a Marine Fish Assemblage Associated with Hard-bottom Habitat of North Carolina
Faculty Research Mentor: Erin Burge, Marine Science

CAITLIN REVEAL, Exercise Sport Science (# 31)
The Effects of Vaccinations on Public Health
Faculty Research Mentors: Ashlee Case & Jeremy Killian, Kinesiology/Honors Program

LUCILLE ROMANIK, OLIVIA CAMPBELL, and AVERY PETSCHKE, Psychology & Art Studio (# 13)
Personality and Traditional Gender Role Beliefs among College Student Voters in the 2016 U.S. Presidential Election
Faculty Research Mentor: Terry Pettijohn, Psychology

RACHEL TRIMBLE, Marine Science (# 22)
Coral Resistance to Increasing Temperatures in Different Regions
Faculty Research Mentor: Louis Keiner, Physics

ZACKERY WHITE, Biology (# 38)
Does Clicker Training Work
Faculty Research Mentor: Chris Hill, Biology

ASHLEY WHITEHEAD, Psychology (# 15)
Effects of Cell Phone Interference on Task Completion and Task-related Frustration
Faculty Research Mentor: Terry Pettijohn, Psychology

HANNAH WOLF, Communication (# 17)
Violence in the Media: Scaring Us One Program at a Time
Faculty Research Mentors: Amy Tully & Wes Fondren, College of Humanities and Fine Arts/Communication, Media, and Culture

POSTER SESSION II

Tuesday, April 11, 2017, 5:30pm-7:30pm

Mary Akers, Marine Science (#24)
Phytoplankton communities and nutrient dynamics in Winyah Bay, S.C.
Faculty Research Mentor: George Boneillo, Marine Science

TYLER AULFFO, Marine Science (# 1)
Diatoms and the Maintenance of Kleptoplasty within Estuarine *Foraminifera*
Faculty Research Mentor: Megan Cevasco, Biology

HALLIE BONDS, Communication (# 16)
Woven
Faculty Research Mentor: Deborah Breede, Communication, Media, and Culture

HALEY CODERRE, Marine Science (# 3)
Physical Conditions Associated with Hypoxia in Long Bay, SC
Faculty Research Mentors: Diane Fribance, Erin Hackett, & Roi Gurka, Marine Science/Coastal Marine Systems Science

ERIKA DESALVIO and BRIANNA TRAMUTOLO, Marine Science (# 5)
Estimating the Abundance of the Northern South Carolina Estuarine System of Bottlenose Dolphins (*Tursiops Truncatus*)
Faculty Research Mentors: Robert Young & Daniela Silva, Marine Science

SABRINA DORFMAN, Interdisciplinary Studies (# 33)
How Green Cemeteries Can Help Reverse The Effects Of Deforestation
Faculty Research Mentor: Brandi Neal, Communication, Media, and Culture

KYLEY DUNMEYER, Marine Science (# 6)
Microplastics Distribution in the Coastal Waters of Myrtle Beach, SC.
Faculty Research Mentor: George Boneillo, Marine Science

SAVANA EVANS, Marine Science (# 8)
Testing Ghost Crab (*Ocypode quadrata*) Digging Behavior in Different Environments
Faculty Research Mentor: Eric Rosch, Marine Science

ANDREW FERNICOLA and COREY DIRKS, Exercise Sport Science (# 26)
The Effect of Repeated Foam Rolling of Passive Tissue vs. Active Tissue on Hip Motion
Faculty Research Mentor: MacGregor Hall, Kinesiology

CASEY FLECK, Computer Science (# 14)
Finding the Shortest Algorithm for Solving a Rubik's Cube
Faculty Research Mentor: Thomas Hoffman, Mathematics & Statistics

IVY HANCOCK, Marine Science (# 10)
Nutrient Limitation of Phytoplankton Communities in Long Bay, South Carolina.
Faculty Research Mentor: George Boneillo, Marine Science

BRION HARRISON, Marine Science & Biology (# 21)
Testing a Molecular Identification Assay for *glochidia* Parasitic on Fish from Lake Waccamaw, North Carolina
Faculty Research Mentor: Erin Burge, Marine Science

LEANDRA HURLBERT, Exercise Sport Science (# 28)
The Relationship of Body Composition to Countermovement Vertical Jump Characteristics Across Loaded Conditions
Faculty Research Mentor: Christopher MacDonald, Kinesiology

DILLON KING, Marine Science & Biochemistry (# 23)
Abundance and Distribution of Microplastic Particles in Winyah Bay, South Carolina
Faculty Research Mentor: George Boneillo, & Jane Guentze, Marine Science

KATELYNN LASCALA, Biology (# 35)
Analysis of beta-spectrin in *C. elegans*
Faculty Research Mentor: Daniel Williams, Biology

SAVANNAH SMITH, Communication (# 18)
The Secrete Of Adoption
Faculty Research Mentor: Deborah Breede, Communication, Media, and Culture

ALISON SOLES, Biology (# 37)
Ethics of Declawing Felines
Faculty Research Mentor: Jeremy Killian, Honors Program

EMILIE-KATHERINE TAVERNIER, Biology (# 39)
Analysis and Discovery of Singly Methylated Sugars in Wild Type and Transgenic Tobacco Cell Walls
Faculty Research Mentor: Eugene Nothnagel, Professor of Plant Physiology, University of California, Riverside.

EMILY TAYLOR, Public Health (# 12)
Stroke Rehabilitation Regulation, Accreditation, and the Results of Both
Faculty Research Mentor: Stephen Firsing, Public Health

RACHEL WAGNER, Mathematics (#40)
Modeling Emergency Room Arrivals Using the Non-Homogeneous Poisson Process
Faculty Research Mentor: Lindsey Bell, Mathematics and Statistics

COURTNEY WEEKS, Exercise Sport Science (# 30)
The Effects of Static and Dynamics Stretching on Flexibility and Vertical Jump Performance
Faculty Research Mentor: Jason Smith, Kinesiology

2017 Undergraduate Research Competition Abstracts

(Alphabetical by Presenter)

The Brain Behind the Whale: The Effects of Killer Whale Captivity (Oral Presentation)
Molly Aeschliman (Marine Science)
Faculty Research Mentor: Amanda Grefski, English

Most humans believe that we, as a species, are the most complex due to our influence on the world around us. Because of this thought process, many humans devalue other species. Contrary to common belief, many creatures out there are more intelligent than you may perceive. Case in point, the killer whale. This creature, made diminutive by popular culture, has emotional, cognitive, and relationship properties that are certainly different, but comparable to humans. With this in mind, many people from multiple fields of study have determined that with this complexity of intelligence, creatures such as the killer whale should not be contained in places like zoos and aquariums for the petty function of mere entertainment. This way of treatment may lead to, and at some points already has caused, extreme mental strain, heightened stress levels, and even aggressive attacks on the humans that take care of them.

College Students Attitudes Toward Deservingness of Government Assistance (Oral Presentation)
Daniele Aguilera (Psychology)
Faculty Research Mentor: Joan Piroch, Psychology

This study was designed to examine attitudes of college students toward deservingness of government assistance. Undergraduate students (n = 197) read one of two scenarios. One scenario referred to an immigrant family and one to a non-immigrant family. Subjects completed a demographic survey, the Welfare Measure (WM), an instrument developed by the investigator and designed to measure deservingness of government assistance, and the Political Conservatism Measure (PCM). The researcher hypothesized that subjects who read the immigrant family scenario would be less supportive of government assistance for the family compared to the non-immigrant family group. Results of an independent t-test were nearly significant ($p = .06$) and supported the hypothesis. Additional analyses were calculated and will be discussed. This study is important in order to educate the public concerning issues related to government assistance, and perhaps to inform government officials responsible for distributing assistance.

Phytoplankton Communities and Nutrient Dynamics in Winyah Bay, S.C. (Poster Presentation)
Mary Akers (Marine Science)
Faculty Research Mentor: George Boneillo, Marine Science

Winyah Bay, a coastal plain estuary in South Carolina, receives freshwater input from four rivers, the Waccamaw, Sampit, Black, and Pee Dee Rivers. From fall 2015 to winter 2016 research cruises were performed along 39 transects from the head to the mouth of the estuary. Temperature, salinity, dissolved oxygen, turbidity, pH, chlorophyll, and nutrient concentrations

were measured. Nutrient bioassay experiments were conducted to examine nutrient limitation in Winyah Bay. Results indicated Winyah Bay was limited by both light and nutrients. Results also demonstrated that near the mouth of Winyah Bay, where nutrient concentrations and turbidity were lower than upstream locations, phytoplankton were more nitrogen limited. During this sampling period, Winyah Bay was impacted by a large rain event in October of 2015 and Hurricane Matthew in October 2016. Both rain events caused an observed decrease in surface salinity, oxygen, and a shift in phytoplankton communities in Winyah Bay.

Diatoms and the Maintenance of Kleptoplasty within Estuarine *Foraminifera* (Poster Presentation)
Tyler Aulffo (Marine Science)
Faculty Research Mentor: Megan Cevasco, Biology

The specificity of diatom plastid organelles participating in the biological phenomenon of kleptoplasty is investigated using molecular sequencing of nuclear and chloroplast genes. The molecular diversity of recovered from environmental samples indicate a broad range of diatom taxa that contribute functional chloroplasts to the kleptoplastic conditon within foraminiferal host cells. The expression of rbcL genes was determined from cDNA constructed from environmental diatoms.

Creating a Safe Space for Safe Sex: Condom and Dental Dam Accessibility and Availability at Coastal Carolina University (Oral Presentation)
Bethany Bebik (Public Health)
Faculty Research Mentor: Fredanna McGough, Public Health

Protecting yourself while engaging in sex is crucial, especially among young adults as they engage in intimate relationships. Half of sexually transmitted infections (STIs) diagnosed every year occur among people between the ages of 15 to 24 and STIs are on the rise among college aged students. The possibility of contracting an STI can be lowered through using risk reduction resources, such as condoms and dental dams. While Coastal Carolina University have these items currently available to students, there are limits to students' accessibility and availability. Through surveys, the primary investigator will assess Coastal Carolina University students' current methods of protection, views of sexual health, and their perception of accessibility and availability of risk reduction resources. Based on the results of the survey, a policy recommendation will be developed to ensure that students are being provided with risk reduction resources when they choose to engage in sexual activities.

Altered States: Addressing the Opioid Epidemic Through Public Policy (Oral Presentation)
Celeste Benson (Public Health)
Faculty Research Mentor: Sherer Royce, Public Health

The United States is currently facing an opioid abuse crisis. Opioids, which include the street drug heroin and prescription opioid pain relievers, were responsible for more than 33,000 deaths in 2015, making drug overdose deaths the leading cause of injury death in the United

States. In response to this crisis, many states, including South Carolina, have adopted their own overdose prevention policies designed to improve layperson access to Naloxone, a life-saving drug that reverses the effects of opioids. These policies allow the public to obtain Naloxone and remove any legal repercussions to the public for administering the drug. Through detailed policy analysis, the overall effectiveness of state policies addressing the opioid crisis is examined. Recommendations for improvements to the state policies, such as adding measures which address treatment and prevention of opioid addiction explicitly, as well as the consideration of a uniform federal policy is discussed.

Gender, Perceived Stress, and Coping Strategy as Predictors of Emotional Eating in College Students (Oral Presentation)
Kaitlyn Benson (Biology)
Faculty Research Mentor: Linda Palm, Psychology

This study examined gender, perceived stress, and adaptive coping as predictors of positive emotional eating and negative emotional eating in college students. The participants were 219 undergraduate students from a public university in the southeastern United States. Participants completed a demographic survey, the Perceived Stress Scale, the Emotional Appetite Questionnaire, and the Brief COPE. Analyses of gender differences indicated that women had significantly higher perceived stress and adaptive coping scores, whereas men scored significantly higher on both positive and negative emotional eating. Multiple regression analyses showed that gender and adaptive coping were significant predictors of positive emotional eating, while gender was the only significant predictor of negative emotional eating. In contrast to some previous studies, stress was not a significant predictor for either positive emotional eating or negative emotional eating. The findings of this study have implications for university personnel who work to enhance student well-being.

Woven (Poster Presentation)
Hallie Bonds (Communication)
Faculty Research Mentor: Deborah Breede, Communication, Media and Culture

This study is examining the affect that hair has on identity. Sense of identity, physical attractiveness, and portrayals in the media are some of the factors that influence women's management of their hair. The methods in which this data will be collected is within an ethnography. This ethnography will include observation, participation, interviews, and auto-ethnographic data. Specifically for the auto-ethnographic data, I am particularly positioned in the spectrum of being “mixed race” in the African-American community. Research in this area is pertinent to understand the effect of hair on aspects such as identity, race, class, gender, and group affiliation.

