TOPICAL SESSIONS SCAS
Saturday, April 11th 2015
*Only the name of the first presenter is listed for most presentations, please see the relevant abstract for full authorship.*

**BIOLOGY: CELLULAR**
8:30AM - 10:15AM
Room 026 (Basement of Townes)

8:30AM INVESTIGATION OF AHR ANTAGONISTIC EFFECTS OF GANODERMA LUCIDUM
Erica Williams, Furman University

8:45AM SOYBEAN ISOFLAVONE EFFECTS AGAINST CERVICAL CARCINOMA
Kristen Hawkins, Michael Hart, Diana Ivankovic, and Donna Weinbrenner, Anderson University

9:00AM THE ANTI-PROLIFERATIVE EFFECTS OF LAMIUM AMPLEXICAULE EXTRACTS ON HUMAN T-LYMPHOCYTES
Braxton Noll, Anderson University

9:15AM AN INVESTIGATION OF THE ANTI-PROLIFERATIVE EFFECTS OF ELLAGIC ACID ON HUMAN MESOTHELIOMA
Devan Fisher, Diana Ivankovic, and Donna Weinbrenner, Anderson University

9:30AM EXPRESSION OF HEART-SPECIFIC CONSTRUCT IN CIONA INTESTINALIS EMBRYOS
Katlyn Brumley, Winthrop University

9:45AM BRAIN-PENETRATING HISTONE DEACETYLASE INHIBITOR RG2833 REDUCES THE GROWTH AND VIABILITY OF MALIGNANT MELANOMA CELLS IN VITRO
Lauren Green, Winthrop University

10:00AM IDENTIFICATION OF THE CIONA INTESTINALIS FOXO DNA BINDING DOMAIN AND TARGET GENE SEQUENCES
Lucas Boncorddo, Winthrop University

10:15AM ENZYMATIC COMPLEMENTATION TO IMAGE CELL SURFACE MARKERS
Michelle Sutton, Morris College

**BIOLOGY: FIELD**
8:30AM - 9:00AM
Room 028 (Basement of Townes)

8:30AM A PRELIMINARY STUDYOF THE VASCULAR FLORA OF STRAWBERRY SWAMP, GEORGETOWN COUNTY, SOUTH CAROLINA
Richard Stalter, St. Johns University

8:45AM THE EFFECT OF DIETARY PHYTOESTROGEN ON THE ESTROUS CYCLE OF WISTAR RATS
Reshma Thomas, Converse College
9:00AM  SURVEY RESULTS AND COMPARISON OF BREEDING HABITATS FOR THE PINE BARRENS TREEFROG AT CAROLINA SANDHILLS NATIONAL WILDLIFE REFUGE
Gregory T. Joye, University of South Carolina Salkehatchie

BIOLOGY: MOLECULAR
8:30AM - 9:45AM
Townes Science Center, Room 030 (Basement of Townes)

8:30 AM  IDENTIFICATION OF CHROMIUM RESISTANCE GENES
Jessica A. Fuller, Claflin University

8:45AM  UNDERSTANDING THE RELATION BETWEEN VACUOLAR PROTEIN SORTING GENES AND AFLATOXIN EXPORT IN ASPERGILLUS PARASITICUS
Shaquille Jackson, Morris College

9:00AM  SIRNA-MEDIATED DOWNREGULATION OF AN ESSENTIAL HIV REGULATORY PROTEIN
Emily M. Webb, University of South Carolina Aiken

9:15AM  OPTIMIZING GERMINAL TRANSPOSITION OF MPING IN ARABIDOPSIS THALIANA
Courtney Burckhalter, University of South Carolina Aiken

9:30AM  PRECISE REPAIR OF MPING EXCISION SITES IS FACILITATED BY TARGET SITE DUPLICATION DERIVED MICROHOMOLOGY
David Gilbert, University of South Carolina Aiken

9:45AM  TARGETED INSERTION OF THE TRANSPOSABLE ELEMENT, MPING
Ashley Strother And C. Nathan Hancock, University of South Carolina Aiken

CHEMISTRY / BIOCHEMISTRY
8:30AM - 11:00AM
Townes Science Center, Room 231 (2nd Floor of Townes)

