The Undergraduate Research Competition is a spring tradition at Coastal Carolina University. This year, students and faculty mentors from 20 different majors and all university colleges have worked to produce 49 oral and 40 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 14, 2015
2:00-3:00 PM Oral Presentations, Brittain Hall, 1st Floor
3:00-4:30 PM Poster Session I, Lib Jackson Student Union Atrium
5:00-7:00 PM Oral Presentations, Brittain Hall, 1st Floor

Wednesday, April 15, 2015
2:00-5:00 PM Oral Presentations, Brittain Hall, 1st Floor
5:30-7:00 PM Poster Session II, Lib Jackson Student Union Atrium

Concurrent Event
Senior Exhibition (portfolios from graduating Graphic Design and Art Studio majors)
• Portfolio 1: April 8-April 19, 2015, Rebecca Randall Bryan Art Gallery
• Portfolio 2: April 27- May 9, 2015, Rebecca Randall Bryan Art Gallery

Individual Presentations and Abstracts can be found on the following pages
# 2015 Undergraduate Research Competition
## ORAL PRESENTATIONS
### Brittain Hall, First Floor
### TUESDAY, APRIL 14, 2015

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<th>Time</th>
<th>BRITTAIN HALL RM 101</th>
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| 2:00 PM    | **Katelyn Vicente**<br>
*Student Satisfaction and Greek Life*<br>*Faculty Mentor: Miranda Brennemann*<br> | **Renee Richardson**<br>
*Exploratory Usage of Global WRF for Ensemble Tropical Cyclone Simulations*<br>*Faculty Mentors: Varavut Limpasuvan and Shaowu Bao* | **Somersill Tarabek**<br>
*Co-op Parasocial Relationships between Video Game Characters and the Player*<br>*Faculty Mentor: Kyle J. Holody* |
| 2:20 PM    | **Timothy Hardwick**<br>
*Basso Continuo: The Original Lead Sheet*<br>*Faculty Mentor: Eric Crawford*<br> | **Katina Foley**<br>
*The Correlation between Light Pollution Along the Grand Strand and the Location of Sea Turtle Nests*<br>*Faculty Mentor: Louis Keiner*<br> | **Julie Emory**<br>
*Samurai in Gaming Pop Culture Abstract*<br>*Faculty Mentor: Brandon Palmer* |
| 3:00 PM to 4:30 PM | **Poster Session I**<br>Lib Jackson Student Union - Atrium (see poster schedule) |                                                                                     |                                                                                     |
| 5:00 PM    | **Dakota Fulp**<br>
*To the Death Star: Orbital Maneuvers to Arrive at a Killer Asteroid*<br>*Faculty Mentor: Louis Rubbo*<br> | **Erica Aikens**<br>
*Blood Pressure Variability While Playing Golf: Walking vs. Riding*<br>*Faculty Mentor: G. William Lyerly*<br> | **Brooke Clark**<br>
*(Un)wrapping Felix Gonzalez-Torres: The Relational Power and Contagious Wonderment of Candy and Other Things*<br>*Faculty Mentor: Triphia Pillai* |
| 5:20 PM    | **Chris Mocarski**<br>
*May the Force Be With US: Deflecting Killer Asteroids*<br>*Faculty Mentor: Louis Rubbo*<br> | **Danielle Ludlam**<br>
*Changes in Heart Rate and Energy Expenditure in College Males While Golfing: Walking vs. Riding*<br>*Faculty Mentor: G. William Lyerly*<br> | **Nina Annunziate**<br>
*Our Voices Count: LGBT Educators Experiences and Its Impact on Teacher Education*<br>*Faculty Mentor: John Delport* |
| 5:40 PM    | **Christopher Nicholson**<br>
*South Carolina Solar Policy*<br>*Faculty Mentor: Virginia Norris*<br> | **Michael Iwaszkewycz**<br>
*Acute Responses in Heart Rate When Playing Golf: Walking vs. Riding*<br>*Faculty Mentor: G. William Lyerly*<br> | **Meg Oshima**<br>
*Effects of Injury on Dorytheuthis (Loligo) Praleii’s Response to Predation Threats*<br>*Faculty Mentor: Robyn Crook* |
| 6:00 PM    | **Joseph Fleming**<br>
*South Carolina Counties: In the Shadows*<br>*Faculty Mentors: Mikel Norris and Virginia Norris*<br> | **Sarah Henry**<br>
*Energy Expenditure for Health Benefits: Actigraph Accelerometer vs. Polar Heart Rate Monitor*<br>*Faculty Mentor: G William Lyerly*<br> |                                                                                     |
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<tr>
<td>6:20 PM</td>
<td>Charles Stackhouse, Dylan Fender, Erin Bair and Austin Nichols</td>
<td>Billy Rydstrom</td>
<td>Tyler Owens</td>
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|         | "Investigating Global Corruption: Views from the International Student Festival in Trondheim [ISFIT] 2015, Norway" *Faculty Mentor: Richard Aidoo* | "The Impact of Product Placement*  
*Faculty Mentor: Monica Fine* | "Healthcare: The Effects of the Patient Protection and Affordable Care Act on the Uninsured Population and Free Clinic Services"*  
*Faculty Mentor: Sherer Royce* |
| 6:40 PM | Rodney Miller, Rebecca Truluck and Tatiana Mgrdechian                                | Jessica Geilbert                                        | Chad Smith                                              |
|         | "Gender and Political Knowledge in the 2014 South Carolina Gubernatorial Elections"  | "Curls Concerned: A Study of Reactions to Natural or Treated Hair"*  
*Faculty Mentor: Kyle J. Holody* | "Does Age Effect Preference on E-Book use Versus Traditional Reading Material?"*  
*Faculty Mentor: Jason Eastman* |