Social Media, Technology and Self-Disclosure: A Relational Study (Oral Presentation)
Andrew Bremser (Psychology)
Faculty Research Mentor: Terry Pettijohn, Psychology

February 4, 2004 was in-arguably a day that changed the United States and the world. Slightly overshadowed by global events, Facebook.com (or the facebook.com at the time) was launched and quickly sparked the phenomena of social media (McGarry 2014). Within 10 years, Facebook.com had secured more than 400 million users (Carlson, 2010). In today's world, social media is an influence that cannot be ignored. A large amount of research had been conducted in terms of how social media influences culture, norms and the individual in an increasingly global arena. Little effort has been spent on intimate examination of how social media influences the individual. The focus of this experiment will be on determining the extent to which individuals limit themselves to disclose highly personal information and are driven to fulfill socially desirable roles when exposed to social media.

Attitudes Towards Police Brutality (Oral Presentation)
Kavonna Butler (Political Science)
Faculty Research Mentor: Mikel Norris, Politics and Geography

Race relations in today's society are as prevalent as they were during the era of the Civil Rights Movement. Prominent features of straining race relations today are the media, the history of law enforcement, excessive force, and the evolution of the Black Lives Matter Movement (BLM). In effect, the United States are facing rising numbers of racially motivated police brutality incidents of unarmed victims. Through the use of surveys and different scenarios, I will test the different perceptions of police brutality and racism within the United States. From analyzing the responses of the surveys and scenarios given, I hope to prove the polarization of races in America effects the interpretation of police brutality. In my results, I was able to find polarized differences based on race, gender, scenarios, and political ideology with varying questions of the survey.

Mechanical and Electrical Components in Aerospace Systems (Oral Presentation)
Marquay Byrd (Physics)
Faculty Research Mentor: Louis Rubbo, Chemistry and Physics

For this competition I plan on partnering with the Pittsburgh Institute For Aviation and Aerospace hands-on program, led by a multiple Aerospace Engineers. Where I will have a unique relationship with PIA to learn about airplane engines in a hands-on environment. Through this experience I plan to gain an in-depth understanding of mechanical systems that will complement my textbook studies of physics I have gained as an undergraduate at Coastal. Along side them I will also be conducting my own research on aircraft equipment on a regular basis, looking for parts that may need repaired or replaced. Some of the components you would work on include brakes, wheels, electrical systems, wings, the critical laws of flight, gravity, and other aerospace systems.

How Coffee and Cupcake Odors Affect Attentional Performance in College Students (Oral Presentation)
Skylar Byrd (Psychology)
Faculty Research Mentor: Terry Pettijohn, Psychology

The effects of scent on attentional performance, stress, and time management skills in college students were tested. Cupcake oil and brewed coffee were used during an attentional task to determine if these scent stimuli made a difference in performance scores, stress levels, and time management skills. Experimenters predicted that participants tested under the coffee scent would report higher attentional performance scores, higher time management skills, and lower stress levels. Forty-eight college-age participants were randomly assigned to three scent condition groups and examined using the D2 Test of Attention before filling out a Time Management Questionnaire and a Stress Rating Questionnaire. Though the participants tested under the coffee scent had higher mean performance scores, there was no significant difference found between scent conditions for attentional performance, stress, or time management skills. These findings suggest little or no effect of scent stimuli on attentional performance, stress levels, and time management skills.

Effects of Training Fatigue on the Javelin Throw (Poster Presentation)
Marissa Cain (Exercise and Sport Science)
Faculty Research Mentor: MacGregor Hall, Exercise and Sport Science

Fatigue has been shown to negatively impact the performance of overhead throwers in baseball pitchers, swimmers, tennis players and volleyball players. However, the effect of fatigue has not been studied in javelin throwers. Factors that fatigue affect can be observed as poor limb positioning, reduced acceleration velocity and reduced deceleration time, which may contribute to a greater risk of injury. Four NCAA Division I javelin throwers performed a series of throws during different intervals of training during a normal javelin practice over the course of a season. Video assessment and performance measures will be used to determine if and when fatigue begins to affect the throw. Differences in biomechanics will be discussed.

Maladaptive Personality Traits Relationship to Heredity (Oral Presentation)
Olivia Campbell (Psychology)
Faculty Research Mentor: Terry Pettijohn, Psychology

The Short Dark Triad (SD3) is a measure of three social traits that are generally unacceptable to others, including psychopathy, Machiavellianism, and narcissism. The current study was designed to compare these traits to biological findings, including heredity and digit ratio. Specifically, this research aims to find a link between the genes of college-aged participants to their direct relatives such as brothers, sisters, and parents to SD3. The study also aims to find a relationship between the second-to-fourth digit ratio (D2:D4) and each Short Dark Triad trait. The researcher anticipates that women will share more similar SD3 results with mothers and sisters, while men will share similar results as fathers and brothers. It is also hypothesized that people with lower D2:D4 ratios will have higher SD3 scores.

The Effects of Repeated Bouts of Foam Rolling on Hip Range of Motion and Functional Assessment Compared across Different Tissues (Poster Presentation)
Sean Carter (Exercise and Sport Science)
Faculty Research Mentor: MacGregor Hall, Exercise and Sport Science

Foam rolling (FR) is purported to break down fascial adhesions, which would allow for a more efficient movement. Studies evaluating FR have only used this modality over muscle that contains fascia and not over fascia without muscle. PURPOSE: To determine the acute effect of FR over fascia that contains muscle (gluteal muscle group) compared to fascia that does not contain muscle (iliotibial band (ITB)) on hip adduction range of motion (ROM). METHODS: 70 university students completed five weeks of FR, twice per week. After a 5 minute warm-up, participants were tested for hip adduction ROM using the Ober test and a functional step test. Subjects either FR over the gluteal muscle group (active session), or FR over ITB (passive session). Following the five weeks of FR, Ober and step measurements were reassessed. RESULTS: Differences in Ober and functional assessment will be discussed.

The Effects of Presidential Rhetoric on the Public and Policy Execution (Oral Presentation)
Ryan Case (Political Science)
Faculty Research Mentors: Michael Julius, Politics and Geography and Amy Tully, College of Humanities and Fine Arts

My research observes and analyzes the effects of presidential rhetoric with a focus on policy execution and public opinion. Public rhetoric on a policy issue from three different presidencies will be studied. I consider Ronald Reagan's words concerning the Soviet Union, George W. Bush's attempt to justify and popularize his efforts in Iraq, and Barack Obama's efforts regarding healthcare. Public response to the president's rhetorical efforts in each of these situations is measured through public opinion polls from the appropriate period, and the president's success in accomplishing these policy goals is considered qualitatively. This allows for each effort to be labeled as either a success or failure to varying degrees and for the contributing factors to be examined. From my analysis, Reagan's rhetorical methods proved to be successful, while Bush enjoyed some success along with failure, and Obama's efforts followed a similar pattern, with some initial success but ultimate failure.

Foam Rolling (Poster Presentation)
Samyra Casterlow (Exercise and Sport Science)
Faculty Research Mentor: MacGregor Hall, Exercise and Sport Science

Foam rolling (FR) is purported to break down fascial adhesions, which would allow for a more efficient movement. Studies evaluating FR have only used this modality over muscle that contains fascia and not over fascia without muscle. To determine the acute effect of FR over fascia that contains muscle (gluteal muscle group) compared to fascia that does not contain muscle (iliotibial band (ITB)) on hip adduction range of motion (ROM). METHODS: 46 participants will complete five weeks of FR on two non-consecutive days per week. Participants

will be randomly assigned to either FR their glutes or their ITB. The Ober test will determine hip flexibility before any FR. Sessions will consist of three 30 second FR bouts, with 30 seconds of rest between bouts. Ober test will be repeated at the conclusion of the study, and 1 week post all sessions. Results will be analyzed and disseminated for review.

Judicial Emergencies Pressure Reform on the Confirmation Process in District Courts (Oral Presentation)
Sarah Causey (Political Science)
Faculty Research Mentor: Mikel Norris, Politics and Geography

It is crucial to explore the causes of increased judicial emergencies in federal district courts, and the steps being taken to relieve caseloads while seeking solutions to the reoccurring problem of excessive judicial vacancies. District courts are trial courts that handle civil and criminal cases. They resolve more cases than other federal courts. Judicial emergencies occur when weighted filings exceed 600 per judgeship, or a vacancy is present over 18 months and weighted filings exceed 430. This indicates that judges in those districts are struggling with their caseload, and opens resources to relieve congestion on those courts. Here, I will propose reforms to improve the confirmation process, such as preventing excess use of filibusters, providing strict regulations on delaying tactics, and taking steps to ease the hostility between senators and the president during the confirmation phase.

Comparison of Bacteriophage Found at Residential and Commercial Environments (Poster Presentation)
Elizabeth Christmas and Alexis Setta (Biochemistry)
Faculty Research Mentor: Paul Richardson, Chemistry

The data being presented was collected in efforts to assess the difference in bacteriophage population as observed in commercial and residential areas. Bacteriophage population and diversity is expected to be greater in residential areas due to the greater population and more frequent activity levels commonly observed in residential areas. Water and fecal samples were regularly gathered from each location and tested using molecular and microbial techniques in order to be compared. PCR and electrophoresis were used as a means of confirming bacteriophage presence as well as to illustrate the differences and frequencies in species among each location. Plating techniques were used as a secondary way to confirm bacteriophage presence as well as to view viral activity when exposed to several types of bacteria. Information collected in this study becomes increasingly significant based on level of human and domestic animal interaction with the water as well as during times of flooding.

Atlantic Tropical Cyclone Intensity off the Carolinas (Oral Presentation)
Jesse Clark (Marine Science)
Faculty Research Mentor: Craig Gilman, Marine Science

Tropical Cyclones and Hurricanes have become an increasingly important area of study due to their overwhelming environmental and commercial impacts on coastlines around the world.

These storm systems require a warm sea surface to build and intensify, so the rise in global sea surface temperatures (SST) because of human-induced climate change has brought concern among researchers as to whether tropical cyclones will see a seasonal increase in intensity in response to elevated SST. To help understand the seasonal trends in tropical cyclone intensity over the last twenty years, the Accumulated Cyclone Energy (ACE) of storms was calculated through wind speed data collected from the National Hurricane Center Tropical Cyclone Reports. ACE values represent the maximum intensity and damage potential of tropical cyclones at six hour increments and were calculated within the Atlantic Ocean Basin and off the Carolinas to better understand the relationship between cyclone intensity and SST.

Physical Conditions Associated with Hypoxia in Long Bay, SC (Poster Presentation)
Haley Coderre (Marine Science)
Faculty Research Mentors: Diane Fribance, Erin Hackett, and Roi Gurka, Marine Science

Hypoxia is depletion of oxygen from water, defined here as dissolved oxygen below 4 mg/L, a state which can cause damage to coastal ecosystems. Hypoxic events have been observed during summertime in Long Bay, SC since 2004, and physical parameters of the bay have been monitored since 2006. Though there are many causes leading to hypoxia, in this system, hypoxic events have been shown to be associated with low mixing rates due to weak currents, stratification, and/or low wind speeds. This study utilizes physical properties, atmospheric conditions, and water currents measured at Apache Pier in Long Bay as well as wave parameters measured by a buoy located at Frying Pan Shoals from the summer of 2016, during which three hypoxic events occurred. These data are used to examine physical conditions co-occurring with these hypoxic events, providing further insight to the dynamics associated with hypoxia in this region.

Tracing Extreme Floods of the Waccamaw River Using Oxbow Lake Deposits (Poster Presentation)
Nicholas Conway (Marine Science)
Faculty Research Mentor: Zhixiong Shen, Marine Science

Floods are the most deadly natural disaster during the twentieth century. South Carolina was hit by two extreme floods in 2015 and 2016 causing great damages. However, scientists know little about whether these floods are related to climate change. Extending the history of extreme floods beyond historical records can help answering this question. Recent studies used oxbow lake sediments as a proxy for paleoflood study with the assumption that extreme floods tend to transport more sand sized particles to these lakes. In this study I will present an investigation on the history of extreme flood of the Waccamaw River, by analyzing grain-size change at 1 cm resolution for a 4.5 m core taken from an oxbow lake near Longs, SC to explore the role of climate change on extreme flood. The grain-size measurement is run using a CILAS 1190 particle-size analyzer and the core will be dated using radiocarbon dating.

Evaluation of Phosphate Method Detection Limits for Coastal Carolina University's Water Quality Monitoring Program (Oral Presentation)
Madison Dahle and Emily Klouda (Marine Science)
Faculty Research Mentor: Susan Libes, Marine Science

Eutrophication occurs when there is an abundance of two major nutrients in water: Nitrogen and Phosphorus. Their presence can increase phytoplankton biomass production which upon their death leads to uptake of oxygen by microbial decomposers, resulting in death of aquatic species. The purpose of this research was to find a sufficiently sensitive method for detecting Phosphates in water bodies on CCU's campus. This was done by evaluating the method detection limit of four methods: LaMotte Test strips, Hanna Phosphate checker, Hach Odyssey, and Hach DR 6000. This was done by determining the lowest concentration that each method could accurately and precisely detect. The eutrophication threshold of interest is 50 ppb phosphate. The Hach Odyssey and Hach DR 6000 can achieve this and the former has been adopted for use in CCU's campus water quality monitoring program. This program has been underway since 2011 with sampling conducted weekly at three sites.

