



2015 Summer Research Symposium

Thursday, July 30 from 2:00 – 3:30 pm
Hollings Program Room, Thomas Cooper Library

Center for Colon Cancer Research Summer Undergraduate Minority Research Program

1 - Investigating metastatic potential of ovarian cancer using synthetic lectins

Rashshana Blackwood, Claflin University, Chemistry - Junior

Mentor: Dr. John Lavigne, Chemistry and Biochemistry

2 - Altered human CST expression effects replication origin initiation in response to DNA replication stress

Ji'Vone Freeman, Philander Smith College, Biology - Junior

Mentor: Dr. Jason Stewart, Biological Sciences

3 - Comparison of Participant Characteristics by Polyp Status and Location in the South Carolina Colon Cancer Screening Registry

Amanda Lee, Wellesley College, Public Health - Junior

Mentor: Dr. Susan Steck, Epidemiology and Biostatistics

4 - Interaction of paraspeckle nuclear components with homologous recombination proteins

Marianna Maddalena, James Madison University, Biology - Senior

Mentors: Dr. Douglas Pittman, Drug Discovery and Biomedical Sciences

Ms. Latarsha Porcher, Pharmaceutical Sciences

5 - Development of biomaterial implants for adipose tissue engineering

Ludjelic Manigat, Albright College, Biochemistry - Senior

Mentor: Dr. Michael Gower

6 - Characterization of PLK 3 as counter-screen in developing drug compounds that target PLK 1 as an oncogene

Tinom Shokfai, Allen University, Biological Sciences - Senior

Mentor: Dr. Michael Wyatt, Drug Discovery and Biomedical Sciences

Research Experiences for Undergraduates: Physics and Astronomy

7 - Analysis of Multiple Scattering Caused by Detectors Upstream of the Target

Heather Garland, Gettysburg College, Physics - Junior

Mentor: Dr. Steffen Strauch, Physics and Astronomy

8 - Optimization of the Veto Detector in the MUSE Experiment

Clay Robinette, University of North Georgia, Physics - Junior

Heather Garland, Gettysburg College, Physics - Junior

Mentor: Dr. Steffen Strauch, Physics and Astronomy

9 - Exploration of diffusive processes using Markov type Lie algebras

Alexander Kramer, Dakota State University, Physics - Senior

Mentor: Dr. Joseph Johnson, Physics and Astronomy

10 - The Chemical Evolution of Galaxies

Ingwan Lee, University of South Carolina – Columbia, Physics - Senior

Mentor: Dr. Varsha Kulkarni, Physics and Astronomy

11 - The Chemical Evolution of Galaxies

Anya Rogers, University of South Carolina, Physics – Junior

Mentor: Dr. Varsha Kulkarni, Physics and Astronomy

12 - Measurement of Water Absorption on Biotic Surfaces Using AFM

Harrison Schurr, University of Notre Dame, Physics in Medicine - Junior

Mentor: Dr. Scott Crittenden, Physics and Astronomy

Research Experiences for Undergraduates: Radioecology

(USC Upstate, University of Georgia and Savannah River Ecology Laboratory joint program)

13 - Presence of Ranavirus and Chytrid Fungus in Southern Leopard Frogs inhabiting Long and Short Hydroperiod Wetlands

Shaina Carrington, Virginia Institute of Technology, Wildlife Conservation – Senior

Carlos Tapia, University of Central Florida - Sophomore

Mentors: Dr. Stacey Lance, Savannah River Ecology Laboratory

Mr. David Scott, Savannah River Ecology Laboratory

Ms. Megan Winzeler, Savannah River Ecology Laboratory

Mr. Austin Coleman, Savannah River Ecology Laboratory

14 - Influence of Contaminants on Metabolic Rates of Eastern Mud Turtles

Jarad Cochran, USC Upstate, Biology – Senior

Naya Eady, Trinity Washington University, Biology - Senior

Mentors: Dr. Melissa Pilgrim, USC Upstate

Dr. Tracy Tuberville, Savannah River Ecology Laboratory

Mr. David Haskins, University of Georgia

15 - Zero Valent Iron as a Filter for Water Contaminated with Uranium and Nitrate

Emily Dorward, Hofstra University, Geology - Senior

Mentors: Dr. John Seaman, Savannah River Ecology Laboratory and the University of Georgia

