



Research Day 2016

UNIVERSITY OF SOUTH CAROLINA AIKEN

*...a Forum
of Discovery*

April 15th, 2016

Student Activities Center, 9:00-4:00 pm

Sponsored by USC Aiken Alumna, Ms. Celeste Suggs

Schedule of Events

Friday, April 15, 2016

SAC Lobby

9:00am -1:00pm Registration (t-shirt pickup)
4:00pm -5:30pm Pickup Evaluations

SAC Mezzanine Room A

10:00am – 12:30pm Oral Presentation Session A1
1:00pm – 3:30pm Oral Presentation Session A2

SAC Mezzanine Room B/C

10:00am – 12:30pm Oral Presentation Session B1
1:00pm – 3:30pm Oral Presentation Session B2

SAC Gym

9:00am -1:00pm Poster Setup
1:00pm – 2:00pm Poster Session 1 (Odd Numbered Presentations)
2:00pm – 3:00pm Poster Session 2 (Even Numbered Presentations)
3:30pm – 4:00pm Closing Reception (Refreshments)
4:00pm to 6:00pm Poster Removal

SAC Mezzanine

4:00pm – 5:00pm Biomedical Keynote Speaker

Cancer: Can We Win the War?

Dr. Nita Maihle, Augusta University

Associate Director of Education
Member, Molecular Oncology and Biomarkers
Professor of Biochemistry and Molecular Biology
Professor of Pathology
Professor of Graduate Studies
GRU Cancer Center

Oral Presentations

Session A1: SAC Mezzanine Room A (10:00 – 12:30)

Timothy Lintner, Presiding

- 10:00 USC Aiken Saturday Academy: The Positive Impact of Saturday Academy on Members and Students
Tosheanetta LaBelle Key
Mentor: Dr. Michelle Vanderburg
- 10:15 Ideals of Young Married Couples and Events Associated with the Relational Turn
Tiffany Bishop, Shannon Farrell, Dallas Holmes, Lesley Koppert, Jordan Phillips, and Samantha Wells
Mentor: Dr. Ben Triana
- 10:30 A Man Most Abused: Malvolio's Revenge
Sarah Chatelain
Mentor: Dr. Katie Kalpin Smith and Drew Geyer
- 10:45 Motivations of Greek Life
Madalyn Thomas, Richetta M. Daniel, William B. Wright, Anna Byars, Stuart Prettel II
Dr. Ben Triana
- 11:00 Honors Capstone: Imperial Masculinity: How the Rise of an Empire Changed Masculinity and Caused the Fall of the Beard
Ajay Krishnakumar
Dr. Heather Peterson
- 11:15 **Break**
- 11:30 The Catawba and Their Pottery: Connecting Past and Present
Ajay Krishnakumar
Dr. Alexia Jones Helsley
- 11:45 USC Aikens Commuter Relations
Chasity Royal, Keith Rivers, Terriel Mungin, Nikia Bloome and Randall Sullivan
Dr. Benjamin Triana
- 12:00 "Amazing Grace:" President Obama's Use of Audience Adaptation During His Eulogy of Rev. Clementa Pinckney
Davonte' Jenkins
Dr. William D. Harpine
- 12:15 My Name is Josie, and I'll Be Your Server
Josie Cox
Dr. William D. Harpine

Session A2: SAC Mezzanine Room A (1:00 – 3:30)
Jack Benjamin and Drew Geyer, Presiding

- 1:00 The Rhetoric of the Golden Rule: The Moral Command of World Religions
Kailey B. Spence
Dr. William D. Harpine
- 1:15 Western Influence in Africa from 1820-2010
Luntadila Paulo
Dr. Heather Peterson
- 1:30 Viking Architecture in Transition: Christian Construction meets Heathen Aesthetics
Ajay Krishnakumar
Dr. Alexia Jones Helsley
- 1:45 Honors Capstone: The Impact of Television News on Students' Perceptions of Social Work as a Career
Hazel Kelley
Dr. Bing Han
- 2:00 Ethnocentrism on College Campuses Brings Disunity into a Diverse Setting
Moesha Iki Kendrick
Dr. William D. Harpine
- 2:15 **Break**
- 2:30 Foreign Investment in Angolan Oil Industry: How Foreign Investment in Oil Industry Impacts the Economy
Luntadila Cesar Paulo
Dr. Sanela Porca
- 2:45 Development of Optically Flat SERS Substrates for Uranyl Microparticle Detection
Spencer Tinkey
Dr. Chad Leverette
- 3:00 Honors Capstone: The Importance of Rate on Morphology and Performance Characteristics of Low Profile SERS Substrates.
Chitravati Choony
Dr. Chad Leverette
- 3:15 Catalytic Studies Into the Reduction of Nitrite by an Acid-Functionalized 1,4,7-Triazacyclononane Copper Compound
Jeremy Weeks
Dr. Gerard Rowe