Human Development and Coastal Zone Impacts on the Behavior of the Ghost Crab, *Ocypode quadrata* (Oral Presentation)
Sarah Davis (Marine Science and Chemistry)
Faculty Research Mentor: Eric Rosch, Marine Science

Anthropogenic disturbances, such as the destruction of sand dunes and coastal development, have been shown to impact beach-dwelling organisms like the ghost crab, Ocypode quadrata. Such impacts may be assessed by examining evidence of their exploratory movements. Ghost crabs are primarily nocturnal, and they leave behind distinct tracks from their nightly activities. The current study examined how the level of human activities affected the abundance and lengths of these tracks. Relationships connecting a burrow's beach zone location (dune, mid-beach, high tide) to the characteristics of the tracks were also analyzed. Ghost crab tracks were compared between two beaches with different levels of development to demonstrate possible patterns. The results of this study suggest that coastal development does indeed affect the exploratory behavior of this species, which carries important implications for the protection of coastal habitats and the well-being of this and other beach-dwelling organisms.

Gender and Organization: Leadership in Collegiate Athletics (Oral Presentation)
Romane Delay (Communication)
Faculty Research Mentor: Deborah Breede, Communication, Media and Culture

This ethnography looks at Men's and Women's NCAA Division 1 collegiate athletic teams. This research seeks to understand the relationship between the players on and off the field. Sport teams work together for a common goal: improve their performance on the field, and the regulation of management, decision making and leadership influences achievement of this goal. Many constraints as well as opportunities can be observed within the groups. Several other factors also affect team cohesion and management. Research methods included participant

observation and interviews with athletes within different sports to determine the everyday routines of each team and analyze shared dialogues between the members. The ethnography also reveals rituals that contribute to the management of the organization within a specific time and space. This work emphasizes the importance of group communication and the differences among gender based on social theories that explain specific behaviors within teams.

Estimating the Abundance of the Northern South Carolina Estuarine System of Bottlenose Dolphins (*Tursiops truncatus*) (Poster Presentation)
Erika DeSalvio an Brianna Tramutolo (Marine Science)
Faculty Research Mentors: Robert Young and Daniela Silva, Marine Science

Bottlenose dolphins (Tursiops truncatus) are managed under the protection of the Marine Mammal Protection Act. The Northern South Carolina Estuarine System Stock includes dolphins living in estuarine waters between Murrells Inlet and Price Inlet, SC. The purpose of this study was to estimate the abundance of this stock for management purposes and to investigate potential movements across its southern boundary. Mark and recapture photo-identification surveys were conducted in estuarine waters between North Inlet and Isle of Palms, SC from August 11 to October 2, 2016. Standard photo-identification techniques were used to photograph and analyze dorsal fin images. An abundance of 473 dolphins (CI = 251-803, CV = 0.25) was estimated using the package R capture for program R. Some individuals were observed to cross the southern stock boundary, but it is unclear to which stock they belong. Factors limiting dolphin movements across defined stock boundaries are unknown.

The Individual, Party Polarization, and its Policy Effects (Oral Presentation)
Alexis DiMarzo (Political Science)
Faculty Research Mentors: Kaitlyn Sidorsky, Politics and Geography and Amy Tully, College of Humanities and Fine Arts

Party polarization is widely seen at the congressional level where its effects on policy outcomes can be directly felt at the individual levels. Findings show that polarization begins with the individual who aligns with specific party views. The parties cannot take all of the credit, as many choose parties based on whom they are surrounded by, given that those of likeminded ideas tend to reside together, which results in more gerrymandered areas for a candidate to gain the most votes. Due to the introduction of social media this migration has become less frequent as you can now connect with the click of a button. Those voted into congressional seats are less likely to form moderate views and have the ability to compromise because it may lose them the conservative vote from either side. Individual votes lead to the representation of officials who polarize party decisions on policy issues.

Generational Perceptions of Homelessness (Oral Presentation)
Kerry Dittmeier, Emma Kroger, and Nancy Philips (Public Health)
Faculty Research Mentor: Sharon Thompson, Public Health

Homelessness is a serious problem that comes at a very high cost to individuals and communities. There are many conflicting views about Millennials (born 1978 - 2009) compared to other generational groups in our country. While some believe they distinguish themselves by their social activism and philanthropic behaviors, others describe them as quite the opposite. Due to the lack of prior research on Millennials' perceptions of homelessness, it was determined that there was need to examine the generational breakdown of attitudes towards persons who are homeless. This was accomplished through an online survey, Homelessness in Horry County, which assessed generational differences in perceptions of factors contributing to homelessness. This survey was completed by 518 participants (60% Millennials; 40% other generation groups). Results will be discussed.

Jack Cole and Andy Blankenbuehler: The Influence of Ethnic Dance on Choreographic Style (Oral Presentation)
Amelia Dobbs (Musical Theater)
Faculty Research Mentor: Adam Pelty, Music

The word choreographer originates from the Greek word "choreia" which literally means "circle dance". The choreographer has played a role in the theatre since the Greeks, but the specific title was not utilized by the American stage until George Balanchine was billed as the "Choreographer" for the Broadway show On Your Toes in 1936. The word was added to the English American Dictionary in the 1950s and it is now engrained in the vernacular of American Show Dancing. This project seeks to illuminate the similarities between iconic Broadway choreographer Jack Cole and contemporary innovator Andy Blankenbuehler. Both artists incorporate ethnic dance into their unique choreography for the stage and screen. I have analyzed various writings on Cole and was granted an interview with Blankenbuehler. The goal of this project is to contribute to the body of work written about notable choreographers.

How Green Cemeteries Can Help Reverse The Effects Of Deforestation (Poster Presentation)
Sabrina Dorfman (Interdisciplinary Studies)
Faculty Research Mentor: Brandi Neal, Communication, Media and Culture

Green cemeteries can replace traditional stone cemeteries. This trend can help guide communities towards reforestation and reverse the effects of deforestation and climate change. Green cemeteries are an eco-friendly, alternative form of burial that uses biodegradable caskets, natural embalming substances. My research quantifies the amount of trees could be planted and how much CO2 would be eliminated if this idea took root throughout the U.S. and world. I also use surveys to display which demographics people would be interested in a green burial.

Microplastics Distribution in the Coastal Waters of Myrtle Beach, SC (Poster Presentation)
Kyley Dunmeyer (Marine Science)
Faculty Research Mentor: George Boneillo, Marine Science

The amount of microplastics in the coastal waters of Myrtle Beach, SC were investigated from spring 2016 through the winter of 2017. Whole water surface samples were collected in a steel bucket and stored in glass bottles. Samples were then filtered using a 0.45 micron filter. The plastics were enumerated based on color, shape and quantity. The most dominant pieces were blue and black microfibers. Over 85% of the marine debris found in the samples were microfibers. Microplastics were found in all samples with a mean concentration of 49 pieces per liter. The highest counts observed were over 400 pieces per liter suggesting that microplastics are becoming a major issue in the coastal waters of Myrtle Beach. We will also be presenting the seasonal trends in microplastics distribution that were observed during the sampling period.

Selective Occupancy of Nesting Sites by Co-occurring Oyster Reef Fishes (Poster Presentation)
Garrett Elmo (Marine Science)
Faculty Research Mentor: Juli Harding, Marine Science

Southeastern U.S. oyster reefs support a diverse demersal fish fauna with at least three species of combtooth blennies co-occuring in North Inlet estuary, SC. Demersal reef fish habitat selection was evaluated with artificial nest substrates to describe potential nesting site segregation based on opening size. Three different diameter PVC tubes (12.7, 19.05, and 25.4 mm) were used to simulate different oyster shell gape widths. Striped Blenny (SB, Chasmodes bosquianus), Crested Blenny (CB, Hypleurochilus geminatus), Freckled Blenny (FB, Hyposoblennius ionthas), and Naked Goby (NG, Gobiosoma bosc) were observed during 2015-16. Fish standard length was positively related to nesting tube diameter and SB were longer than other fishes. When all species were present, SB occupied larger diameter tubes (19.05 and 25.4 mm) while CB, FB, and NG occupied the smallest tubes (12.7 mm). Fishes may occupy nesting sites selectively based on opening size as well as the presence of other larger species.

Cultural Calamity: Applying The Tale of the Heike to Contemporary Issues (Oral Presentation)
Julia Emory (History and Intelligence and National Security Studies)
Faculty Research Mentor: Ronald Green, Philosophy and Religious Studies

The Tale of the Heike describes some of the battles between the Heike and Genji factions for control of Japan during the Gempei War (1180-5). The battle between these groups ushered the fall of aristocratic institutions in conjunction with the rise of warrior culture. When the Genji warriors began destroying the Heike court, they realized they were essentially destroying their own beloved traditions. The paper contextualizes these events and the representation of them in current context of the debate over Japanese militarization.

Testing Ghost Crab (*Ocypode quadrata*) Digging Behavior in Different Environments (Poster Presentation)
Savana Evans (Marine Science)
Faculty Research Mentor: Eric Rosch, Marine Science

Burrows can serve multiple purposes for different species, such as providing shelter and access to food. Many species create burrows as a threat refugium as a means to escape a nearby predator. The purpose of this study was to ascertain the frequency to which different sized ghost crabs (Ocypode quadrata) from Waties Island (WI) and Huntington Beach State Park (HBSP) exhibit burrowing behavior. These results were used to investigate how the level of human activity affects this behavior. Crabs were split into three size categories based on carapace width. Small crabs from WI exhibited burrowing behavior more often than the HBSP crabs. For the medium sized crabs, all individuals from HBSP displayed burrowing behavior, whereas fewer individuals from WI showed this response. The largest crabs from WI displayed burrowing behaviors more frequently than crabs from HBSP. These results suggest maturity and proximity to human activities can impact ghost crab burrowing behavior.

The Effect of Repeated Foam Rolling of Passive Tissue vs. Active Tissue on Hip Motion (Poster Presentation)
Andrew Fernicola and Corey Dirks (Exercise and Sport Science)
Faculty Research Mentor: MacGregor Hall, Exercise and Sport Science

Foam rolling (FR) is purported to break down fascial adhesions, which would allow for a more efficient movement. Studies evaluating FR have only used this modality over muscle that contains fascia and not over fascia without muscle. PURPOSE: To determine the acute effect of FR over fascia that contains muscle (gluteal muscle group) compared to fascia that does not contain muscle (iliotibial band (ITB)) on hip adduction range of motion (ROM). METHODS: 46 participants will complete five weeks of FR on two non-consecutive days per week. Participants will be randomly assigned to either FR their glutes or their ITB. The Ober test will determine hip flexibility before any FR. Sessions will consist of three 30 second FR bouts, with 30 seconds of rest between bouts. Ober test will be repeated at the conclusion of the study, and 1 week post all sessions. Results will be analyzed and disseminated for review.

"Wanna Go Fast!" Designing an Engine Control Unit for Motorsport (Oral Presentation)
Austin Finley (Physics)
Faculty Research Mentor: William Jones, Computer Science

Today's world of sports car endurance racing is dominated by sophisticated technology that wrings every drop of performance from the car and driver. The focus of this research is to design and implement an Engine Control Unit (ECU) for use in motorsport that will accelerate a car faster, and with at least the same fuel economy, as a factory ECU. The fuel and ignition systems play a vital role in the final design of the ECU as fuel consumption and power are considered. To test our ECU, we timed how long it took a car to accelerate through a quarter mile track starting from rest. The fuel economy test involved driving approximately 10 miles on

the highway to simulate caution laps, then driving within a city to simulate racing in which the car is constantly accelerating and decelerating to the point where the fuel level reaches three-fourths of a tank.

Finding the Shortest Algorithm for Solving a Rubik's Cube (Poster Presentation)
Casey Fleck (Computer Science)
Faculty Research Mentor: Thomas Hoffman, Mathematics and Statistics

Theoretically, a Rubik's Cube can be solved in a minimum number of 20 moves in any given state. However, there has yet been an algorithm created that can solve this phenomenon. In attempt to find such an algorithm, I have created a program in C that replicates a Rubik's Cube in any given state and attempts to solve the Rubik's Cube in under 20 moves. Finding an algorithm that can solve this Rubik's Cube puzzle in under 20 moves could be applied to other combinatorial problems such as transportation routing problems or staffing problems in a company.

Gulf Stream Ring Climatology (Oral Presentation)
Katina Foley (Marine Science)
Faculty Research Mentor: Craig Gilman, Marine Science

Along North Americas' eastern coast flows the world's fastest current known as the Gulf Stream. This current plays a major role in the circulation of heat across the globe. The path of the Gulf Stream varies with time and frequently forms the largest and most energetic ocean eddies known as Gulf Stream rings. Cold core rings form south of the current, and warm core form to the north. They distribute water and energy to different areas before eventually dissipating or rejoining the main current. This study conducts a statistical analysis of forty years worth of satellite observations of rings. Ratios between warm and cold eddies are compiled on monthly and yearly basis. Patterns and trends in ring formation were investigated and compared to the increase in global temperature that has occurred over the last forty years.

