



SCHOLAR SHOWCASE

UNIVERSITY OF SOUTH CAROLINA AIKEN

15 April 2022

Schedule of Events

Poster Session – Student Activity Center Gym

Registration and Poster Hanging - 9:00 am - 10:00 am

Session 1 (odd numbers) - 10:00 am - 11:30 am

Break – 11:30 am - 2:30 pm

Session 2 (even numbers) - 2:30 pm - 4:00 pm

Honors Symposium Talks - SAC Mezzanine

Session 1 - 2:00 pm

Session 2 - 3:10 pm

Session 3 - 4: 20 pm

Sponsors

USC Aiken Alumni, Celeste Suggs

USC Aiken Office of Academic Affairs

Poster Session – Student Activity Center Gym

Poster 1 - Analyzing HIV-dependent expression using a Firefly Luciferase reporter plasmid

Kaitlynn Elizabeth Cook mentored by William H. Jackson

Poster 2 - Characterizing the Genes Affecting *mPing* Transposition in Yeast

Zara Maria Lacera mentored by C. Nathan Hancock

Poster 3 - Effects of *Tbx5a* Mutation on Craniofacial Development in Zebrafish

Jourdan Alyssa Gruber mentored by April DeLaurier

Poster 4 - Amplification and Analysis of the BCL-2 Pro-Apoptotic pGFP(Bak)

Ryan A. Tuttle mentored by William H. Jackson

Poster 5 - Impact of a Multiple Ingredient Supplement on Muscular Performance

Matt K. Helms mentored by Andrew G. Hatchett

Poster 6 - Analysis of the Soybean Yellow Leaf Mutant

Tetandianocee A. Germany mentored by C. Nathan Hancock

Poster 7 - Investigating the Role of RNA Polymerase V in *mPing* Excision Site Repair

Kaili Noel Renken mentored by C. Nathan Hancock

Poster 8 - Comparison of Black and White Infant Deaths Between Charleston and Aiken

Natasha Flores mentored by Andy R. Dyer

Poster 9 - Socioeconomic Disparities in Causes of Death In Mid-Century South: Orangeburg vs. Charleston

Omaria Mahogany Murray-Broadwater mentored by Andrew R. Dyer

Poster 10 - Determining if the Bases Adjacent to the *mPing* Element Impact Transposition

Monica Elizabeth Colon-Laborde mentored by C. Nathan Hancock

Poster 11 - Testing the Pro-Apoptotic Protein Bim to Induce Apoptosis

Martina Louise Bryant mentored by William H. Jackson

Poster 12 - Genes that Effect *mPing* Transposition in Yeast

Kaeleigh Lynn Seigler mentored by C. Nathan Hancock

Poster 13 - Using Yeast Transposition Assays to Study Transposition Mechanisms

Pei-En Tu mentored by C. Nathan Hancock

Poster 14 - Identifying the Location of Orf1 and TPase Proteins In *Arabidopsis*

Tyneisha LaShawn Bradley mentored by C. Nathan Hancock

Poster 15 - Battle of the Sexes: Heart Disease in Charleston vs. Aiken (1951)

Aisha Monette Burrell mentored by Andrew R. Dyer

Poster 16 - Investigating the Function of the *Zmym2* Gene in Developing Zebrafish

Madison Marie Ackroyd mentored by April DeLaurier

Poster 17 - Epidemiological Investigations: Infectious Disease Deaths in Aiken County in Children and Young Adults in the 1920s and 1950s

Tyjaha Nicole Steele mentored by Andrew R. Dyer

Poster 18 - Studying the Transposition Mechanism of the *mJing* Miniature Inverted Repeat Transposable Element in Yeast

Megan V. Collins mentored by C. Nathan Hancock

Poster 19 - Racial Disparities in Infectious Disease: A look into Aiken County in the 1930s and 1950s.

Charles E. Smiley mentored by Andrew R. Dyer

Poster 20 - Testing PUMA to Induce Apoptosis

Hannah Vallejo mentored by William Jackson

Poster 21 - The Effects of Race, Age and Location: Comparing the 1918 and 1957 Influenza Pandemics

Zachary Ryan Juarez mentored by Andrew R. Dyer

Poster 22 - The Effect of Chromatin Structure on *mPing* Transposition in Yeast

Jumanah J. Al-Soudi mentored by C. Nathan Hancock

Poster 23 - The Efficacy of Antibiotics: Before and After 1945

Jason E. Boozer mentored by Andrew R. Dyer

Poster 24 - HIV-dependent Expression of Pro-apoptotic Bax

Andrew Gregory mentored by William H. Jackson

Poster 25 - The Great Depression on Life Expectancy: An Analysis of the Average Lifespan of Working Men Before and During the Great Depression