Mr. Brian Croft, Savannah River Ecology Laboratory

16 - Impact of Coal Ash Exposure on Eastern Mud Turtle Immune Response

Naya Eady, Trinity Washington University, Biology – Senior

Jarad Cochran, USC Upstate, Biology – Senior

Mentors: Dr. Tracy Tuberville, Savannah River Ecology Laboratory

Dr. Melissa Pilgrim, USC Upstate

Mr. Matt Hamilton, University of Georgia

17 - Investigating the Incidence of Antibiotic and Radioactive Resistance in Biofilm Bacteria

Nathaniel Fox, Kenyon College, Biochemistry – Senior

Demarcus Rainey, South Carolina State University, Civil Engineering Technology - Senior

Mentors: Dr. J Vaun McArthur, Savannah River Ecology Laboratory and University of Georgia

Mr. Larry Bryan, Savannah River Ecology Laboratory

18 - Residence Time as a Determinant of Radiocesium Uptake by Migratory Waterfowl Using Pond B on the Savannah River Site

Joshua King, USC Aiken, Biology – Senior

Mentors: Mr. Robert Kennemar, Savannah River Ecology Laboratory

19 - Radiocesium Accumulation in Larval and Adult Ranid Species

Alexis Korotasz, Stetson University, Aquatic and Marine Biology - Junior

Mentors: Mr. Chris Leaphart, University of Georgia

Mr. Larry Bryan, Savannah River Ecology Laboratory

20 - What Scavenges the Ultimate Scavenger? The Fate of Black Vulture Carcasses on the Savannah River Site

Lauren Laatsch, University of Georgia, Fisheries and Wildlife Sciences - Senior

Mentors: Dr. James Beasley, Savannah River Ecology Laboratory

Dr. Joshua Smith, Savannah River Ecology Laboratory

21 - The Effects of Feeding Ecology and Wetland Hydroperiod on Amphibian Mercury Concentrations

Carlos Tapia, University of Central Florida, Biomedical Sciences - Sophomore

Mentors: Dr. Stacey Lance, Savannah River Ecology Laboratory

Mr. David Scott, Savannah River Ecology Laboratory

Ms. Megan Winzeler, Savannah River Ecology Laboratory

Mr. Austin Coleman, Savannah River Ecology Laboratory

22 - Mercury Bioaccumulation in Longnose Gar

Marilyn Mason, USC Aiken, Biology - Senior

Mentor: Dr. Virginia Shervette, Biology and Geology at USC Aiken

23 - Antibiotic Resistance due to Radionuclides

Demarcus Rainey, South Carolina State University, Civil Engineering Technology - Senior

Nathaniel Fox, Kenyon College, Biochemistry – Senior

Mentors: Dr. J Vaun McArthur, Savannah River Ecology Laboratory and University of Georgia

Mr. Chris Leaphart, University of Georgia

Mr. Larry Bryan, Savannah River Ecology Laboratory

24 - Evaluation of Population Size and Movement Behavior of Largemouth Bass in PAR Pond Reservoir

Morgan Reed, Clemson University, Wildlife and Fisheries Biology – Senior

Mel Thompson, USC Upstate, Biology – Senior

Mentors: Dr. Olin Rhodes, Savannah River Ecology Laboratory

Dr. Shem Unger, Savannah River Ecology Laboratory

25 - Use of Medaka as a Model Organism to Explore Proteomic and Glycomic Responses to Mercury and Low Dose Radiation Exposure in Fish

Mel Thompson, USC Upstate, Biology – Senior

Morgan Reed, Clemson University, Wildlife and Fisheries Biology – Senior

Mentors: Dr. Olin Rhodes, Savannah River Ecology Laboratory

Dr. Shem Unger, Savannah River Ecology Laboratory

Arts, Humanities and Social Sciences

26 - Let's Play: Horror's Connection to Participatory Media & Digital Communities

Amber Brown-Rodgers, USC Columbia, Media Arts – Senior (Magellan Guarantee)

Mentor: Dr. Mark Cooper, English Language and Literature

27 - The Keys to Create a Viral Gaming App

Chieh-Yu (Jessica) Chang, USC Columbia, Integrated Information Technology - Senior