Session B1: SAC Mezzanine Room B/C (10:00 – 12:30)
C. Nathan Hancock, Presiding

- 10:00 Source of Fecal Pollution in the Sand River Analyzed by Antibiotic Resistance Analysis
Arnisha Atkinson
Dr. Michele Harmon
- 10:15 Plant Competition and Facilitation: Can Leaky Roots Explain Interspecific Interactions?
Megan Berry
Dr. Andy Dyer
- 10:30 Developing *mPing*-based Activation Tags
Stephanie Diaz
Dr. C. Nathan Hancock
- 10:45 Specificity of First Intermediate Host Used by *Haematolechus* spp.
Ryan George
Dr. Derek Zelmer
- 11:00 Preliminary Survey of Reproductive Histology of Queen Triggerfish (*Balistes vetula*)
Marilyn W. Mason
Dr. Virginia Shervette
- 11:15 **Break**
- 11:30 Honors Capstone: Optimizing *in vitro* Fertilization Procedures in Zebrafish
Madelyn Wasden
Dr. April DeLaurier
- 11:45 Honors Capstone: Characterizing the Replicative Transposition Mechanism of the MITE
mPing
David Gilbert
Dr. C Nathan Hancock
- 12:00 The Effects of Natural and Artificial Sweeteners on Gut Microbiome Composition and Metabolism
Mustafa Elhallaoui
Dr. Michelle Vieyra
- 12:15 Honors Capstone: The Effects of Various Lifestyle Habits on the Frequency of Student Illness
Melissa Lane
Dr. Thayer McGahee

Session B2: SAC Mezzanine Room B/C (1:00 – 3:30)
Dr. William Jackson, Presiding

- 1:00 Measuring the Effectiveness of Anti-HIV *Tat* shRNAs on HIV Replication and Gene Expression
Emily M. Webb
Dr. William H. Jackson
- 1:15 The Effect of Monosaccharides and Artificial Sweeteners on Bone Density in Sprague-Dawley Rats
Christina Thomas
Dr. Michelle Vieyra
- 1:30 HIV-1 Dependent Bicistronic Expression of LucR and eGFP from a Lentiviral Vector
Natalie M. Arthur
Dr. William H. Jackson
- 1:45 Design and Cloning of an Anti-HIV 1 *Vif* siRNA into a Retroviral Vector
Austin N. Worden
Dr. William H. Jackson
- 2:00 Honors Capstone: Identifying the Gene Underlying the b1187 Jaw Mutation in Zebrafish
Kayce Vanpelt
Dr. April DeLaurier
- 2:15 **Break**
- 2:30 The Effects of Natural and Artificial Sweeteners on Anxiety and Depressive Symptoms in Male Sprague-Dawley Rats
Brandee Desmarais
Dr. Michelle Vieyra
- 2:45 Bicistronic Expression From a HIV-1-dependent Lentiviral Vector
Erin McLaughlin
William H. Jackson
- 3:00 The Effects of Simple Sugars and Artificial Sweeteners on Body Weight Gain, Adiposity, and Blood Glucose Levels in Rats
Heather Jones
Dr. Michelle Vieyra
- 3:15 Honors Capstone: Determining the Functional Nucleotides of a Hyperactive Transposable Element
Daymond Parrilla
Dr. Nathan C. Hancock

Poster Session

SAC Gym (1:00 – 3:30)

Poster 1

Effects of Diabetes on Working Memory
Taylor Coleman
Mentor: Dr. Alexandria Roach

Poster 2

Diabetes and Inhibitory Control
Barbara Hall
Mentor: Dr. Alexandria Roach

Poster 3

Exercise and ADHD / ASD: A Review of the Literature
Hope Good
Mentor: Dr. Brian Parr

Poster 4

Wheel Running Influences Fear Conditioning in Activity Based Anorexia
Alisha Simpson
Mentor: Dr. Ed Callen

Poster 5

Measuring Attitudinal Change in a Motivational Program: Reading Orienteering Club
Collytte Cederstrom
Mentor: Dr. William D. Harpine and Dr. Elaine Clanton Harpine

Poster 6

Fight, Flight, or Meh: Three Patterns of Coping with Mental Math.
Ifeoluwa Ekundayo, Jessica Gagnon, Barbara Hall, Christine Hartmann and DeAnne Stalvey
Mentor: Dr. Laura Swain and Dr. Keri Weed

Poster 7

Unconscious Racism: Examination of Implicit and Explicit Biases Toward African American and Arab Race.
Kiran Sheikh, Angel Albright and Maya Bostick
Mentor: Dr. Keri Weed