Third Party Presidential Candidates and the Factors that Made Them Successful (Oral Presentation)
Cody Fongemie (Political Science)
Faculty Research Mentor: Mikel Norris, Politics and Geography

Why do some third party candidates affect some presidential elections and not others? I theorize in my research project that three factors allow third party candidates to have a impact on the presidential elections. These factors are 1) a divide in a major party, 2) a real or perceived negative public outlook on the economy, and 3) a positive popular opinion of candidate aside from his party affiliation. By conducting case studies on the third party candidacies of Theodore Roosevelt in 1912, George Wallace in 1968, and Ross Perot in 1992, I find evidence that all of the factors mentioned are present and that they enabled these candidates to effect the outcome of these presidential elections.

"Newsroom Culture in a Time of Economic Change" (Oral Presentation)
Megan Foster and Carlianne Hanks (Communication)
Faculty Research Mentor: Wendy Weinhold, Communication, Media and Culture

This study analyzes current and past student journalists' daily routines, economic struggles and the newsroom environment in which they work. This project explores how newsroom culture at the collegiate level fosters a family environment that boosts morale during a time of economic change. In-depth interviews and participant observation were used to get an inside look at a collegiate student newspaper. The study finds that while sacrifices must be made to survive in harsh financial and economic times, the family-like environment within collegiate newsrooms during and after they graduate keeps student journalists thriving and continuing on the career path of a journalist.

Meat-eating: A Review of the Literature (Oral Presentation)
Donald Fuller (Public Health)
Faculty Research Mentor: Stephen Firsing, Public Health

The largest segment of agriculture in the United States is the meat and poultry industry. More than 93 billion pounds were produced in 2012 to be globally consumed. The purpose of this review of literature was to learn the moral reasons for humans both not eating and eating animal meat. Literature was searched using the databases PubMed, JSTOR, and Google Scholar. Relevant peer reviewed articles published between 1990 to present were reviewed. Moral reasons against eating animal meat were identified, e.g., personal health, environmental sustainability, and animal equality. Conversely, moral reasons that support eating animal meat were also identified, e.g., economic well-being. Previous literature suggests that there are multiple moral reasons against humans eating animal meat. However, the consumption of animal meat is a major contributor to the global economy.

Student Choice in Homework: Findings from a Montessori Charter School (Oral Presentation)
Nelda Glaze (Elementary Education)
Faculty Research Mentor: Catherine Scott, Education

Currently, there is no universal homework policy for Montessori schools. One of the main principles of Montessori teaching is to allow students to have a choice in their activities to promote learning (Association of Montessori International, n.d.). With this concept in mind, a local Montessori charter school changed their homework policy from assigning worksheets to allowing students to choose new activities every night that could focus on academics or helping their family and community. In this study, we examined the perspectives of the various stakeholders and discuss the challenges and benefits to changes in policy. Data collected included student and teacher interviews, parent surveys, and student work samples. Implications for schools considering homework policy revisions are also discussed.

Foam Rolling Duration for Greatest Improvements in Range of Motion (Poster Presentation)
Caitlyn Goodwin (Exercise and Sport Science)
Faculty Research Mentor: Jason Smith, Exercise and Sport Science

Foam rolling is a relatively new technique used to improve ROM (range of motion) and ease pain associated with DOMS (delayed onset muscle soreness). The current literature confirms that foam rolling has an acute effect on ROM, however, there are no specific guidelines for the most effective foam rolling duration. In this investigation, I hope to determine the optimal duration to foam roll to achieve maximal increases in ROM. After a warm up, participants will have their hamstring and gluteal flexibility assessed with a sit and reach test. Then, they will sit quietly for 10 minutes, or perform foam rolling at 60 BPM for three sets of 40, 80 or 120 seconds. Then, a second sit and reach test will be done. Any differences in ROM will be discussed.

Military Prostitutes: The Korean War's Prize for American Servicemen (Oral Presentation)
Hannah Hamelman (History)
Faculty Research Mentors: Maggi Morehouse and Brandon Palmer, History

Beginning in 1945, American military bases combined with its system's patriarchal assumptions greatly changed society in South Korea. Following the Korean War, the United States' military occupation of the southern region bore an inhumane consequence camptowns whereby Korean military prostitutes were made to serve American soldiers as sex slaves. Camptowns were in some ways regulated by the military; prostitutes experienced periodic medical examinations, yet the women were subjected to fulfilling the soldiers' sexual desires without limitations. They were also forbidden to speak of their experiences if they escaped the camptowns. One way to escape their plight was to marry a soldier. This paper will reveal the voices of the GI brides that have bravely made their stories public. My research magnifies the impacts that the GI brides and their mixed-raced children products from the military camptowns endured while also revealing the willpower these women share in pursuit of inner peace.

Bridge The Gap (Poster Presentation)
Ivy Hancock (Marine Science)
Faculty Research Mentor: Suzan Libes, Marine Science

Non-traditional scientific visualization posters to excite, educate, and enlighten CCU freshman and sophomores to join the CCU 399 water quality-monitoring program and also inspire community locals to become active citizen scientists. The flow of the poster includes the past evolution of the CCU water quality-monitoring program through the web of local coastal connections & partnerships, present findings, and future goals. Presently, we hypothesize water quality entering campus cleaner than it is exciting. The title "Bridge The Gap" is a symbolic proposal for the future of Coastal Carolina University to unite the colleges on campus to bring campus awareness to environmental issues, and fix it. We the millennia have a responsibility and a right to protect the water quality of our campus, our community, our

country, and our world therefore we must start by bridging the gaps between citizens, science, and policy.

Nutrient Limitation of Phytoplankton Communities in Long Bay, South Carolina (Poster Presentation)
Ivy Hancock (Marine Science)
Faculty Research Mentor: George Boneillo, Marine Science

From September 4, 2016 through February 14, 2017, a total of 11 nutrient bioassay experiments were conducted in Long Bay, South Carolina. Sampling locations were located at Cherry Grove Pier, Apache Pier, and 2nd Avenue Pier in Myrtle Beach, SC. Overall, 9 of the 11 experiments showed nitrogen limitation and 6 of the 11 experiments showed phosphate limitation. On October 12, 2016, 4 days after Hurricane Matthew impacted South Carolina, both nitrogen and phosphate did not limited phytoplankton comminutes. This was the only experiment were no nutrient limitation was detected. In February of 2017, phytoplankton comminutes from Myrtle Beach State Park Pier were sampled and demonstrated nitrogen but not phosphate limitation. These microplankton populations were dominated by Skeletonema, Asterionellopsis, Coscinodiscus, and Chaetocerous and were stimulated with the addition of three different sources of dissolved inorganic nitrogen (nitrate, nitrite, and ammonium) and dissolved organic nitrogen (urea).

The Newsroom as a Family (Oral Presentation)
Carlianne Hanks (Communication)
Faculty Research Mentors: Andrea Bergstrom and Wendy Weinhold, Communication, Media and Culture

Based on preliminary research, the theme of family has emerged within the sample of student journalists who participated in this project who discuss to their experiences as part of a newsroom community. This analysis builds on qualitative studies of college student newsrooms as well as a quantitative survey of past and current members of a hundred year old college newspaper. In-depth survey questions were used to obtain an in-depth look at a college newspaper and its members. This project explores how previous and current members of one collegiate newspaper organize and interact with one another as explained through a family communication perspective. The researcher seeks to examine how those within the college student newsroom communicate as a family, how that relationship benefits their overall organization, and how organizations in general can operate within this model.

Testing a Molecular Identification Assay for *glochidia* Parasitic on Fish from Lake Waccamaw, North Carolina (Poster Presentation)
Brion Harrison (Marine Science and Biology)
Faculty Research Mentor: Erin Burge, Marine Science

Understanding the ecology of North American unionids (freshwater mussels), like Elliptio waccamawensis, Lampsilis fullerkati, and Leptodea ochracea found in Lake Waccamaw, is

important because many species are imperiled. Morphological identification of adult mussels can be conducted by specialists, however such identification of their parasitic larvae has not been reported. We have created a method for identifying adult and larval stages of three Lake Waccamaw unionids by conducting virtual restriction endonuclease digestions on three loci with available sequence data (16S ribosomal subunit, ND1, coxI). Results suggest the 16S region AvaII and HindIII digestions will discriminate only for Le. ochracea, however EcoRV may provide diagnostic banding for all three mussels. Initial tests on adult mussel tissues have confirmed that the 16S region AvaII and HindIII did not differentiate between E. waccamawensis and La. fullerkati. A molecular key may be established to identify larvae to species before adult morphological characteristics develop. Such an identification method could contribute to conservation studies on rare unionids.

Hurricane Landfall Probability in South Carolina by County (Oral Presentation)
Katherine Hart (Marine Science)
Faculty Research Mentor: Craig Gilman, Marine Science

Hurricanes along the east coast of the Unites States have caused billions of dollars in damages to public and private property. Hurricane Matthew alone cost nearly 6 billion dollars. Hurricanes become most damaging when they make landfall along coastal regions. Since 1900, 19 hurricanes have made landfall in South Carolina in various counties. Without knowing where the storm will hit, the state of South Carolina must distribute resources throughout the state. This study was done to determine if there is a correlation between a hurricane's formation location and track, and the county where it makes landfall. A correlation between formation spot, track through it's lifetime as a tropical cyclone, and landfall by county could lead to a more direct and efficient evacuation and safety protocol for the general public in South Carolina.

Characterization and Cloning of myr1, a vab-1 allele that Causes Developmental Defects in *C. elegans* (Poster Presentation)
Taylor Hinds (Biochemistry and Psychology)
Faculty Research Mentor: Daniel Williams, Biology

Development of an animal from zygote to adult with the correct body plan is a complex process that encompasses cell fate specification, as well as cellular and tissue morphogenesis. The genetic model organism C. elegans is well-suited to address developmental questions because of their defined cell lineage, quick growth rates, and high number of offspring. Our lab has isolated a mutant (myr1) with an incompletely penetrant notched-head phenotype that resembles Eph receptor tyrosine kinase signaling mutants with epithelial morphogenesis defects. Complementation testing demonstrates that myr1 is an allele of vab-1, the single Eph receptor in C. elegans. Current work is focused on characterizing myr1 and determining the molecular sequence of myr1. This work could increase our understanding of Eph signaling in epithelial morphogenesis.

Chlorophyll a in Intertidal Sands of South Carolina (Oral Presentation)
Adam Hitt (Marine Science)
Faculty Research Mentor: Angelos Hannides, Marine Science

Intertidal sands are a location of intense mixing and potentially high rates of biogeochemical processes. We tested for patterns in Chlorophyll a distribution in intertidal sands at Waites Island, South Carolina, utilizing a piston core along with syringe cores at low tide and runnel formations, during a monthly time-series monitoring project. Based upon the data collected, chlorophyll a in these siliceous sands can be found in substantial concentrations (50 % of surface concentrations or greater than 0.25 μg cm^{-3}) down to depths in excess of 75 cm. In contrast, profiles at runnel formations showed a more typical structure with surface maxima when associated with ripples and reaching <5% of surface concentrations by a depth of 5 cm, suggesting different physical mixing rates and biogeochemical rates between these two common formations in the intertidal zone of high-energy beaches.

Optimal Context for Play Based Pedagogy in Science (Oral Presentation)
Katherine Hunt (Interdisciplinary Studies)
Faculty Research Mentors: Brandi Neal, Interdisciplinary Studies, Steven McCartney, English, and Louis Rubbo, Chemistry and Physics

It is now a long-standing reality that the level of science literacy in the United States is steadily falling behind. It is falling behind both the global standard, and the standard of which we maintained in the 20th century. The blight of science literacy in America finds its root in the ineffective and inconsistent public education that is permeating America's communities. Research has made it clear that science must be taught better, before performance can get better. To make best practices in science education a reality for American classrooms, this paper explores play based pedagogy as an effective tool to increase science literacy particularly in elementary and middle level grade children. While current research efforts into the use play based teaching in the classroom is still rather young, the results thus far have been overwhelmingly positive. With the whole country's education system in a desperate race to catch up in science, leveraging play as a tool for learning could be a solution that is both practical and effective.

The Relationship of Body Composition to Countermovement Vertical Jump Characteristics Across Loaded Conditions (Poster Presentation)
Leandra Hurlbert (Exercise and Sport Science)
Faculty Research Mentor: Christopher MacDonald, Exercise and Sport Science

The purpose of this work was to identify any relationships between body composition and countermovement vertical jump (CMJ) characteristics across loaded conditions. Sixty-five individuals participated in this study with height, body mass and skin-fold thickness being collected first. Next, a warm-up of five minutes of static stretching, five minutes pedaling a cycle ergometer and one unloaded CMJ took place. Finally, 12 total maximal effort CMJ's were completed: two unloaded with arm swing; then two of each 0kg, 5kg, 10kg, 15kg, and 20kg with

no arm swing. All relationships between body composition and jump characteristics were inverse and weak to moderate. Also, there were similar ranges in he strength relationships between genders. The weak to moderate inverse relationship between body composition and CMJs indicate that the more non-contractile subcutaneous tissue, the less powerful an individual becomes.