8:30AM  SEPARATION AND MASS ANALYSIS OF POLYCATIONIC BIOCIDES IN MULTIPURPOSE CONTACT LENS SOLUTIONS UTILIZING ULTRA PERFORMANCE
Frederic David, Furman University

8:45AM  UTILIZING CHIRAL CAPILLARY ELECTROPHORESIS IN THE SEPARATION AND ANALYSIS OF NOVEL CR(III) COMPLEXES EXHIBITING DNA PHOTOCLEAVAGE
Christopher Stachurski, Furman University

9:00AM  ASSESSING CR(III) COMPLEXES AS POTENTIAL ANTICANCER AGENTS USING PCR, CAPILLARY GEL ELECTROPHORESIS AND GEL ELECTROPHORESIS
Yasmín Álvarez García, Furman University

9:15AM  REVERSIBLE THERMOCHROMISM IN POLYDIACETYLENES
Garret Gotthelf, Clemson University

9:30AM  DETERMINATION OF BISPHENOL S LEACHED FROM PLASTIC BOTTLES
Quentin Lane, University of South Carolina Lancaster

9:45AM BIOPHYSICAL PARAMETERS THAT DETERMINE RNA-METAL COMPLEX FORMATION
Lance McDaniel, Coastal Carolina University

10:00AM ZINC IS THE MOLECULAR “SWITCH” THAT CONTROLS THE CATALYTIC CYCLE OF BACTERIAL LEUCYL-TRNA SYNTHETASE
Layla Baykal, Coastal Carolina University

10:15AM - BREAK

10:30AM AN EXPERIMENTAL STUDY OF THE FORENSIC LUMINOL TEST FOR DETECTION OF BLOODSTAINS
Katherine A. Witherspoon, University of South Carolina Columbia

10:45AM STRUCTURAL CHARACTERIZATION OF 1-DEOXY-D-XYLULOSE-5-PHOSPHATE REDUCTOISOMERASE FROM VIBRIO VULNIFCUS
Makenzie Perdue, University of South Carolina Columbia

11:00AM NMR BASED METABOLOMICS STUDY OF CHROMIUM(VI) TREATED PSEUDOMONAS FLUORESCENS
Yugaananthy Thanaiah, Claflin University

EARTH SCIENCES
10:30AM - 11:15AM
Townes Science Center, Room 028 (Basement of Townes)

10:30AM DESIGN AND TESTING OF A RAINDROP VELOCIMETER
Derek Tuck, College of Charleston

10:45AM USING VOLUME FRACTION AS A STATISTICAL MEASURE OF THE RAINDROP SIZE DISTRIBUTION
Joshua B. Teves, College of Charleston

11:00AM ERRONEOUS DROP SIZING IN IMPACT DISDROMETERS
Kate O’dell, College of Charleston

11:15AM DIURNAL RHYTHMS OF NEAR SURFACE WINDS’ POWER SPECTRUM
Alexis Payne, College of Charleston
MATH/COMPUTER SCIENCE/PHYSICS/ASTRONOMY
8:30AM - 10:15AM
Townes Science Center, Room 222 (2nd Floor of Townes)

8:30AM RELATIONSHIPS BETWEEN LOCATION OF BRAIN INJURY OR CONCUSSION AND RECUPERATION TIME IN NFL FOOTBALL PLAYERS
Brianna Dyar, Brandon Johnson, David Prager and Diana Ivankovic, Anderson University

8:45AM MATHEMATICAL MIND: INSIDE ARTIFICIAL INTELLIGENCE
Wesley Alexander, Morris College

9:00AM SYSTEMATIC SYNTHESIS OF CORE-SHELL-SHELL NANOPARTICLES WITH MINIMAL DISSOLUTION
Yvonne Wright, Morris College

9:15AM SUM OF SQUARES OF LUCAS NUMBERS
Kaige Lindberg, The Citadel

9:30AM AUGMENTED HAPPY FUNCTIONS OF HIGHER POWER
Marcus Harbol, The Citadel

9:45AM EXPLORING RAINDROP ARRIVAL TIME CORRELATIONS VIA A DROP SIZE DEPENDENT PAIR CORRELATION FUNCTION
Robert Lemasters, College of Charleston