Jonathan Valdes mentored by Andrew R. Dyer

Poster 26 - Healthy Lungs? Comparing Pneumonia Cases Between Men and Women in Aiken and Charleston (1940)

Andrea Dashaun Gantt mentored by Andrew R. Dyer

Poster 27 - Who has the Better Luck of the Draw? Causes of Death in City and Rural Women (1915 v. 1955)

Hannah R. Godley mentored by Andrew R. Dyer

Poster 28 - Is Stroke a Killer of Men? Changes in Risk of Dying of a Stroke Between Men and Women in the 1930's and 60's

Kayla Brooke Waters mentored by Andrew R. Dyer

Poster 29 - Weirdness and Wonder in Middle Level Mathematics

Elizabeth N. Basile and James Walsh mentored by Deborah Haythorn McMurtrie

Poster 30 - Cardiovascular Disease; Comparing the Affects of Race and Age on Mortality in the 1960 within Aiken and Charleston County

Saurelia Andrea Bradley mentored by Andrew R. Dyer

Poster 31 - Using Technology in Special Education

Skyla Mari Watson mentored by Melissa Sue Martin

Poster 32 - Diseases Affecting Working Men During World War II: Racial Disparities between Black Men and White Men in Charleston, South Carolina

Ronesha S. Myers mentored by Andrew R. Dyer

Poster 33 - Utilizing Technology in Science and Social Studies Instruction for Students with Disabilities

Deanna Aubry McCord mentored by Melissa Sue Martin

Poster 34 - The Spanish Flu: Is it Safer to Live in the Country Than in the City

Catera La'trese Jones mentored by Andrew R. Dyer

Poster 35 - 3D Technology for Training

Paul Daniel Jones mentored by Zhenheng Li

Poster 36 - The War of Infection in Black and White Women: The Effects of Antimicrobials on Deaths by Infectious Diseases (1930 and 1950)

Micah Malachi Mathis mentored by Andrew R. Dyer

Poster 37 - Demonstrating the Relationship of Allowed Heat Load vs. Package Surface Area for Radioactive Materials

Greyam R Hayes, John Pretorius and Hayden Barnett mentored by Bethany Fralick

Poster 38 - Tetracycline Resistant Bacteria in the Savannah River at the Proposed Kayaking Course

McKenzie Shea Cromer mentored by Michele S Harmon

Poster 39 - Environmental Monitoring Tracker

Austin Alexander Hartley, Rakeem D. Jones and Ryan M. Bodvake mentored by Zhenheng Li

Poster 40 - Assistive Technology to Enhance Social Studies and Science Instruction for Students with Disabilities

Adam T. Eubanks mentored by Melissa Sue Martin

Poster 41 - Feedbacks for Reinforcement Learning in Robotics

Jacob Kellet, Andrew Hunt and Destin Buck mentored by Zhenheng Li

Poster 42 - Determining the role of gooseoid in craniofacial development in zebrafish

Chasey Shabdue mentored by April DeLaurier

Poster 43 - Managerial Efficiency in Major League Baseball and Team Success: A Sabermetric Analysis

Lukas Aidan Willard mentored by Anne Summerall Poplin

Poster 44 - Proposals to Modernize the Design of the Shielded Canister Transporter

Tristan James Harris, Melvin Green, Richard King and Shayn Kyle Price mentored by Bethany Fralick

Poster 45 - NovaTech Automation

Breanna M. Scaffe and Ovidiu Moldovan mentored by Bethany Fralick

Poster 46 - A CIP Procedure for Heat Exchangers at Rolls-Royce

Abigail Ruth Hulsey, Salvador Guerra and Chloe Johnson mentored by Bethany Fralick

Poster 47 - Programmable Logic Controller System: Alternative Setup Testing with Cybersecurity Pentesting Capacity

Samuel Robert Boyd and Cody N. Collum mentored by Zhenheng Li

Poster 48 - Automated Flavor Plant Simulation Design

Isha A Pawar, David Moldovan and Breanna Scaffè mentored by Zhenheng Li

Poster 49 - Satisfactory PLC Simulator

Cody Nathaniel Collum and Samuel Boyd mentored by Zhenheng Li and Mackenzie Morris

Poster 50 - Center of Gravity Design Packaging Test Equipment

Heather Michelle Thomas, Seth Leischner and Malik Fordham mentored by Bethany Fralick