Assessing the Impacts of Hurricane Matthew on Ghost Crab Populations and an Examination of Morphometrics (Poster Presentation)
James Johnson and Carrigen Manns (Marine Science)
Faculty Research Mentor: Eric Rosch, Marine Science

Large storms, such as Hurricane Matthew that struck the South Carolina coast in October 2016, can have a major impact on coastal organisms. The magnitude of this impact can be determined by assessing the pre- and post-storm abundances and size distributions of indicator species, such as ghost crabs (*Ocypode quadrata*). The current study examined ghost crab burrow characteristics and abundances at two locations along the Grand Strand, Waties Island (WI) and Huntington Beach State Park (HBSP). A comparison of morphological characteristics of ocypodid crabs was also performed before and after Hurricane Matthew. The results suggest that the storm did indeed affect abundances and size classes of crabs at both locations, and that amount of human activity at each location may affect the ability of these populations to recover from the effects of the storm.

Oak Hall Plantation: Slavery to Citizenship (Oral Presentation)
Tanya Jones (History)
Faculty Research Mentor: Maggi Morehouse, History

This research presentation explores African American life around the 1,500 acres associated with the Oak Hall Plantation nestled on the Black Mingo River in Williamsburg County, South Carolina. This exploration of archival documents and personal ephemera including epistolary remembrances, reveals the lives of a family enslaved in the antebellum era, Civil War, landowners and today are community leaders in this area. The McConnell family deeded 77 acres to George and Grace Dorsey, who had been enslaved on the plantation. The Dorsey's are still an integral part of the community today, with such buildings as Dorsey Town School, Greater Mt. Ararat AME Church and Cemetery as part of their legacy. This research presentation will take this historical landscape and populate the place with these important African American leaders who have been overlooked, yet they inhabit the same geography as Francis Marion skirmishes, Black Mingo Church and Willtown.

Coastal Carolina Solar Ambassadors: A Case Study of Solar Policy in the Grand Strand (Oral Presentation)
Maria Karahalios (Political Science)
Faculty Research Mentor: Pamela Martin, Politics and Geography

The Coastal Carolina Solar Ambassador team worked diligently with RE-Volv, a California non-profit, to put solar panels on a community-serving organization in the Grand Strand. The goals of the project were to educate, engage, and empower our community about solar energy. To better understand the solar energy culture and policies in the Grand Strand, we conducted a case study to determine what factors influence a solar lease agreement. In this process, the team prepared solar policy analysis for all major utilities in the region, interviewed board members for the selected non-profit, and evaluated knowledge shared with them by professionals in the energy industry. As a product of this case study, the team seeks to understand the political and cultural difficulties that exist in the Grand Strand region in order to promote effective strategies and possible alternatives for solar energy to be viable in this area.

Abundance and Distribution of Microplastic Particles in Winyah Bay, South Carolina (Poster Presentation)
Dillon King (Marine Science and Biochemistry)
Faculty Research Mentors: George Boneillo and Jane Guentzel, Marine Science

Plastics are durable synthetic polymers found in a variety of consumer products. Microplastic pollution in the environment is a global concern. Microplastic particles float near the surface of the water and do no degrade rapidly. Microplastics can carry toxic contaminants throughout ecosystems and are easily ingested by aquatic organisms. Winyah Bay is an estuarine system that receives freshwater input from the Waccamaw, Sampit, Black, and Great Pee Dee Rivers. The objective of this study was to quantify the abundance of microplastics in Winyah Bay and the surrounding rivers. Additionally, this study compared microplastic sampling techniques. Water samples were collected using plankton nets with different mesh sizes, as well as whole-water samples to determine microplastic size fractions that could be underestimated using net sampling techniques. Overall, concentrations of microplastics in this environment were higher than expected and varied across sampling locations. Additionally, whole water samples had the highest concentrations of microplastics.

Aromatherapy Effects on Anxiety Levels (Poster Presentation)
Bailey Kirkland (Psychology)
Faculty Research Mentor: Andrew Terranova, Psychology

Essential oils are widely used to improve physical and mental health. Yet, little research has demonstrated their effectiveness. By randomly assigning participants to one of three conditions- completing the study in a room with the essential oil diffuser off, completing the study in a room with only water diffusing, or completing the study in a room with the stress-relieving oil diffusing, it is expected that those exposed to the essential oil will report lower state anxiety levels after completing a simple math worksheet, than those who are not exposed

to the essential oil. The essential oil exposure is not anticipated to impact trait anxiety levels. By contributing this study to the pre-existing literature, it will stand as just a small example of all the limitless future possibilities for essential oils and how they can benefit the community in a variety of ways.

Cardiac Morphology of Deep Sea Sharks (Oral Presentation)
David Klett (Marine Science)
Faculty Research Mentor: Daniel Abel, Marine Science

Cardiac morphology of deep water sharks is poorly understood. To test for significant differences between deep and shallow water shark hearts, we measured ventricle characteristics of 45 deep water sharks from 3 species (*S. mitsukurii*: shortspine dogspur: n=15*, S. cubensis*: Cuban dogfish: n=15*, C. granulosus*: gulper shark: n=15*)*. We compared these data to 3 shallow water shark species (*M. canis*: dusky smoothhound: n=3, *Deania profundorum:* arrowhead dogfish: n=1, *C. limbatus:* blacktip, n=1). There was significant variation among the means of dry weight (grams)/fork length (centimeters) ratios between the three deep water species (0.173 ± 0.028%) (μ ± SD) and *M. canis* (0.548 ± 0.363%) (ANOVA: $F_{3,44}$=16.98, p<0.05). Deep water sharks hearts were smaller than those of shallow water species. The variation in cardiac morphology between deep sea and shallow water sharks is likely caused, in part, by the lower activity levels in deep water sharks. This study represents the first examination of the hearts of deep sea sharks.

Spatial and temporal variability in radium-226 distributions in Gulf of Mexico porewaters (Oral Presentation)
Matthew Kurpiel (Marine Science)
Faculty Research Mentor: Richard Peterson, Marine Science

Flow across the sediment-water interface in the deep ocean can fuel dynamic diagenetic processes and endemic chemosynthetic communities. Radium isotopes are beginning to show promise as a tracer of this process across a variety of flow environments in the deep ocean. In this study, we use the longest-lived isotope of radium, Ra-226, as a qualitative indicator of porewater flow across the sediment-water interface in the Gulf of Mexico. This area comprises hundreds of discrete cold seeps where such flows sustain unique pelagic and benthic ecosystems. Recovered Gulf of Mexico porewaters are passed over MnO2-impregnated acrylic fiber, concentrating radium isotopes for subsequent analysis. Ra-226 is analyzed from those fibers via emanation of its radioactive daughter. Deviations from conservative mixing throughout each sedimentary profile are explored as a qualitative indicator of vertical flow direction. We compare both spatial and temporal variability in Ra-226 trends to assess dynamics of cold seep flow regimes.

Change Through Time (Oral Presentation)
Alan Lam (Philosophy and Psychology)
Faculty Research Mentor: Dennis Earl, Philosophy

Philosophers in metaphysics have presented theories on how features of an object change, yet remains the same, over time. The theory of perdurantism claims that an object persists partially, with a past, present, and future spatiotemporal parts, and does so in "time slices." The theory of endurantism claims that an object wholly persists through time. Theoretical argumentation combined with an empirical reference, enlisted from physics, makes perdurantism for a more convincing case than endurantism. With the perspective of physics, philosophers and non-philosophers can be more informed on deciding which theory fits best with the notions of identity and change through time. This paper supports perdurantism, but only to a certain extent. The caveat here is that only one aspect of perdurantism is rejected while the rest is accepted.

Casual Sources: The Dangers of Latent Ideologies (Oral Presentation)
Alison Lane (English)
Faculty Research Mentor: Emma Howes, English

In academia casual sources, like Facebook, YouTube, etc., are often simplified, minimized, and ultimately discarded as basic content produced for entertainment or pleasure lacking any real substance. Multiple ethnographic studies have shown that these sources impact students' perceptions of class, gender, politics, and race. I completed a classroom survey with the aim to find out how much text students consume regularly, who sponsors these sources, and if they take on more ideological freight from casual sources or from academic sources. I argue for bringing casual sources into the classroom to help students engage with the information they receive from them in a more critical and productive way.

Analysis of beta-spectrin in *C. elegans* (Poster Presentation)
Katelynn LaScala (Biology)
Faculty Research Mentor: Daniel Williams, Biology

The membrane skeleton of eukaryotes is important for maintenance of membrane integrity, stabilization of membrane proteins, and generation of cellular polarity. A primary component of the membrane skeleton is spectrin, a heterotetramer made up of alpha and beta-spectrin subunits. The nematode Caenorhabditis elegans is a well-established genetic model organisms that has a single homologue of beta-spectrin, which is encoded by the gene unc-70. Null alleles of unc-70 result in severe morphological and locomotor defects attributed to muscle disorganization, but the function of different beta-spectrin domains is poorly understood. We have examined the phenotype of a hypomorphic allele of unc-70 that is morphologically normal, but results in a noticeable uncoordinated phenotype. To better understand beta-spectrin function, we are quantifying the phenotypic effects of this allele.

Right to Life, Right to Water (Oral Presentation)
Ariel Lasher (Political Science)
Faculty Research Mentor: Pamela Martin, Politics and Geography

While there is no explicit right to water in the United States, there is an implicit right. Potable water is a necessity for Americans to realize their inalienable rights to Life, liberty, and the pursuit of happiness. In the United States, access to potable water is increasingly being threatened. This paper will examine the cases of Flint, MI, Grant Township, PA and South Africa to illustrate the threats to clean water and the implications for including the right to clean water in the United States. Through empirical case studies, recommendations for the Safe Drinking Water Act of 1974 and the United States Constitution will be made.

Exploring Multi-Stage Rockets and Escaping from Earth (Oral Presentation)
Aaron LaValle (Physics)
Faculty Research Mentor: Louis Rubbo, Chemistry and Physics

The Apollo XI mission to the moon was arguably one of the greatest achievements ever completed by the United States. It succeeded only because the Saturn V rocket could efficiently carry the necessary fuel to get the crew and payload out of Earth's orbit at 25,000 miles per hour. Saturn V was a three-stage rocket, with the lunar module and crew seated on the top with the third stage. This presentation will be on the benefits of multi-stage rockets and trying to optimize the ideal number of stages needed to escape Earth's gravitational pull. The position and velocity of the rocket for a multi-stage rocket will be calculated, and at each stage the overall mass of the rocket will change causing a change in total velocity of the capsule, allowing one to see whether there is such a thing as having too many stages on a rocket.

An Experimental Study on the Near Wake Flow Features of Boobook Owal during Flapping Flight (Oral Presentation)
Jonathan Lawley (Engineering Science)
Faculty Research Mentor: Roi Gurka, Coastal and Marine Systems Science

The silent flight of owls have been the subject of scientific interest for many decades and a source of inspiration in the context of reducing noise in both flapping and non-flapping flight. Over millions of years of evolution, owls have accumulated many specialized features to reduce the aerodynamic noise, which is found to be essential for successful hunting of potential prey. Here, we study the near wake flow structure and the aerodynamic loads of owls during flight. The goal is to shed light on the unique features associated with noise reduction mechanisms during flapping flight. We study the flight patterns of the Boobook owl; a mid-sized owl, which shares the common feature for owls that is stealth flight. Three owls were flown, separately, in a hypobaric avian wind tunnel at their comfort speed for various flight modes. The wake velocity field was sampled using long duration high speed Particle Image Velocimetry (PIV) whilst the wings' kinematics were imaged using high speed video simultaneously. The time series velocity maps that were acquired during a few consecutive wingbeat cycles enabled us to describe the various flow features as they formed at the owl's wake by reconstructing the wake

patterns and associate them with the various phases of the wingbeat cycle. The wing's kinematic were characterized via estimation of angular wing position, angle of attack and wing's amplitude over several cycles. The coupling of the wake flow and wing kinematics enable the pairing of the wing motion with that of the wake features. It appears that the owl's wake signature is significantly different compared with other mid-size song birds, which may indicate variations in the flow features that are associated with noise reduction (i.e.: pressure field). The aerodynamic loads, estimated from the wake flow data, including drag and lift indicate a unique trend in the formation of lift and drag over the various wingbeat phases, emphasizing the role of unsteady motion during flapping flight mode.