Poster 8

Teaching Communication Skills to At-Risk Students Using Group-Centered Prevention
Shana Elizabeth Ingram
Mentor: Dr. William D. Harpine and Dr. Elaine Clanton Harpine

Poster 9

Effects of Sports-Related Head Impact on Balance and Neurocognitive Functions
Tyisha Henderson and Shaquanda Ross-Simmons
Mentor: Dr. Keri Weed

Poster 10

Optimization of a Standard Absorbance Assay for 2,4'-Dihydroxyacetophenone Dioxygenase (DAD) Activity
Emma Foerster
Mentor: Dr. Ken Roberts

Poster 11

The Metal-Dependence of 2,4'-Dihydroxyacetophenone Dioxygenase (DAD) Activity
Jason Weeks
Mentor: Dr. Ken Roberts

- Poster 12
Optimization of the Expression and Purification of 2,4'-Dihydroxyacetophenone Dioxygenase (DAD)
Victoria Shores
Mentor: Dr. Ken Roberts
- Poster 13
mPing as a Tool for Transposon Mutagenesis in Zebrafish
Alec Jones
Mentor: Dr. April DeLaurier and C. Nathan Hancock
- Poster 14
Developing *Tol2*-based Activation Tag Constructs
Allison Swiecki
Mentor: Dr. C. Nathan Hancock
- Poster 15
Optimizing the Use of qPCR to Quantify eGFP
Alyssa D. Smith
Mentor: Dr. William H. Jackson
- Poster 16
ctsk:eGFP-iTol2 and ctsk:mCherry-iTol2 - Transgenic Constructs to Study the Role of Osteoclasts During Zebrafish Development
Brianna Snelling
Mentor: Dr. April DeLaurier
- Poster 17
Evaluating the Expression of HIV-*Tat* using Quantitative PCR
Christian X. Fay
Mentor: Dr. William H. Jackson
- Poster 18
Understanding the Function of the PHF21A Complex Using CRISPR/Cas9
Frances Loyo-Rosado
Mentor: Dr. April DeLaurier
- Poster 19
Determining the Role of Terminal Inverted Repeats in Transposition of *mPing*
Jazmine I. Benjamin
Mentor: Dr. C. Nathan Hancock
- Poster 20
Using CRISPR/Cas9 to Study the Role of *phf21a*, *zmym2*, and *zmym3* in Zebrafish Craniofacial Development
Kasey Kreutz
Mentor: Dr. April DeLaurier
- Poster 21
Ligating the *mef2ca/b* Gene and Associated Regulatory Sequence in the pTARBAC2.1 Vector to Drive EGFP
Kenneth Glenn
Mentor: Dr. April DeLaurier
- Poster 22
Designing an Anti HIV-1 *Vif* siRNA to Inhibit APOBEC3G Function
Kirstyn Denney
Mentor: Dr. William H. Jackson
- Poster 23
Comparing Efficiency of Plasmid Helper Systems
Lauren Mckenzie Spires
Mentor: Dr. William H. Jackson

- Poster 24
The Role of *Ping's ORF1* Repetitive Sequence on *mPing* Transposition
Lisette Payero
Mentor: Dr. C. Nathan Hancock
- Poster 25
Testing a dCas9 Transposase Fusion Protein in *Arabidopsis thaliana* for Targeted Insertion of *mPing*
Mary Roby
Mentor: Dr. C. Nathan Hancock
- Poster 26
A Strategy to Produce Pollen-specific Transposition using the *Arabidopsis thaliana DLL* Promoter.
Rachael Jackson
Mentor: Dr. C. Nathan Hancock
- Poster 27
Design and Cloning an Anti-HIV-1 siRNA to Inhibit *Vif* Function.
Rebecca Beaudry
Mentor: Dr. William H. Jackson
- Poster 28
The Effect of Feeding Solutions on Heavy Metals Toxicity in 48-Hour Acute Toxicity Tests
Erin J. Peck
Mentor: Dr. Michele Harmon
- Poster 29
Vegetation Affects Sulfide Production in an Experimental Wetland System
Kendell Woods
Mentor: Dr. Michele Harmon
- Poster 30
Grouper Conservation: Preliminary Findings for Age and Growth in Red Hind, an Economically Important Fisheries Species in the Caribbean Sea
Warren Gallman
Mentor: Dr. Virginia Shervette
- Poster 31
The Positive Effects of Exercise on Depression: A Review
Brian Nichols
Mentor: Dr. Brian Parr
- Poster 32
Exercise as Treatment for Post-concussion Syndrome
Corey Pitts
Mentor: Dr. Brian Parr
- Poster 33
The Effects of Exercise for the Treatment of Depression
Katherine Frick
Mentor: Dr. Brian Parr
- Poster 34
Exercise and Depression: A Review of the Literature
Kristen Brooke Thomas
Mentor: Dr. Brian Parr
- Poster 35
The Effect of Exercise on Social Behavior
Marquis Tucker
Mentor: Dr. Brian Parr