Poster 51 - Spare Parts Databasing

Adrian Lee Coleman and Nicholas A. Mitchell mentored by Bethany Fralick

Poster 52 - Electronic Flight Planning System

Nicole Lee Brazell and Matthew Jones mentored by Zhenheng Li

Poster 53 - SRNS Safeguards, Securities, and Emergency Services Solutions Mobile Test Bed

Jared Jimmy Corbett, Jacob Bradley Rye and Chase Lawrence Marzullo mentored by Bethany Fralick

Poster 54 - Flight Planning System Using Java

Mara Washburn mentored by Zhenheng Li

Poster 55 - Virtual Reality Tunnel Simulation

Matthew Kenneth Carter and Aaron Michael Henderson mentored by Zhenheng Li

Poster 56 - Nanoparticle Size Effect on Stability of Ionic Liquids (ILs) Based Nanofluids

Anna A. Hawcroft mentored by Titan C. Paul

Poster 57 - Barriers to Colorectal Cancer Screening

Caroline Elizabeth Dorn, Kandy Allison Crossland and Joseph Holdren Drake mentored by Mary K. Gaffney

Poster 58 - Reinforcement Learning in Robotics

Andrew Coleman Hunt mentored by Zhenheng Li

Poster 59 - Depression in Athletes Post Injury

Haliègh Key mentored by Brian Parr

Poster 60 - Savannah River Nuclear Solutions Hydrostatic Testing Hazards Analysis

Daniel C. Willoner, Monica Shantell Ruffin, Harrison D Olszewski and Justin T. Acker mentored by Bethany Fralick

Poster 61 - Exercise and Obsessive-Compulsive Disorder

Alexis Dicks mentored by Brian Parr

Poster 62 - Interventions to Improve Medication Adherence

Carrie E. Herlong, Ainsley O. Daughtrey, Meredith M. Gregory and Mirakle Cooper mentored by Mary K. Gaffney

Poster 63 - Exercise on Schizophrenia

Estefania Fuentes mentored by Brian Parr

Poster 64 - The Effect of Maternal Depression on Child Development

Haleigh Olivia Thorne, Caroline Waters, Abigail Schad and Janay DeJesus mentored by Mary K. Gaffney

Poster 65 - Mental Illness and Sports Performance

Alisha T. Pitt mentored by Brian Parr

Poster 66 - Interventions to Prevent Childhood Obesity in the U.S.

Julia McCord Chase, Jonathan DeMond Robinson, Amellia Yasmine Gore and Aliyah Griffin mentored by Mary K. Gaffney

Poster 67 - Sports Concussion: A Review of Literature

Amelia Maria Betancourth mentored by Brian Parr

Poster 68 - Beneficial impact on anxiety using music therapy

Kristen Marie Alexander, Macie Grantham, Tres Taylor and Kacie Elizabeth Abney mentored by Mary K. Gaffney

Poster 69 - The influence mobility training has on balance and functional movement

Chase O. Day mentored by Andrew G. Hatchett

Poster 70 - Exercise and Multiple Sclerosis

Lauren Sigmon mentored by Brian Parr

Poster 71 - The Influence of Breath Training on Symptoms Associated with Anxiety

Michaela E. Caughman mentored by Andrew G. Hatchett

Poster 72 - Exercise and Sleep

Leah E. Padgett mentored by Brian Parr

Poster 73 - The Influence of Breath Training on Symptoms Associated with Depression

Sarah K. Powell mentored by Andrew G Hatchett

Poster 74 - Interventions to Improve Glycemic Control

Jessica M Bunch, Marianne Cagle and Brianna Marie Bailey mentored by Mary K. Gaffney

Poster 75 - Computation, Cognition, and Creation: On Neural Networks and Artistic Expression

Wyatt Lukas Spann mentored by Anne Summerall Poplin

Poster 76 - Neurological Complications of COVID-19

Jami Caroline Seigler, Elizabeth McCormick, Hallie Anderson and Elizabeth K. Ruth mentored by Mary K. Gaffney

Poster 77 - Post War Japan's Economic Boom

Katherine Abigail Hollingsworth mentored by Heather L. Peterson

Poster 78 - Relationship Between Electrocardiographically Measured Heart Rate and Caffeine Intake

Kimberly Gwen Zorn, Elizabeth Jo Allen mentored by Christopher M. DeWitt

Poster 79 - Renewal of Fear and Generalization Over Time

Elizabeth Brianna Drake mentored by Edward Callen

Poster 80 - Using Non-opioid Pain Management Approaches to Decrease Postoperative Opioid Exposure