10:00AM TOWARDS A LOW-DIMENSIONAL MODEL OF THE NEURAL NETWORK RESPONSIBLE FOR GAMMA SYNCHRONIZATION USING OPTOGENETICS
Patrick Lynn, College of Charleston

10:15AM DIRECT IMAGING OF CONCENTRATION-INDUCED FLUCTUATIONS IN NANOCOLLOIDS
Lincoln Fraley, College of Charleston

MEDICINE / PHARMACOLOGY / HEALTH
8:30AM - 10:00AM
Townes Science Center, Room 031 (Basement of Townes)

8:30AM THE BODY PROJECT 4 ALL: A COMPARISON OF A FEMALE-ONLY TO A CO-ED BODY IMAGE PROMOTION PROGRAM
Amanda Hock, Furman University

8:45AM SOCIOECONOMIC INEQUALITY IN ACCESS TO QUALITY, AFFORDABLE, VARIED HEALTHY FOOD: A MULTIVARIATE APPROACH TO MEASURING FOOD DESERT
Will McCabe, Furman University

9:00AM THE DOSE DEPENDENT EFFECTS OF CAFFEINE ON COGNITIVE PERFORMANCE AND NEURONAL ACTIVATION
Helen Morris, University of South Carolina Aiken
9:15AM SYNERGISTIC EFFECT BETWEEN CAFFEINE AND SUGAR ON COGNITIVE PERFORMANCE
Sandra Urquiza, University of South Carolina Aiken

9:30AM THE EFFECTS OF STRESS, SUGAR AND EXERCISE ON DEPRESSION AND HIPPOCAMPAL NEUROGENESIS IN RATS
Austin Kaiser, University of South Carolina Aiken

9:45AM THE EFFECTS OF CHRONIC STRESS, EXERCISE AND SUGAR CONSUMPTION ON BODY WEIGHT AND FAT PERCENTAGE IN RATS
Christina Thomas, University of South Carolina Aiken

10:00AM THE SEARCH FOR LYTIC BACTERIOPHAGES WITHIN THE POPULATION OF COASTAL CAROLINA UNIVERSITY STUDENTS
Derek Pride, Coastal Carolina University
POSTER SESSION with SCBASM
Townes Science Center
10:30 AM-12:30 PM
Poster set up is between 8 a.m. and 10 a.m.
(All posters must be on display by 10:00 a.m.)

BIOLOGY: CELLULAR

POSTER #1  ENHANCING THE DEVELOPMENTAL POTENTIAL OF MURINE ADIPOSE-DERIVED MESENCHYMAL STEM CELLS
Kathryn Steves, Winthrop University

POSTER #2  USING A SUITE OF ANTIBODIES TO EXAMINE THE HOST-PARASITE RELATIONSHIPS IN HEAD KIDNEYS OF FUNDULUS HETEROCLITUS FROM NORTH INLET ESTUARY (HOBCAW BARONY) IN GEORGETOWN, SOUTH CAROLINA
Caitlin Brickley, Columbia College

POSTER #3  DETERMINING THE PRESENCE OF THE ARYL HYDROCARBON RECEPTOR (AHR) IN FUNDULUS HETEROCLITUS LIVER TISSUES FROM THE BELLE BARUCH MARINE SANCTUARY A HOBCAW BARONY (GEORGETOWN, SOUTH CAROLINA)
Jasmin Jones, Columbia College

POSTER #4  USING MAB M24-2 (A FISH LYSOZYME) TO EXAMINE THE HOST-PARASITE RELATIONSHIPS IN LIVERS OF THE FISH FUNDULUS HETEROCLITUS FROM NORTH INLET ESTUARY (HOBCAW BARONY) IN GEORGETOWN, SOUTH CAROLINA
Lillian Neal, Columbia College

POSTER #5  PROBING THE ENTRYWAY FOR INFECTION: AN EXAMINATION OF THE GI TRACTS OF FUNDULUS HETEROCLITUS FOR IMMUNE RESPONSES TO METACESTODE
Mara Reiss, Columbia College