**WEDNESDAY, APRIL 15, 2015**

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<tr>
<td>2:00 PM</td>
<td>Damien Wright</td>
<td>Mallory Banton</td>
<td>Alyson Lavin</td>
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|         | "How to Protect Gotham City Using Voronoi Diagrams"*  
*Faculty Mentor: Ogul Arslan* | "Biophysical Parameters that Determine RNA-menttal Complex Formation"*  
*Faculty Mentor: Rachel Whitaker* | "Association Patterns in Atlantic Bottlenose Dolphins (Tursiops truncatus) off Northern South Carolina"*  
*Faculty Mentor: Rob Young* |
| 2:20 PM | Mariel Celin                                                                          | Sean Smith                                             | Alyssa Stinnett                                         |
|         | "Student Perception about Purchasing a Textbook for a College Course: Does Gender and Class Status Matter?"*  
*Faculty Mentor: Stephen Firsing* | "The Gallipoli Campaign"*  
*Faculty Mentors: Matt McDonough and Adam Chamberlain* | "Home Range and Core Use Areas by Atlantic Bottlenose Dolphins"*  
*Faculty Mentor: Rob Young and Eric Wright* |
| 2:40 PM | Jo Piecynski                                                                         | Nicholas Thurn                                         | John Saeger                                             |
|         | "Female Chinese Protagonists in the Context of American Secondary Education"*  
*Faculty Mentor: Cynthia Port* | "HPLC Purification of Bateriophage T2 Using a DEAE Methacrylate Monolithic Column"*  
*Faculty Mentors: Brett Simpson and Paul Richardson* | "Evaluation of Simplified Models for Refractivity Inversion Problems"*  
*Faculty Mentor: Erin Hackett* |
| 3:00 PM | Carlie Mills                                                                        | Suzanne Crass                                          | Corrine Jacobs and Marek Jendrassak                     |
|         | "Conducting Formative Research in Alcohol Social Norms Campaigns"*  
*Faculty Mentor: Mark Flynn* | Facial Feedback on Self Esteem, Optimism, and Openness to Challenge and Diversity*  
*Faculty Mentor: Terry Pettijohn* | "Effect of Turbulence on Particle Settling Velocities"*  
*Faculty Mentors: Erin Hackett and Roi Gurka* |
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| 3:20 PM    | Megan Von Kolnitz<br>
             "How Gender, Pet Presence and Pet Ownership Affects Perceived Personality Traits and Interpersonal Attraction of a Stranger"
<br>
             Faculty Mentor:  Terry Pettijohn                        | Jason Lee and Gabe Arce  
             "Safety on a Bike: That's What We Like"
<br>
             Faculty Mentors: Sharon Thompson and Eric Wright                       | Lyndsay Young
<br>
             "Multiple Pathways of Neurodegeneration in Caenorhabditis Elegans"
<br>
             Faculty Mentor:  Daniel Williams                       |
| 3:40 PM    | LeAna Norman  
             "The Relationship between Fear of Happiness and Shame and Guilt" 
<br>
             Faculty Mentor:  Joan Piroch                             | Briana Laws, DeVairay White; and Christina Auth  
             "Analyzing Perceptions of Recreational Needs of Horry County"
<br>
             Faculty Mentor: Sharon Thompson                               | Kelly Shelton, Abigail Blass,  
             Aundrea Dolan, Hailey Ensor,  
             Jessamin Straub, Kristen Kebblehouse and Tatiana Mgrdechian  
             "Issues of Erosion and Sea Level Rise along Pawley's Island, South Carolina"
<br>
             Faculty Mentor:  Pam Martin                           |
| 4:00 PM    | Aaron White  
             "Trust in Government as a Function of Race and Gender"
<br>
             Faculty Advisor:  Joan Piroch                        | Dori Sanders  
             "Does Educational Level Determine Health Practices of Employees at a Southeastern Medical Center?"
<br>
             Faculty Mentor: Sharon Thompson                         | Emily Murray  
             "Xenobalanus Index Modeling in Atlantic Bottlenose Dolphins"
<br>
             Faculty Mentor:  Rob Young                            |
| 4:20 PM    | Victoria Lambert  
             "Weight Gain and Sleeping Patterns among College Students"
<br>
             Faculty Mentor: Sharon Thompson                       | Layla Baykal  
             "Zinc is the Molecular "Switch" that Controls the Catalytic Cycle of Bacterial Leucyl-tRNA Synthetase"
<br>
             Faculty Mentor:  Rachel Whitaker                      |
| 4:40 PM    | Kylie DeBari  
             "Hands Up, Don't Shoot an Analysis of National and Local Newspaper Coverage of Recent Protests"
<br>
             Faculty Mentor:  Kyle J. Holody                        | Chelsea Thomas  
             "Assessing Changes in Campus Nutritional Choices among College Athletes"
<br>
             Faculty Mentor: Sharon Thompson                         | Molly Johnson  
             "From West to East: Buddhism as Enlightenment in Her"
<br>
             Faculty Mentor: Jennifer Boyle                       |
| 5:30 PM To 7:00 PM | Poster Session II  
             Lib Jackson Student Union - Atrium (see poster schedule) | | |
2015 Undergraduate Research Competition
POSTER PRESENTATIONS
Lib Jackson Student Union - Atrium