Sarah A. McGee, Madison Evans and Fatou Jah mentored by Mary K. Gaffney

Poster 81 - Effects of Socioeconomic Status on College Experience of Asian Americans: A Case Study

Maggie Zheng mentored by Anne Summerall Poplin

Poster 82 - ADHD and Exercise

Luke Aaron Willis mentored by Brian Parr

Poster 83 - Effects of Superstition on Academic Success: A Correlational Analysis

Sophie Danielle Ready mentored by Anne Summerall Poplin

Poster 84 - Exploring how Social Approach/Avoidance, Active/Passive Social Media Use, and Gender Predict Well-Being

Diego A. Sojo Sequeira mentored by Adam Pazda

Poster 85 - The Relationship Between Family Abuse and Girl's Delinquency

Molly Crescent Gilbreath mentored by Melencia Johnson

Poster 86 - Authenticity, Psychological Needs, and Self-Esteem

Catelyne Bello mentored by Adam Pazda

Poster 87 - Comparative Analysis of Rural Education Plans of South Carolina and Hawaii

Wilbur Eugene Holmes mentored by Sarah L. Young

Poster 88 - Comorbidity of Anxiety and Depression and the Impact on Cognitive Control Dysfunctions: A Review

Aimee Michelle Waggoner mentored by Alexandra E. Roach

Poster 89 - Determining the role of PHF21A co-orthologs phf21aa and phf21ab in craniofacial development of zebrafish

Gabrielle Anne Lubrio Nagorite mentored by April DeLaurier

Poster 90 - Minding the Connection: ADHD and the Rorschach Test

Kailyn Marie Coffey mentored by Amanda Hewett Waymer

Poster 91 - Effects of Moderate Exercise on Frontal Theta Power

Mark Allen Griggs mentored by Laura Swain

Poster 92 - Health Management System

Adithya Pandiri, Kyle Barker, Brendon Esposito and Wilfredo Colon-Rios mentored by Zhenheng Li

Poster 93 - Location of yolk protein gene expression in understudied insect pests

Lauren Hightower (presenting) and KayLee Thompson mentored by Mary Mills

Poster 94 - Stable fly vector and RNA interference

Caitlin Shirey mentored by Mary Mills

Honors Symposium Talks – B&E 124

Session 1 - 2:00 pm

Violent Video Game Play and College Student Aggression: A Convenience Sample Study of UofSC Aiken's Student Body Population

David Wilson Steinmeyer mentored by Michelle Petrie

SRNS Safeguards, Securities, and Emergency Services Solutions Mobile Test Bed Project

Jared Jimmy Corbett mentored by Bethany Fralick

Understanding Organic Reactions in the Microdroplet through Density Functional Theory Calculations

Madison Smith mentored by Tavleen Kochar

Canonizing "Everything Begins and Ends at the Kentucky Club" in Story Cycle Genre

Noelle Kriegel mentored by Andrew Geyer

The Effects of Race, Age and Location: Comparing the 1918 and 1957 Influenza Pandemics

Zachary Juarez mentored by Andrew Dyer

Session 2 - 3:10 pm

Hijacking Advancements in Gaming for Cybersecurity

Samuel Boyd mentored by Li Zhenheng

Nagel's Characteristics of the Short-Story Cycle in Garland and Mueenuddin

Gracie Taylor mentored by Andrew Geyer

Perceptions of Discrimination Among Tattooed Workers

Isabella Pyle mentored by Michelle Petrie

Determining the role of PHF21A co-orthologs phf21aa and phf21ab in craniofacial development of zebrafish

Gabrielle Nagorite mentored by April DeLaurier

Comparison of physical activity readiness and participation between upper and lower-level Exercise Science students

Grace Fulmer mentored by Brian Parr

Session 3 - 4:20 pm

Effects of Parental Psychological Control on the Self-Esteem of Emerging Adults

Kayley Ayer mentored by Bridget Cho

Survey of Southeastern De-carceration Strategies

Nick Fanchette mentored by Matthew Thornburg

Environmental Monitor Tracking

Austin Hartley mentored by Zhenheng Li

With Gratitude

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



We also wish to thank the following:

Scholar Showcase Organizing Committee:

Dr. William Jackson
Dr. C. Nathan Hancock
Dr. Jeremy Culler
Dr. Michele Harmon

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Prof. Brad Reinhart

Center for Research Excellence

USC Aiken Office of Academic Affairs