The Movement of Nitrogen through a Stormwater Retention Pond System (Poster Presentation)
Madeleine Lee (Marine Science)
Faculty Research Mentor: Angelos Hannides, Marine Science

Eutrophication, a common problem in aquatic environments, is a worldwide phenomenon that can lead to adverse environmental effects, and South Carolina's stormwater retention ponds are no exception. The purpose of this study was to construct a modeling tool to investigate the role of plants in mitigating HABs in stormwater retention ponds, using nitrogen as the representative nutrient. The well-studied pond number 075 on Kiawah Island, South Carolina, was used as a model system. Data was obtained from the literature on runoff, uptake by phytoplankton and plants, decomposition, particle settling, fertilizer use, dissolved and particulate nitrogen concentrations to parameterize the model. Experiments, both with and without plants, will study their effect on phytoplankton biomass. Based on the results, a recommendation will be made on the effective use of plants in stormwater ponds.

How Much Seawater is Filtered through Long Bay, SC (Oral Presentation)
Nicholas Legut (Marine Science)
Faculty Research Mentor: Angelos Hannides, Marine Science

Sediment in Long Bay, South Carolina from the intertidal zone to the innershelf is primarily characterized by permeable sands underlying a dynamic water column, therefore exchanging particles and water at rapid rates. Grain size data collected throughout the innershelf of Long Bay indicates that 99% of Long Bay sediment is highly permeable and it may be apt to view this bay as a sponge that filters water throughout the tidal cycles. The amount of water filtered is determined by replicating an experiment performed by Rupert Reidle, in-situ at Waites Island, South Carolina. Using conservative volume approximations for the Waites Island intertidal zone and the on site determination of the saturation limit it is concluded that approximately 43,378 m3/day of seawater is filtered through Waites Island intertidal zone. Further research will continue into the implications on biogeochemical processes in the nearshore environment and the role in Long Bay's biogeochemical episodic hypoxia.

Constitution Interpretation in Early American Politics (Oral Presentation)
Justin LeSuer (History)
Faculty Research Mentor: John Navin, History

It is often assumed that strict constitutional interpretation is historically a characteristic of the more conservative of the two major political parties within the United States. However, through my research of early constitutional debates, I argue that both political parties use both strict and loose constitutional interpretation when it benefits them politically. My research follows two constitutional debates between 1789 and 1803. Between the two debates, the political parties switch stances on constitutional interpretation. This research proves that it is not the case that constitutional interpretation is a policy position by either party. Rather, political parties in the U.S. use both strict and loose interpretation to serve their own interest.

The Effects of Externally Paced, Velocity Specific Resistance Training on Power and Performance (Poster Presentation)
Lauren Lettiere (Exercise and Sport Science)
Faculty Research Mentor: MacGregor Hall, Exercise and Sport Science

Externally paced influences increase neural focus on targeted muscles, thus amplifying the results in both power and strength, as found in previous resistance studies. Velocity-based resistance training has been shown to be effective in performance outcomes in resistance training. The combination of cortical output and resistance training in a velocity based setting have yet to be extensively researched. This study will assess both aspects to examine the effectiveness of these training methods for future conditioning purposes. Subjects will be randomly placed into control, speed, or power groups for 6 weeks resistance training using a velocity-based metronome-paced cadence. Prior to testing, baseline assessments for each subject will be collected using a Biodex power analysis and vertical jump. The external pacing groups will be predetermined for cadence based upon displacement, load, and desired velocity. Control groups will be self-paced. Results in power and performance will be discussed.

Health Behavior and Outcomes of First-generation College Students (Oral Presentation)
Destiny Lewis (Public Health)
Faculty Research Mentor: Lisa Winters, Public Health

There is ample research that suggests those who are considered first-generation students are at a greater social, financial, and academic disadvantage in college compared to students whose parents graduated from a four-year university. However, many studies primarily focus on the demographic characteristics and individual academic outcomes for first-generation students, without highlighting the role of the campus environment in helping them achieve overall success. The purpose of this study is to explore the effects of first-generation status on health and health-related behaviors of college students at Coastal Carolina University. More specifically, this research assesses the relationship between social integration and perceived stress for first-generation students and their continuing-generation counterparts. In this study, stress will be measured using the Perceived Stress Scale.

Digestive Efficiency and Energetic Content in the Prey of Diamondback Terrapins (Poster Presentation)
Cierra Lucas (Biology)
Faculty Research Mentor: Scott Parker, Biology

Diamondback terrapins are important secondary consumers of southeastern saltmarshes. Analysis of fecal samples suggest that terrapins primarily consume periwinkle snails (Littoraria irrorata), followed by fiddler crabs (Uca pugnax), and small numbers of fish. Optimal foraging models predict that animals pursue food resources that provide the greatest energetic benefit at the lowest acquisition cost. The purpose of this study is to measure the energetic content of these three food items and determine the digestive efficiency associated with each prey type. We measured energetic content and assimilation efficiency of periwinkles, fiddler crabs, and mullet (Mugil cephalus) using oxygen bomb calorimetry. We predict that mass-specific energy content and assimilation efficiency is highest in fish, followed by fiddler crabs, and lowest in periwinkles. Our data suggest that terrapins preferentially pursue periwinkles due to their low acquisition cost at the expense of lower overall energy content compared to fiddler crabs and fish.

Horry Hope Initiative: Quantifying Perceptions of Opioid Addiction (Oral Presentation)
Ashley Lynch (Biology)
Faculty Research Mentor: Sharon Thompson, Public Health

The current study examined differences in perceptions of substance abuse between college students, individuals suffering from and/or closely related to substance abuse, and members of the Horry county community. A needs assessment was conducted by researchers along with members of The Addicts Mom (TAM), the Horry County Police Department, and a State Senator in order to quantify the perceptions of addiction so that steps may be taken to create positive change through education and prevention. A survey measuring perceptions of substance abuse was administered and results will be discussed.

Building a Competitive Robot from the Ground Up (Oral Presentation)
Steven Manz (Engineering Science)
Faculty Research Mentor: Louis Rubbo, Chemistry and Physics

FIRST Robotics Competition is an annual competition between high school teams from around the world. Team are made of approximately 25 students, grades 9-12, ages 14-18 . These teams must design, build, and program robots to perform tasks around a field consisting of challenging obstacles and other robots in order to gain points for their team and their alliance. Each year, the FIRST Robotics Competition increases the number of teams that compete in the games. One of the major concerns that rookie teams face is finding a suitable chassis design for their robot, along with choosing the best wheels for dealing with the various obstacles found on the playing field. I have designed a tutorial for young and growing teams in the FIRST Robotics

Competition community to use to their advantage as they seek out innovative ways to create the best and most efficient robot at the games.

The Relationship Between Narcissism and Spirituality as a Scientific Construct (Oral Presentation)
Tyler Marsh (Psychology)
Faculty Research Mentor: Joan Piroch, Psychology

Researchers have investigated relationships between spirituality and personality traits related to narcissism. This study was designed to investigate the relationship between narcissism and spirituality as a scientific construct. Participants were 153 undergraduate students including 55 men and 98 women whose ages ranged from 18 to 42. Subjects completed a demographic survey, the 40-item Narcissistic Personality Inventory (NPI), which was used to measure narcissism, and the Revised Expressions of Spirituality Inventory (ESI-R) which was used to measure dimensions of spirituality. Results revealed significant positive correlations between narcissism and scores on the existential well-being subscale of the ESI-R, and narcissism and scores on the religiousness subscale. No significant gender differences were obtained for narcissism or spirituality. Since research has revealed an increase in narcissism among students on college campuses, results of this study may be useful to better understand this trend for increasing narcissism.

Human Interactions and the Effects on Mother-Calf Relations in Dolphin Societies (Oral Presentation)
Jacqueline McMillen (Marine Science)
Faculty Research Mentors: Jeremy Killian and Robert Young, Marine Science

Dolphins are social creatures that form fission-fusion societies. Within the pods, one of the most important relationships that develops is the mother-calf bond, as this pairing is crucial in the early stages of social and behavioral development. Human influence continues to change the dynamics of the ocean, including behaviors of organisms that live beneath its surface. One of these influences is an increased number of boats in the water; whether they exist for fishing or ecotourism. All parties have been found equally responsible in the promotion of food-begging among dolphins. Even a small change in feeding behaviors can drastically change the mother-calf relationship, which then grants access for new adaptive behaviors to emerge in calves. In this presentation, I will examine how these dynamic changes effect dolphin societies, primarily the relations between mothers and their calves, starting from a young age and progressing toward the possible outcome for future generations.

Remote Sensing the Effects of Hurricane Matthew (Oral Presentation)
Michael Muir (Marine Science)
Faculty Research Mentor: Louis Keiner, Physics

Between September and October of 2016, Hurricane Matthew passed over the Southeastern United States. The storm ranged from a tropical depression to a Category 4 hurricane at its

strongest. Its path, damages, and characteristics have been recorded by several scientific communities and news broadcasts. The purpose of this study was to examine the effects of Hurricane Matthew on coastal landforms. This was accomplished through the analysis of remote sensing imagery with SNAP software. Aerial imagery taken by NOAA before and after the event were compared to categorize the effects on selected coastal areas in Georgia and South Carolina. Parameters such as extent of berm retreat, over wash, water depth and landmass transport were examined, the results of which will be illustrated by this presentation.

Dishonored Rights in the Military (Oral Presentation)
Yaicha Ocampo (English and Philosophy)
Faculty Research Mentors: Amy Tully, College of Humanities and Fine Arts and David Holiday, Philosophy and Religious Studies

Religion has huge influence over individual beliefs and ideas, yet soldiers who have physical requirements for their religion must request an accommodation. The purpose of this research is to explore the tension between religious freedom and the military. I will be covering four points in this research project: 1) explain how a unified objective trumps a unified appearance 2) the military's duty to reflect societal values such as diversity and the freedom to express one's faith 3) how religious tolerance and exposure to diversity actually makes for better soldiers 4) not allowing one to express their religious customs has the potential of alienating certain members of the military and creating discord. Lastly, counterarguments against religious freedom in the military will be addressed such as one forfeiting certain rights when they join, and the protection of religious freedom in private versus public.

Microplastic Particles in Three South Carolina Rivers (Poster Presentation)
Dana Orr (Marine Science)
Faculty Research Mentor: Jane Guentzel, Marine Science

Micro plastic litter in aquatic ecosystems is a world-wide environmental issue. Typically microplastics are defined as particles ranging between 0.33 mm to 5 mm. These types of particles include monofilament fishing line/nets and microbeads used to manufacture personal care products. Microplastics can enter the environment through marine activities such as shipping, fishing and aquaculture as well as land based activities that include surface water runoff and treated wastewater effluent. These small particles float on the surface of the water and can be ingested by birds, fish, zooplankton, reptiles and mammals which can cause harm to these organisms. The objective of this study is to quantify the concentration of microplastics in whole water samples from three South Carolina rivers. The Great Pee Dee and Black rivers are characterized as SC scenic rivers and drain watersheds that are approximately 2% urban, 36% forest, 15% wetland, 25% crop and 18% scrub land. The Waccamaw river drains a watershed that is approximately 10% urban, 43% forest, 25% wetland, 4% crop and 14% scrub land. These rivers flow into Winyah and maybe a source of microplastic particles to this estuary and the South Atlantic Bight.

Underwater Video Observations of a Marine Fish Assemblage Associated with Hard-bottom Habitat of North Carolina (Poster Presentation)
Emily Otstott (Marine Science)
Faculty Research Mentor: Erin Burge, Marine Science

Underwater video is a useful tool for monitoring marine communities by providing a nonextractive sampling method with little selectivity. The fish assemblage associated with hard-bottom habitat of Frying Pan Tower, North Carolina was consistently monitored during a 3-month period using SharkCam video recordings. Species composition (total richness = 66) was assessed as a whole, by month, and within days. Relative abundance, measured for some species (n = 34) by MaxN, and species richness was compared among monthly and daily intervals. Biodiversity was analyzed by phyletic diversity using the Shannon-Wiener Diversity index and functional diversity using the Functional Attribute Diversity index. Functional attributes of interest were body length, eye diameter, trophic level, longevity, and habitat use. Local guilds were formulated based on ecological similarities. These findings help characterize the fish assemblage of Frying Pan Tower and contribute to the existing knowledge of connectivity between metrics of diversity.

Rough Ocean Surface Effects on Atmospheric Refractivity Inversions (Oral Presentation)
Stephen Penton (Computer Science and Mathematics)
Faculty Research Mentor: Erin Hackett, Coastal and Marine Systems

The prediction of radar system performance is challenging due to the effect of atmospheric refractivity (index of refraction) on radar propagation. Inversion methods are one way to address this difficulty; they use radar propagation models and measurements to inversely determine atmospheric refractivity. The interaction of radar signals with the ocean surface also influences radar propagation. This study, through the use of the Variable Terrain Radio Parabolic Equation (VTRPE) radar propagation simulation, synthetic radar data, and a genetic algorithm optimization scheme, compares the accuracy of refractivity inversions performed with and without a sea state included. Furthermore, accuracy comparisons between using the same phase-resolved ocean surface that the propagation data was measured over and using a statistically equivalent sea surface are performed. Accuracy is determined by computing the percent error between atmospheric refractivity parameters determined via the inversion process to the known parameters used to generate the synthetic radar propagation data.