Session I: Tuesday, April 14, 2015, 3:00pm – 4:30pm
Session II: Wednesday, April 15, 2015, 5:30pm – 7:00pm

POSTER SESSION I
TUESDAY, APRIL 14, 2015, 3:00pm – 4:30pm

DAVID J CATALANO, Marine Science
Seasonal Variations in Gut Contents of Atlantic Silversides from Dunn Sound, SC (#1)
Faculty Mentors: Jane L. Guentzel, Marine Science and Daniel Ferons, School of Coastal and Marine Systems Science

MICHAEL CLINE, Marine Science
An Investigation into the Relationship between Common Marine Nutrients and Phytoplankton Community Composition (#15)
Faculty Mentor: Eric Koepfler, Marine Science

HARLEY COATES and LARISSA MARTIN, Chemistry
Heavy Metal Concentration in Donax Clams Found in Myrtle Beach Analyzed Using Atomic Abstraction (#14)
Faculty Mentor: Kevin McWilliams, Chemistry

MELANIE ESCH, Marine Science
Reef Coverage and Species Richness with Respect to Water Depth at Discovery Bay, Jamaica (#16)
Faculty Mentor: Erin Burge, Marine Science

HUNTER FIUZAT, Marine Science
Seasonal Influences on Gut Contents of Mummichogs in South Carolina (#2)
Faculty Mentors: Jane Guentzel, Marine Science and Daniel Ferons, School of Coastal and Marine Systems Science

ERIN FOWLER, Psychology
Personality and Moral Reasoning (#4)
Faculty Mentor: Andrew Terranova, Psychology

ERIC GILLEY and DIANA EVANS, Intelligence and National Security Studies
Using Geospatial Mapping to Track Al-Qaeda (#5)
Faculty Mentor: Susan Bergeron, Politics and Geography

VERONICA LANCE and MARIA CUFLEY, Marine Science
Optimization of Friedel Crafts Alkylation with Indoles to Form the Core of Flinderole C (#8)
Faculty Mentor: Bryan Wakefield, Chemistry

SAMANTHA MCKINLEY, Marine Science
Effects of Hydrocarbon Extraction on Subsidence in the Mississippi Delta (#17)
Faculty Mentor: Zhixiong Shen, Marine Science
CAITLIN MCNAMARA, Marine Science
**Determining Stock Structure of Atlantic Bottlenose Dolphins (Tursiops truncatus) Using Photo identification (#3)**
Faculty Mentor: Rob Young, Marine Science

KINGSLEY NEAL and LAYLA BAKEL, Biochemistry
**Synthesis of LeuRS Inhibitors (#9)**
Faculty Mentor: Bryan Wakefield, Chemistry

JENNIFER N. PAGE, Psychology
**The Effects of Stress and Physical Activity on Academic Performance (#6)**
Faculty Mentor: Emalee Quickel, Psychology

AMY POWERS and DEREK PRIDE, Biochemistry
**The Search for Lytic Bacteriophages within the Population of Coastal Carolina Students (#10)**
Faculty Mentor: Paul Richardson, Chemistry and Physics

AUQUILLA SAMUEL, Chemistry
**CCU Campus Water Quality (#11)**
Faculty Mentor: Kevin McWilliams, Chemistry

JESSAMIN A. STRAUB, Marine Science
**Fluvial Morphology and Bedform Migration in the Ebb Tidal Dominated Duplin River, Georgia (#18)**
Faculty Mentor: Jenna Hill, Marine Science