Mentor: Dr. Ron Brown, Library and Information Science

28 - Emotionality and Affect in the Old English Poem Deor

Lauren Hamm, USC Columbia, History - Senior

Mentor: Dr. Scott Gwara, English Language and Literature

29 - The Cello Blogsite

Zachary Patton, USC Columbia, Music Education - Junior

Mentor: Dr. Robert Jesselson, Music

30 - Camp Read-a-Rama

Kayla Washington, USC Columbia, Elementary Education - Junior

Mentor: Dr. Michelle Martin, Library and Information Science

31 - Exploring working Memory Differences with ADHD using EEG

Ashleigh Williams, USC Columbia, Psychology - Senior

Mentor: Dr. Scott Decker, Psychology

Health Sciences

32 - Colorectal Cancer Screening: Development of a Framework to Facilitate Intervention Strategies

Andrew Tyler Broadway, USC Columbia, Public Health - Senior

Mentor: Dr. Zaina Qureshi, Health Services Policy and Management

33 - Jasmine Dunlap's E-Portfolio

Jasmine Dunlap, USC Columbia, Public Health –Senior

34 - Computer Simulated Joint Action Tasks Compared to Similar Live Joint Action Tasks

Lily Gullion, USC Columbia, Exercise Science - Senior

Mentor: Dr. Roger Newman-Norlund, Exercise Science

35 - Mobile Technology Tools for Enhancing Parent-Child Communication and Promoting Physical Activity and Healthy Eating

Klara Milojkovic, Chemistry - Junior

Mentors: Dr. Gabrielle Turner-McGrievy, Health Promotion, Education and Behavior

Ms. Danielle Schoffman, Health Promotion, Education and Behavior

36 - Advice from HIV-Positive African American Women: "Not Just A Story"

Akhila Padi, USC Columbia, Public Health - Sophomore

Mentor: Dr. Alyssa Robillard, Health Promotion, Education and Behavior

37 - In Their Own Words: Cultural Narratives from HIV Positive African American Women

Cymone Reed, Boston University, Public Health - Sophomore

Mentor: Dr. Alyssa Robillard, Health Promotion, Education and Behavior

Science, Technology, Engineering and Mathematics

38 - Is there an association between Type 2 Diabetes and Bladder Cancer among Medicare beneficiaries?

Nour Abu Abdo, USC Columbia, Pharmacy - Sophomore

Mentor: Dr. Kevin Lu, Clinical Pharmacy and Outcomes Sciences

39 - Functional Analysis of RNF138 and Rad51D Protein-Protein Interaction in Homologous Recombination

Deborah Adedokun, Midlands Technical College, Biology – Junior (SC Alliance for Minority Participation Program)

Mentor: Dr. Douglas Pittman, Drug Discovery and Biomedical Sciences

40 - Characterization Catalytic Properties of Al-MCM-41

Daniel Blachno, USC Columbia, Chemical Engineering - Senior

Mentor: Dr. Jochen Lauterbach, Chemical Engineering

41 - Developing mPing-based Activation Tags

Tiana Chandler, USC Aiken, Biology - Junior

Stephanie Diaz, USC Aiken, Biology - Senior

Mentor: Dr. Nathan Hancock, USC Aiken, Biology and Geology

42 - Exploring the Possible Association between Dipeptidyl Peptidase-4 Inhibitors and Pancreatic Cancer

Morgan Dameron, USC Columbia, Pharmacy - Senior

Mentor: Dr. Kevin Lu, Clinical Pharmacy and Outcomes Sciences

43 - Understanding the role of the Phf21a protein during craniofacial development in zebrafish

Kristie Farah, USC Aiken, Biology - Senior

Mentor: Dr. April DeLaurier, USC Aiken, Biology and Geology

44 - Mechanical Solutions as an Avenue for Increased Efficiency in an Aquaponics System

Jory Fleming, USC Columbia, Marine Science – Junior

Mentor: Dr. William Jones, Environmental Health Sciences

45 - Regulation of Plant Defensive Responses to Herbivores and Pathogens by MAP Kinase Phosphatases

Catherine Garner, USC Columbia, Biological Sciences - Junior

Mentor: Dr. Johannes Stratmann, Biological Sciences

46 - The effects of silver nanoparticles in the environment

Brittany Haynes, South Carolina State University, Biological Sciences – Junior (DOE – EM Program)