Examining How Dark Personalities, Academic Major, and Gender Affect Dishonest Behavior in College Students (Oral Presentation)
Avery Petschke (Psychology)
Faculty Research Mentor: Terry Pettijohn, Psychology

One construct for measuring personality known as the Dark Triad includes the traits narcissism, Machiavellianism, and psychopathy, all of which are related to deceptive and dishonest behavior. This study examines dishonest behavior through a controlled laboratory experiment and looks at the relationships between this behavior, the Dark Triad traits, and other variables

such as academic major and gender of college students. Results should be of interest to students, faculty, and staff of universities because they may provide insight into what characteristics increase the likelihood of dishonest behavior.

Isolating Staphylococcus Aureus and E. Coli Bacteriophages from CCU Student Population as a Means for Alternative MRSA Treatment (Oral Presentation)
Lisa Pieterse (Biology)
Faculty Research Mentor: Paul Richardson, Chemistry

This study aimed to investigate the bacteriophage population occurring among students at Coastal Carolina University (CCU). Ear and nose samples were taken from randomly-sampled student volunteers across campus; both microbial tests and molecular experiments such as PCR analysis and gel electrophoresis were conducted to detect for the presence of Staphylococcus aureus- and Escherichia coli-specific bacteriophages. A total of 40 students were sampled thus far in the 2016-2017 academic year. The purpose of this study is to try and find a naturally occurring agent, or bacteriophage, that will serve to be effective in controlling Methicillin-resistant Staphylococcus aureus (MRSA) bacterial populations. The end goal of this project is to help produce an alternative medical therapy for treating MRSA, of which is antibiotic resistant.

Clown Therapy: Healing One Laugh at a Time (Oral Presentation)
Dara Potts (Theater)
Faculty Research Mentors: Amy Tully, College of Humanities and Fine Arts and Ben Sota, Theater

The goal of this paper is to explain Medical Clowning in the twenty-first century and to show how clown intervention helps pediatric patients cope with preoperative trauma. A Clown Doctor or Medical Clown receives both artistic and medical training. Medical Clowns use humor and laughter to reduce stress, give the patients tools to cope with the hospital environment, and expedite the healing process. My paper will review two studies that represent current academic literature on the benefits of Clown Doctor intervention. Both quantitative and qualitative research that measures and explains the positive outcomes associated with medical clown intervention in pediatric hospitalization will be used. Research shows benefits to medical clowning is overwhelming. Interviews with two practicing Clown Doctors are also overviewed.

The Case for Miracles: Mindsets and Beliefs (Oral Presentation)
Kaitlyn Powalie (Psychology and Philosophy)
Faculty Research Mentor: Miranda Brenneman, Psychology

Hume once argued that the phenomena of miracles go against the laws of nature, thus they do not exist. Since Hume there has been many attempts to find ways to objectively prove the existence of miracles. Many psychologists have approached this topic by researching our perceptions of miracles, what we consider to be miracles, how we process them and the types of personalities that typically are more susceptible to the belief in miracles. In this study, I explore what types of mindsets are more likely to be conductive to the belief in the existence of miracles. This study involves mindset manipulation and it is hypothesized that the more

positive people are, the more likely they are to believe in miracles. In addition, I hypothesize that when it comes to a belief in miracles, positive people are less likely to be influenced by negative events and negative people.

The MIND Diet and Cognitive Ability (Oral Presentation)
Juden Powell (Public Health)
Faculty Research Mentor: Sharon Thompson, Public Health

Can a particular dietary pattern assist with attaining and retaining brain function? Researchers have recently noted an association between the MIND diet (Mediterranean-DASH Intervention for Neurodegenerative Delay) and one's level of cognitive function. The MIND diet combines elements of the DASH (Dietary Approaches to Stop Hypertension) diet and the Mediterranean diet. The MIND diet emphasized eating whole or minimally processed plant-based foods, and limiting one's intake of high saturated fat and animal-based foods. Previous studies have shown associations between the MIND diet and slowing the rate of cognitive decline within the aging population; however, this has not been replicated with younger age human participants. The purpose of this research was to examine possible relationships between the MIND diet and cognitive ability of undergraduates. This was accomplished by the development of a survey which was completed by Coastal Carolina University students. Results will be discussed.

Social Media's Impact on Public Relations: How Professionals are Adapting and Making Use of Social Media (Poster Presentation)
Kyla Powell (Communication)
Research Faculty Mentor: Wes Fondren, Communication, Media and Culture

The purpose of this research is to observe social media and the impact it has made on the field of Public Relations (PR) since social media emerged. Social media has brought upon many different changes in the field such as how it is being practiced and managed. While social media has opened many doors and opportunities for PR it has also created challenges. It has transformed the old tradition of word of mouth and has allowed for messages to be communicated over a mass audience almost instantaneously. This research will explore both the risk and rewards involving social media and more specifically it will speak on how to control some of these risks. This study will also look at how professionals are adapting to this drastic change and making use of social media in the workplace.

Characterizing Galactosemia in C. elegans (Oral Presentation)
Ashley Pribble (Biology)
Faculty Research Mentor: Daniel Williams, Biology

Galactosemia is an inherited metabolic disorder caused by the inability to metabolize the simple sugar galactose. Classic galactosemia is due to deficiency in the enzyme galactose-1-phosphate uridyltransferase (GALT) and is thought to be due to a build up of toxic intermediates of galactose metabolism. Our lab is working to better understand galactosemia by developing a C. elegans model of galactosemia. We have identified the worm homolog of

GALT and obtained mutant alleles in this gene. Current experiments are aimed at characterizing developmental and reproductive defects of the GALT(-) worms. Ultimately, we aim to define the cellular pathology associated with galactosemia and use C. elegans genetics to identify genes that influence galactosemic conditions.

Passion and Hunger Can Give The Youth a Chance (Oral Presentation)
Quran Randall (Marketing)
Faculty Research Mentor: Melissa Clark, Marketing

Who Got Next, LLC? Is a fledgling project, of a future business venture I plan to plunge in upon graduation. This brand is built to help promote positive reinforcement onto the youth. Our foundation was constructed to give the youth an opportunity to channel their energy into basketball. With this mindset, we want to instill training and life skills to better prepare our stakeholders for success. By aiding students to gain recognition for their talent, and helping the community receive scholarships, allows for a potential outlet. Understanding that poverty is real and, that a lot of people weren't as privileged as I am, helped manifest these aspiration. Who Got Next, LLC? aims to give an opportunity onto every person in our reach. Our vision statement is, "advocating positive guidance through basketball execution."

The Effects of Vaccinations on Public Health (Poster Presentation)
Caitlin Reveal (Exercise and Sport Science)
Faculty Research Mentors: Ashlee Case, Exercise and Sport Science and Jeremy Killian, Honors Program

This is a review of scholarly literature of the importance of vaccinations and the effects of vaccination uptake and vaccination refusal on public health. It assesses how vaccinations came to exist and what they do in the human body. It highlights reasons parents opt not to vaccinate their children and the side effects vaccinations may cause. There is a major emphasis on the effectiveness of vaccinations, especially in schools, where children are much more likely to be exposed to diseases than the general public. Because healthcare workers are often at the front line of contracting and/or transmitting diseases, the importance of vaccinations in health care professionals is examined. In all, this review is meant to provide evidence that vaccinations are safe, effective and help to implement a healthy population.

A New Generation of Maze for a Drosophila Olfactory Memory Assay (Oral Presentation)
Alyssa Risner (Biology)
Faculty Research Mentors: Varavut Limpasuvan, Physics and Chemistry and Fang Ju Lin, Biology ((20))

An olfactory memory assay tests the ability of Drosophila to be trained with and recall a conditioned stimulus of an electrical shock paired with an odor. Traditionally, the memory experiments are performed in a T-maze consisting of a training chamber and an elevator to transport the flies to a choice point. However, assays vary greatly since the T-maze is not commercially available, and the associated elevator mechanism tends to kill many flies. To

address these drawbacks, a new maze prototype was designed and fabricated. Unlike a traditional T-maze, this new maze consists of multiple parts and can be easily replicated using a 3-D printer. Instead of an elevator mechanism, the new design employs compressed air to transfer the flies from the training chamber to the choice point while minimizing fly casualties. Preliminary trails of this prototype with Drosophila were conducted, which suggest an improved way for administering olfactory memory assays.

Mandating of Two Police Officer Per Patrol Unit and The Impact of Diversity (Oral Presentation)
Jolito Rivera (Political Science)
Faculty Research Mentor: Holley Tankersley, Politics and Geography

The purpose of this research is to explore the operation of police patrol units. Many police patrol units currently lack diversity as well as accountability on police officers. The first phase of correcting the deficits of the patrol units is identifying pros and cons of the current police patrolling methods. The second phase involves alternative solutions that could be put in place to create a safer and more efficient police patrolling units. I analyze these solutions to determine why they would be positive and what restrictions prevent them from being feasible. In the final phase of the paper I present a solution to overcome financial and status-quo challenges in the police department for these needed adjustments to be obtained successfully.

Effects of Hypoxia and Temperature on Growth and Differentiation of *Eublepharis macularius* and *Rhacodactylus ciliatus* Embryos (Oral Presentation)
Rebeccah Rodger (Biochemistry)
Faculty Research Mentor: Scott Parker, Biology

Embryonic development is highly dependent upon availability of oxygen during incubation. Similarly, temperature plays an important role in the development of embryos, especially in ectotherms. The purpose of this research is to quantify the effects of both temperature and oxygen availability on growth and differentiation of Eublepharis macularius (Leopard Gecko) and Rhacodactylus ciliatus (Crested Gecko) embryos. We incubated gecko embryos for ten days under one of each of the following experimental conditions: 28°C or 34°C in combination with 4%, 9%, or 21% oxygen. The embryos were subjected to these treatments 0, 15, or 25 days after oviposition. We predict that the effect of hypoxic incubation on embryo development will be greatest at 34 °C due the mismatch between O2 availability and metabolic O2 demand. Additionally, we predict that effects of hypoxia will be greatest in Crested Geckos due to reduced O2 conductance as a result of its thicker eggshell.

Personality and Traditional Gender Role Beliefs among College Student Voters in the 2016 U.S. Presidential Election (Poster Presentation)
Lucille Romanik, Olivia Campbell, and Avery Petschke (Psychology and Arts)
Faculty Research Mentor: Terry Pettijohn, Psychology

Prior to the 2016 U.S. Presidential election, college students (N=409) from a Southeastern university indicated voting intentions and completed measures of personality (including the Short Dark Triad) and gender role beliefs. Contrary to predictions, students who supported Trump and Clinton reported similar levels of Machiavellism, narcissim, psychopathy, introversion, agreeableness and emotional stability. Trump supporters also scored lower on traditional gender role beliefs than Clinton supporters. Consistent with predictions, Trump supporters scored higher on consciousness and lower on openness than Clinton supporters. ALthough past research has found people vote for candidates whose personality traits match up with the voter's own personality, the current election did not follow this general pattern.

Loneliness and Videogame Playing (Oral Presentation)
John Rossano (Psychology)
Faculty Research Mentor: Joan Piroch, Psychology

Loneliness has been studied extensively and research indicates that extreme loneliness can lead to negative health outcomes. Researchers have recently investigated how computer use might impact loneliness. This study was designed to investigate videogame playing and loneliness. A sample of undergraduate students from Coastal Carolina University volunteered to participate in this study and were assigned to one of three groups; videogame play with a confederate, videogame play with character interaction, or control group (non-videogame). Upon completion of the gaming activity participants completed a demographic survey, and the revised UCLA Loneliness Scale. The researcher hypothesized that loneliness scores would be higher for the control group than for either experimental group. A one- way ANOVA was calculated to examine scores for the dependent variable as a function of group. Results are discussed in terms of the value of computer game playing to alleviate loneliness.

"Assault is not an accident": A Case Study into the Media Portrayals of the Brock Turner Rape Case (Oral Presentation)
Adrianna Seals (Communication)
Faculty Research Mentor: Deborah Breede, Communication, Media and Culture

This media analysis discusses the Brock Turner Stanford Rape Case coverage conducted by local and national news outlets. Brock Turner raped Emily Doe in January 2015 on the Stanford campus in California. This case quickly gained media attention, due to the scandal and public outcry associated with the case. Theories of agenda-setting, framing, priming, and sensationalization were applied to help explain the media's reasons and motivations through a case study of the news coverage. This case study was designed to explain possible motives & themes behind media coverage of high profile rape cases, using the Brock Turner Case as an example. After analyzing the coverage of Fox News, CNN, and two local Bay Area stations,

I found that theories of agenda-setting, framing, priming, and sensationalism were highly utilized through the occurrence of common themes across national and local stages.