JENNIFER SOYKE-TESTER, Psychology
**The Effects of Fixed and Free Play Interactions with a Robotic Dog on Student Emotional States (#7)**
Faculty Mentor: Terry Pettijohn, Psychology

NICHOLAS THURN, Biochemistry
**Progress towards the Grandisines (#12)**
Faculty Mentor: Bryan Wakefield, Chemistry

BRITTANY VALEDON, Chemistry
**Development of Molecular Modeling Module (#13)**
Faculty Mentor: Kevin McWilliams, Chemistry and Physics

SHANNON WESTROM, Marine Science
**Environmental Education in the Galapagos (#19)**
Faculty Mentors: Sharon Gilman, Biology and Catherine Scott, Elementary Education
POSTER SESSION II
WEDNESDAY, APRIL 15, 2015, 5:30pm – 7:00pm

TYLER AULFFO, Marine Science
Abundance, Distribution, and Physical Properties of Ghost Crab Burrows in Horry County, SC (#14)
Faculty Mentor: Eric D. Rosch, Marine Science

DAVID BARKER, Psychology
College Student’s Perception of Aging and Retirement (#1)
Faculty Mentor: William Hills, Psychology

EMILY DEBORDE, Applied Mathematics/Marine Science
A Random Walk with the Dead (#9)
Faculty Mentor: Nicholas Pritchard, Statistics

SASHA FARR, Health Promotion
Media and Peer Influences on Body Perception and Eating Disorders (#2)
Faculty Mentor: William Hills, Psychology

ARIEL HERRIOTT, Health Promotion
Women’s Access to Contraception in Sierra Leone (#8)
Faculty Mentor: Fredanna M’Cormack McGough, Health Promotion

SARAH KEFFER, Marine Science
Rainfall, Ground, and Lake Water Monitoring in Briarcliffe Acres, SC (#18)
Faculty Mentor: Susan Libes, Marine Science

THOMAS J. KILBRIDE, Health Communications
The Media’s Impact on Eating Disorders in Young Males (#10)
Faculty Mentors: Mark Flynn and Christina Anderson, Health Communications

VERONICA LANCE, Marine Science
Differences in the Gut Contents of Mummichogs (Fundulus heteroclitus) from a Polluted Site and a Non-polluted Site in South Carolina, U.S.A. (#19)
Faculty Mentors: Jane L. Guentzel, Marine Science and Daniel Ferons, School of Coastal and Marine Systems Science

RACHEL LIMING, Exercise and Sport Science
Effect of 30 Second vs. 60 Second Static Stretching on Vertical Jump Performance (#11)
Faculty Mentor: Chadwick Smith, Kinesiology Recreation and Sport Studies

LANCE MCDANEL and MARIAH HARDEN, Biochemistry
Elucidation of the Physical Parameters that Underlie Nucleic Acid-Metal Interactions (#5)
Faculty Mentor: Rachel Whitaker, Chemistry and Physics

MACKENZIE PETERS, Elementary Education
Productive Learning Time and the Implications it has on Teachers (#12)
Faculty Mentors: Richard Costner and Catherine Scott, Elementary Education
JOHN SEGRETO, Marine Science
Unsteady Effects of the Near Wake behind Freely Flying European Starling, American Robin and Western Sandpiper (#3)
Faculty Mentor: Roi Gurka, School of Coastal and Marine Systems Science

SAMANTHA STADY, Marine Science
Synthesis of the Flinderole C Core using a LaRock Indole Synthesis (#6)
Faculty Mentor: Bryan Wakefield, Chemistry

BRITNEY STEWART, Chemistry
Conformational Isomerization of 2-Butenedioic acid: - A Computational Study (#7)
Faculty Mentor: Johnson Agbo, Chemistry

MEGHAN TROUP and MALARIE O’BRIEN, Marine Science
A Study of Hypoxic Events in Long Bay, South Carolina: 2004-2014 (#16)
Faculty Mentors: Diane Fribance, Marine Science, Erin Hackett and Roi Gurka, School of Coastal and Marine Systems Science

AUSTIN WALDORF, Marine Science
Long Bay Water Quality Trends (#4)
Faculty Mentor: Susan Libes, Marine Science

ASHLEY WHITEHEAD, Psychology
The Relationship between Mindfulness and Self-esteem (#13)
Faculty Mentor: Emalee Quickel, Psychology

ADAM YASCAVAGE, LINDSAY KING, BENJAMIN RICHARD, KRISTIN GUNNING, ERIC HAFFEY, KYLE HOFFMANN, DENNIS ALLEN and JULI HARDING, Marine Science
Blenny Habitat use in a Southeastern Saltmarsh (#15)
Faculty Mentor: Juli Harding, Marine Science