Mentor: Dr. Mohammed Baalousha, Environmental Health Sciences

Ms. Kamelia Afshinnia, Environmental Health Sciences

47 - Gold nanoparticles

Luiza Machado Provasi Cunh, USC Columbia, Chemical Engineering - Freshman

Mentor: Dr. Jochen Lauterbach, Chemical Engineering

48 - Targeting Lysine Residues on the RAD51D Homologous Recombination Protein to Enhance Cancer Chemosensitivity

Michael Marone, USC Columbia, Biological Sciences – Junior (Magellan Scholar)

Mentor: Dr. Douglas Pittman, Drug Discovery and Biomedical Sciences

49 - Investigating Decadal Changes in Sea Surface Salinity in Oceanic Subtropical Gyres

Bryce Melzer, USC Columbia, Marine Science - Senior

Mentor: Dr. Subrahmanyam Bulusu, Earth and Ocean Sciences

50 - Sample storage and contamination consideration for IODP rock cores

Hannah Park, USC Columbia, Marine Science - Sophomore

Mentor: Dr. Susan Lang, Earth and Ocean Sciences

51 - Interspecies conservation of intergenic regions

Davide Recchia, USC Columbia, Biological Sciences – Senior

Mentor: Dr. Bert Ely, Biological Sciences

52 - NSF NanoLINK Summer Research Experience

Grace Porter, USC Columbia, Civil and Environmental Engineering – Freshman

Elizabeth Shelar, USC Columbia, Civil and Environmental Engineering – Senior

Brittany Thornton, USC Columbia, Civil and Environmental Engineering – Senior

Mentor: Dr. Nicole Berge, Civil and Environmental Engineering

53 - Isolation and Characterization of Bacteriophage that Infect Caulobacter

Shanieka Staley, Winthrop University, Biology - Junior

Mentor: Dr. Bert Ely, Biological Sciences

54 - The Utilization of Mathematics to Extract Information from Images of Sheet Music and the Interpretation of the Data by the NAO Robot

Audrey Talley, Computer Engineering – Junior (SC Alliance for Minority Participation Program)

Mentor: Dr. Francisco Blanco-Silva, Mathematics

Research Experiences for Undergraduates: Marine Biogeochemistry

55 - Seasonal and tidal variability of particulate phosphorus in a tidal estuary, North Inlet, SC

Jasmine Aas, University of Northern Colorado, Biochemistry - Senior

Mentors: Dr. Claudia Benitez-Nelson, Marine Science

Mr. Douglas Bell, Marine Science

56 - Microzooplankton Grazing Impacts in a Salt Marsh and Blackwater Estuary

Nicholas Kennen, Saint Mary's College, Environmental Chemistry – Senior

Mentor: Dr. Tammi Richardson, Marine Science

57 - Effects of Tylosin on Pelagic Phytoplankton

Allison Kline, University of North Carolina, Environmental Science – Senior

Mentor: Dr. Jay Pinckney, Marine Science

58 - Testing the Validity of Leaf Wax D/H Stable Isotope Ratio as a Precipitation Proxy

Russell Krueger, Gustavus Adolphus College, Geology - Junior

Mentor: Dr. Susan Lang, Earth and Ocean Sciences

59 - The effect of grazing by Hydromedusae on phytoplankton community structure and abundance in North Inlet

Matt Murch, University of Massachusetts, Biological Sciences – Sophomore

Mentor: Dr. Tammi Richardson, Marine Science

60 - Phenotypic Responses of Diatoms to Iron Starvation and Resupply

Aarti Shah, University of Maryland, Biochemistry - Sophomore

Mentor: Dr. Tammi Richardson, Marine Science

Dr. Erin Connolly, Biological Sciences

61 - Elemental Ratios of Marine/Ocean Dissolved and Particulate Matter in North Inlet, SC over a Seasonal and Tidal Cycle

Michelle Sutton, Morris College, Biology - Senior

Mentors: Dr. Claudia Benitez-Nelson, Marine Science

Mr. Douglas Bell, Marine Science

62 - Contrasting Boreal and Tundra Plant Leaf Waxes in Northern Alaska

Emily Tibbett, University of California, Environmental Science and Management – Senior

Mentors: Dr. Lori Ziolkowski, Marine Science

Dr. Hongyu Li, Earth and Ocean Sciences

63 - Density and Species Richness of Larval Fish Found Over a Daily Cycle in the North Inlet Estuary