How Social Media is Changing Language and Is it Bad? (Oral Presentation)
Jeanie Serrette (English)
Faculty Research Mentor: Amy Tully, College of Humanities and Fine Arts

The growth of Social Media has begun to shape the English language differently over the years. Due to this rapid change, many individuals have deemed this technological growth as negative without knowing the full scope of what these new communication practices are doing. By dissecting the new forms of language and culture developed by Social Media, we can see that not only are new words being created, but old words and symbols have also been given new contextual meanings. Through these observations we can justify whether or not this shift is actually positive, negative, or neither.

Hashtag Feminism: Activism in Digital Media (Oral Presentation)
Madeline Shaw (English)
Faculty Research Mentor: Ina Seethaler, Women's & Gender Studies

This paper analyzes hashtag feminism and the ways in which this new mode of activism has been both progressive and detrimental to feminism. The digital spaces of Twitter and Instagram offer unique places for people to start conversations surrounding gender equality in both positive and negative ways. This paper draws on linguistic research and gender studies research of digital activism. I will discuss how people are reinforcing gender norms in these digital spaces or inscribing these gender expectations on their digital bodies, as well as fighting against them. Digital media has called attention to significant social injustices, but is that where the activism ends? Are these conversations resulting in action taken to effect change? One online campaign that is effectively addressing feminist topics is the #MuslimWomenSpeak, providing an outlet for concerns and access point for those outside of the discourse community.

Investigating ROS-Mediated Neurodegeneration and Aging in C. elegans (Oral Presentation)
Chelsea Shoben (Biology)
Faculty Research Mentor: Daniel Williams, Biology

Aging is a major risk-factor for many neurodegenerative diseases and reactive oxygen species (ROS) have been implicated in the degeneration process. However, the interplay of aging and ROS, as well as their relative influence on neurodegeneration have not been established. Our lab investigates ROS-mediated neurodegeneration using the fluorescent photosensitizer KillerRed in select neurons of C. elegans. Light activation of KillerRed produces ROS, which induce neurodegeneration of GABA neurons, and results in a characteristic "shinker" phenotype. We are currently inducing neurodegeneration at different age-points with hopes of uncovering age dependent differences in the degeneration process.

The Secrete Of Adoption (Poster Presentation)
Savannah Smith (Communication)
Faculty Research Mentor: Deborah Breede, Communication, Media and Culture

This research will take a look at many of the communicative reasons why adult adoptees seek or choose not to seek their biological parents. As the amount of adoptions taking place annually increases, so many unanswered questions remain. The questions may stretch from the adoptee parents seeking out why they chose to adopt or where the biological parents may be. However, I am focusing on the actual adoptees and what prompts them to investigate deeper into finding out who their adopted parents may be. I am focusing on symbolic interaction while completing this study. The findings suggest that there are two separate reasons why people choose to search for their birth parents, or choose to not search for their birth parents. I've categorized these themes as hope and agency.

Ethics of Declawing Felines (Poster Presentation)
Alison Soles (Biology)
Faculty Research Mentor: Jeremy Killian, Honors Program

The declawing of felines is a controversial topic within the veterinary community. It involves a surgery where the claw is amputated at the last joint of the toe. I plan to research the surgical protocol, methods, and ethical justifications behind the practice.

Analysis and Discovery of Singly Methylated Sugars in Wild Type and Transgenic Tobacco Cell Walls (Poster Presentation)
Emilie-Katherine Tavernier (Biology)
Faculty Research Mentor: Eugene Nothnagel, Botany

This project is focused on the occurrence and biosynthesis of methylated sugars in plant cell walls. Methylated sugars have one or more of the ring hydroxyl groups modified by attachment of an O-methyl ether substituent. Some methylated sugars appear in pectic polysaccharides nearly throughout the plant kingdom, while other methylated sugars are more common in relictual plants. This mixed occurrence of methylated sugars presents questions regarding their function and evolutionary significance. Research into methylated sugars is also motivated by their potential importance towards efficiency of biofuel production from cell wall biomass. Physcomitrella patens, a moss which produces abundant 3-O-methyl-rhamnosyl residues in its arabinogalactan proteins, and Nicotiana tabacum, which is a facile system for transgenic expression of candidate moss methyl transferase genes, are the two model systems in this project. The specific goal is to identify all possible singly methylated sugars within cell walls of the wild type and transgenic tobaccos.

Stroke Rehabilitation Regulation, Accreditation, and the Results of Both (Poster Presentation)
Emily Taylor (Public Health)
Faculty Research Mentor: Stephen Firsing, Public Health

The number of strokes that are resulting in death have decreased resulting in an increased number of rehabilitation cases. The study was to decide if any of the stroke rehabilitation centers faced any limitation and to compare regulation requirements. A literature review was conducted using the database PubMed. The centers that used surveys and instruments to test the patient outcomes were scored higher. All factors of the patient should be considered when assessing their improvement. Measurement of outcomes, activities, participation, other contextual factors relating to body function and structure is also important and should be included in evaluation as well as recognizing disparities of patients.

The "Subtle Change in the Wind": The Lives and Influence of GI Jane and Rosie the Riveter (Oral Presentation)
Carlie Todd (Intelligence and National Security Studies and History)
Faculty Research Mentor: Maggi Morehouse, History

The Second World War was one of the deadliest wars in all of mankind. It killed more than 50 million people, cost billions of dollars, and caused more change and damage than any other war fought throughout history. The whole world felt its effects. While much information is covered on American male soldiers during the war, what is sometimes overlooked is the important role American women played in the war effort and its influence on American society afterwards. Women also gave their own effort, time, and even lives to the war. This research explores how American women directly participated in the Second World War in the U.S. military and in defense industries. I will use first-hand accounts from American defense workers and female servicewomen to show how they participated, the challenges they faced, and how they felt about their role in society during World War II.

Coral Resistance to Increasing Temperatures in Different Regions (Poster Presentation)
Rachel Trimble (Marine Science)
Faculty Research Mentor: Louis Keiner, Physics

Coral bleaching has become a problem with the increasing temperatures killing the zooxanthellae living in the corals. With a persistent temperature increase the zooxanthellae are not able to reproduce and thrive. The study was to look at the temperatures in different coral regions and relate temperature change to the environment surrounding it. The areas of interest included Great Barrier Reef, Persian Gulf, and Jamaica. Areas were chosen due to the decline in the Great Barrier Reef, the sustainability of the Persian Gulf, and the rebounding corals in Jamaica. In the area researched satellite data from MODIS was collected from 2002-2016. Data of temperature was collected in the areas of interest and the temperatures were compared to each other to show the spikes in certain areas. The most versatile was the Persian Gulf, where the corals were able to thrive in the change.

Test Performance, Satisfaction, and Motivation (Oral Presentation)
Christopher Trinemeyer (Psychology)
Faculty Research Mentor: Terry Pettijohn, Psychology

In recent research on praise as a form of award to motivate children it was found that ambiguous praise was better than direct praise. This lead to the hypothesis that participation awards are not a good thing when given over a repeated series of events. Obtaining at convenience, participants from Coastal Carolina University, Psychology 101 classes, three groups were given algebra math tests and depending on variable group, received an award for achievement, or participation, the control group received nothing other than a grade. It is predicted that the group who is rewarded for achievement will have higher satisfaction, and scores than the group where everyone receives an award for participating.

Gender Stereotypes Within Advertising (Oral Presentation)
Rachel VanRensselaer (Communication)
Faculty Research Mentor: Amy Tully, College of Humanities and Fine Arts

The media is a huge part of our everyday lives. Advertisements are constantly in the media, shown through commercials and on billboards. The moment we turn on a television or go outside, advertisements are revealed to a variety of different people. Advertisements include messages that are relayed to viewers that may change the way they think about themselves and the world in which they live. Gender stereotypes are also part of our culture and are in the advertisements we see everyday without realizing it. Our youth being told they must accept the gender ideals that our society has set. Specifically, women are objectified and sexualized within our society and therefore put into the advertisements we see in the media. This research helps to understand why advertisements include gender stereotypes, the effects the advertisements have on viewers, and the benefits of future advertisements without gender stereotypes.

Modeling Emergency Room Arrivals Using the Non-Homogeneous Poisson Process (Poster Presentation)
Rachel Wagner (Mathematics)
Faculty Research Mentor: Lindsey Bell, Mathematics and Statistics

The purpose of this research is to determine a function that describes the rate at which people arrive in the emergency room at a local hospital. We assume that the rate of patient arrivals follows a repeating trend. The cyclic rate function has an Exponential-Polynomial-Trigonometric form. For this form, the purpose of the trigonometric component is to capture the cyclic behavior. Additionally, the polynomial component, which is a polynomial of degree m, represents the general behavior over time. The data obtained includes arrival times from randomly selected days at the local hospital. The rate function will then be applied to the non-homogeneous Poisson process in order to obtain the expected number of arrivals in a day or certain time interval and predict when the arrivals will occur. Such information is important for hospitals aiming to efficiently allocate resources.

The Effects of Static and Dynamics Stretching on Flexibility and Vertical Jump Performance (Poster Presentation)
Courtney Weeks (Exercise and Sport Science)
Faculty Research Mentor: Jason Smith, Exercise and Sport Science

Previous studies have reported 30-seconds of static stretching to be sufficient to acutely increase range of motion (ROM), but stretching for more than 45-seconds may impair vertical jump (VJ) performance. Dynamic stretching has been shown to enhance performance and increase ROM. However, static stretching is more effective at improving flexibility. Studies evaluating the combined effect of dynamic and static stretching on jump performance have reported conflicting results. Therefore, the purpose of this study is to determine the effects of static and dynamic stretching on ROM and VJ performance. Participants will complete 4 different sessions (no stretching, static stretching only, dynamic stretching only, and combination of static and dynamic stretching) in a randomized order. Results identifying differences in ROM and VJ height within and across sessions will be discussed.

"Space" is the Buzzword: Culture, Economics, and the North American Tiny House Movement (Oral Presentation)
Rachel White (Communication and Philosophy)
Faculty Research Mentor: Deborah Breede, Communication, Media and Culture

This research is a critical rhetorical investigation of the Tiny House Movement in North America. The North American Tiny House Movement is a rapidly growing population of individuals who are moving away from traditional housing to smaller, more affordable, and environmentally-friendly dwellings. The counterculture group's mode of living has sparked questions of motive and cultural symbols and norms. Through the rhetorical analysis of selected texts including television programs, YouTube videos, Tiny House blogs, interviews with involved individuals, and governing guidelines have been interpreted through the application of the cultural studies of Stuart Hall and semiotics to gain a holistic understanding of the motivations behind, as well as the societal restrictions and perceptions of the Tiny House Movement.

Does Clicker Training Work (Poster Presentation)
Zackery White (Biology)
Faculty Research Mentor: Chris Hill, Biology

The purpose of this research is to identify whether or not the proposed training method known as Clicker Training is a useful method of training that enhances learning, through a series of trick training with a clicker and a reward. The study uses *Rattus norvegicus* as the subject in the experiment to test the learning outcome while using the clicker training method.

Effects of Cell Phone Interference on Task Completion and Task-related Frustration (Poster Presentation)
Ashley Whitehead (Psychology)
Faculty Research Mentor: Terry Pettijohn, Psychology

This study sought to further investigate how cell phones impact task completion and task-related frustration, specifically when a task partner uses his or her cell phone during an assignment. We hypothesized that cell phone interference and time would impact performance and task-related frustration. Results showed that cell phone interference results in a decrease in completed amount of the task while longer assigned time increases task frustration. This adds to the growing body of work on the effects of cell phones, furthering our understanding of frustration, and how other's behaviors then impact our own.

The Emergence of Leaders: State Supreme Court Justices (Oral Presentation)
Charles Whittington (Political Science)
Faculty Research Mentor: Mikel Norris, Politics and Geography

There is a plethora of literature in the field of leadership that examines the qualities and traits an individual needs to emerge as a leader or advance in their occupation. The literature reports that gender, levels of self-confidence, and experience are key determinants in leader emergence, occupational advancement, and the overall acquisition of a leadership position. Despite the overwhelming amount of research in the field of leadership, scholars have yet to study the effects of gender, levels of self-confidence, and experience on the emergence and advancement of state supreme court justices. Analyzing data from an original survey administered current and former state supreme court justices, answers the seemingly trivial, but actually intricate, question: What qualities and traits must one possess to become a state supreme court justice?

Violence in the Media: Scaring Us One Program at a Time (Poster Presentation)
Hannah Wolf (Communication)
Faculty Research Mentors: Amy Tully, College of Humanities and Fine Arts and Wes Fondren, Communication, Media and Culture

The media is an unavoidable aspect of everyday life. Whether it's television, video games, or social media, people of all ages surround themselves with some form of media or another. Throughout the years, violence has been increasingly incorporated into television shows, movies, and video games in order to increase ratings. Studies have shown that the high levels of violence seen in the media can increase violent acts in reality, especially when introduced at a young age. However, exaggerated statistics in the news and coverage of primarily violent occurrences often tends to cause a panic within viewers. Fear in viewers is often a result of the violence shown in the media on a daily basis. This research paper will analyze the overall prevalence of violence in the media and, more specifically, how it affects the viewers that have become increasingly attached to the idea of action and violence.