- Poster 36
Exercise and Stroke: A Review of the Literature
Monica Cardona
Mentor: Dr. Brian Parr
- Poster 37
The Effects of Exercise and Obsessive-Compulsive Disorder
Morgan Reynolds
Mentor: Dr. Brian Parr
- Poster 38
Exercise as a Means of Prevention and Treatment for Memory Loss Through Hippocampal Neurogenesis
Tyler Gambrell
Mentor: Dr. Brian Parr
- Poster 39
The Effects of Exercise on Combat-related Post-traumatic Stress Disorder
William Dreibelbis
Mentor: Dr. Brian Parr
- Poster 40
The Effect of Sleep on Nursing Students' Exam Performance
Aleisa Baksh
Mentor: Dr. Mary Gaffney
- Poster 41
Antibiotic Therapy and *Clostridium difficile* Infections
Alyssa Rosser, Brooke Hess, Ellen Martin and Heather Smith
Mentor: Dr. Mary Gaffney
- Poster 42
Controlling Hypoglycemic Episodes in Adolescents with Diabetes
Amanda Rawl, Wayne Lockamy, Chelsea Casella
Mentor: Dr. Mary Gaffney
- Poster 43
Client Education: Teach-Back Method or Verbal Instructions?
Briana Wieneke, Justin Sims and Emmanuella Otabor
Mentor: Dr. Mary Gaffney
- Poster 44
Lateral Violence: Prevention Strategies for the Nursing Workforce
Courtney Scott, Briana Young and Chad Swindell
Mentor: Dr. Mary Gaffney
- Poster 45
Handover Methods to Enhance Patient Safety
Delicia Gibson and T'Keyah Worthy
Mentor: Dr. Mary Gaffney
- Poster 46
Verbal Abuse of Nurses by Patients
Faith Hornsby, Kimberly Proctor and Courtney Roemer
Mentor: Dr. Mary Gaffney
- Poster 47
Prevention of Alarm Fatigue
Kyle Johnson, Roel Isip and Rhomteen Houshiar
Mentor: Dr. Mary Gaffney
- Poster 48
Education and Lifestyle Modification for Management of Type 2 Diabetes Mellitus
Lee Anne Newberry, Andrew Zimmerman and Satori Starks
Mentor: Dr. Mary Gaffney

- Poster 49
Maintaining Normothermia in the Perioperative Period
Megann Howard, Alexus Johnson, Ashlyn Regan and Lillie Jackson
Mentor: Dr. Mary Gaffney
- Poster 50
The Effects of Storage and Warming on Human Breast Milk
Shelby Tasker, Destiny Kirkland, Caysie Cantrell and Angela Holland
Mentor: Dr. Mary Gaffney
- Poster 51
Pharmacological and Nonpharmacological Options for Labor Pain Management
Sydney Marshall and Ifeoluwa Ekundayo
Mentor: Dr. Mary Gaffney
- Poster 52
Blood Sugar Management for Type 2 Diabetes Mellitus
Tiffany Williams, Briantany Gant and Megan Smits
Mentor: Dr. Mary Gaffney
- Poster 53
A Comparison Between Individualistic and Collectivistic Societies
Ayesha Jihad
Mentor: Dr. Christine Wernet
- Poster 54
Inclusion of Special Education Students
Alyson Cromer
Mentor: Dr. Deborah McMurtrie
- Poster 55
Introduction to the Sonnet: An Evolution of Form
Meredith Grace Hawcroft
Mentor: Dr. Roy Seeger
- Poster 56
Food Inequality in the United States
Anna Logan
Mentor: Dr. Christine Wernet
- Poster 57
Fertility Change in Russia, 1992 and 2012
Bailey Gantt
Mentor: Dr. DeAnna Gore
- Poster 58
Confidence in the Three Branches of Government by Level of Religious Fundamentalism
Olivia Burbage
Mentor: Dr. Doug Kuck
- Poster 59
Mortality Change in Russia, 1992 and 2012
Shayla Simmons
Mentor: Dr. DeAnna Gore

With Gratitude

We wish to thank USC Aiken alumna, Ms. Celeste Suggs, for her generous contribution and continuous support of Research Day.



“I do believe that exposure educates us—exposure to information, to experiences, to different types of people of ways of living and to Research Day presentations—all these exposures give us different views. In sorting and comprehending these views, we are learning.”

- *USC Aiken alumna*

We also wish to thank the following:

Research Day Organizing Committee:

Dr. Tim Lintner
Dr. Bill Jackson
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T-shirt design by Ashley Ellefson and Dr. Michael Fowler