Cassie VanWynen, Hope College, Biological Sciences - Senior

Mentor: Dr. Jay Pinckney, Marine Science

64 - CDOM Effects on Spectral Quality and Phytoplankton Community Composition in Winyah Bay and North Inlet, SC

Rachael Young, Rutgers University, Marine Science - Sophomore

Mentor: Dr. Tammi Richardson, Marine Science

Dr. Erik Smith, Baruch Institute

Research Experiences for Undergraduates: Chemical Engineering

65 - Deposition of sulfur onto fly ash during air and oxy-combustion

Jason Ackermann, University of Arizona, Chemical Engineering - Sophomore

Mentors: Dr. Bihter Padak, Chemical Engineering

Mr. Ben Galloway, Chemical Engineering

66 - Gas phase hydrodeoxygenation of acetic acid over Sn:Pt catalysts

Zachary Colon, University of Puerto Rico – Mayaguez, Chemical Engineering - Junior

Mentor: Dr. Christopher Williams

67 - Effect of Slurry Thickness and Role of Chloride Ions in the Genesis of Supported Nanoparticles from Adsorbed Platinum Precursors

John Cople, Purdue University, Chemical Engineering - Junior

Mentors: Dr. John Regalbuto, Chemical Engineering

Ms. Qiuli Liu, Chemical Engineering

Mr. Jadid Samad, Chemical Engineering

68 - Epitaxial Cobalt Oxide Thin Film Synthesis via Magnetron Sputtering

Christina Engler, University of Rochester, Chemical Engineering - Junior

Mentors: Dr. Jochen Lauterbach, Chemical Engineering

Dr. Jason Hattrick-Simpers, Chemical Engineering

Dr. Cun Wen, Chemical Engineering

Mr. Kenneth Bunn, Chemical Engineering

69 - Synthesis and Evaluation of Nickel-Based Catalysts for Methane Tri-Reforming

Kristin Howe, Florida Institute of Technology, Chemical Engineering – Senior

Mentors: Dr. Jochen Lauterbach, Chemical Engineering

Dr. Erdem Sasmaz, Chemical Engineering

Mr. Peter Rassolov, Chemical Engineering

70 - Graphene Oxide Nanoplatelets Composite Membrane for Membrane Bioreactor Treatment

Emily Jeng, Cornell University, Chemical Engineering - Senior

Mentors: Dr. Miao Yu, Chemical Engineering

Dr. Mahdi Fathizadeh, Chemical Engineering

71 - Computational analysis of the binding of flue gases components onto CaO and MgO

Angel Maymi, University of Puerto Rico, Chemical Engineering - Senior

Mentors: Dr. Bihter Padak, Chemical Engineering

72 - Oxidation Study of Novel High Entropy Alloy Coating Materials for High-Temperature Applications

Parker Pitisci, Georgia Institute of Technology, Chemical and Biomolecular Engineering - Junior

Mentors: Dr. Jason Hatrick-Simpers, Chemical Engineering
Mr. Ben Ruiz-Yi, Chemical Engineering

73 - Synthesis and Characterization of Pr_2NiO_4 as the Cathode for Solid Oxide Fuel Cells

Anthony Rivera, University of Puerto Rico, Chemical Engineering - Senior

Mentor: Dr. Xiao-Dong Zhou

74 - SiO_2 , TiO_2 and Al_2O_3 supported Co_3O_4 Nanorods catalysts for Fischer-Tropsch Synthesis and CO_2 Hydrogenation

Maryorie C. Santos Santiago, University of Puerto Rico, Chemical Engineering - Junior

Mentor: Dr. Jochen Lauterbach, Chemical Engineering

Dr. Cun Wen, Chemical Engineering

75 - On the Interfacial Charge Transfer Resistance between the Cathode and the Electrolyte in Solid Oxide Fuel Cells

Kevin Tenny, University of Kansas, Chemical Engineering - Junior

Mentors: Dr. Xiao-Dong Zhou, Chemical Engineering

Dr. Wanbin Guan, Chemical Engineering

76 - Gas-phase Hydrodeoxygenation of Acetic Acid Over Platinum Supported on Activated Carbon and Multiwall Carbon Nanotubes

John Valentin, University of Puerto Rico – Mayaguez, Chemical Engineering - Senior

Mentor: Dr. Christopher Williams, Chemical Engineering