POSTER #6  ROS-MEDIATED NEURODEGENERATION IS INDEPENDENT OF THE RYANODINE RECEPTOR IN CAENORHABDITIS ELEGANS
Lyndsay Young, Coastal Carolina University

POSTER #7  CLONING AND EXPRESSION OF THE DNA BINDING DOMAIN OF FOXO FROM CIONA INTENSTINALIS THAT CONTAINS AN N-TERMINAL NUCLEAR LOCALIZATION SIGNAL
Mikala Smith, Winthrop University

POSTER #8  EFFECTS OF GANDODERMA LUCIDUM EXTRACTS ON THE VIABILITY OF CANCEROUS VS. NON-CANCEROUS BREAST CANCER CELL LINES
Brooke Harrison, Converse College

POSTER #9  RESISTANCE AND REDUCTION POTENTIAL OF SERRATIA MARCESCENS IN HEXAVALENT CHROMIUM
Ijeoma Ekpenuma, Claflin University
BIOLOGY: FIELD

POSTER #10  HEAVY METAL CONCENTRATION IN DONAX CLAMS FOUND IN MYRTLE BEACH ANALYZED USING ATOMIC ABSORPTION
Harley Coates and Larissa Martin, Coastal Carolina University

POSTER #11  MONITORING ACTIVITY PATTERNS OF THE AMERICAN CROW (CORVUS BRACHYRHYNCHOS) POPULATIONS ON THE CAMPUS
Morgan Soulantikas, Francis Marion University

POSTER #12  SPECIFICITY OF KLEPTOPLASTY IN SOUTH CAROLINA MARSH FORAMINIFERA
Cobi Guilbeau, Coastal Carolina University

POSTER #13  ACOUSTIC MONITORING OF BAT POPULATIONS IN FLORENCE, SC
Ebony Brown, Francis Marion University

POSTER #14  CR 6+ RESISTANCE OF BACTERIAL WASTEWATER ISOLATES
Shatresa Bradley, Claflin University

BIOLOGY: MOLECULAR

POSTER #15  GENETIC MAPPING OF ARABIDOPSIS MUTANTS INVOLVED IN TRANSLATIONAL REGULATION OF MIRNAS
Amber Bailey and Ingrid Bonilla, Charleston Southern University

POSTER #15  OPTIMIZING IN VITRO FERTILIZATION PROCEDURES IN ZEBRAFISH
Madelyn Wasden, University of South Carolina Aiken

POSTER #17  USING THE CRISPR/CAS9 SYSTEM TO UNDERSTAND THE FUNCTION OF THE PHF21A COMPLEX IN DANIO RERIO CRANIOFACIAL DEVELOPMENT
Khadijah Jihad, University of South Carolina Aiken

POSTER #18  OPTIMIZATION OF THE RETROVIRAL VECTOR, PLGN, FOR DELIVERY OF ANTI-TAT SIRNAS FOR INHIBITION OF HIV REPLICATION
Jennifer Deily, University of South Carolina Aiken

POSTER #19  DEVELOPING MPING-BASED ACTIVATION TAGS
Tiana Chandler, University of South Carolina Aiken

POSTER #20  BUILDING CONSTRUCTS FOR CATHEPSIN K-MEDIATED EXPRESSION OF EGFP OR MCHERRY TO STUDY BONE RESORPTION IN THE DEVELOPING ZEBRAFISH
Brianna Snelling, University of South Carolina Aiken

POSTER #21  EVALUATING MPING TRANSPOSITION IN MIMULUS LEWISII
Autumn Busbee, University of South Carolina Aiken

POSTER #22  DEVELOPING A DNA TRANSPSON-BASED VECTOR TO EXPRESS ANTI-HIV GENES
Brittney Adams, University of South Carolina Aiken
POSTER #23 DEVELOPING A FUSION GENE UNDER THE CONTROL OF AN HIV-1 LTR PROMOTER
Erin M. McLaughlin and Natalie M. Arthur, University of South Carolina Aiken

POSTER #24 IDENTIFYING SEQUENCES RESPONSIBLE FOR THE HIGH TRANSPOSITION RATE OF A TOURIST MITE
Daymond Parrilla, University of South Carolina Aiken

POSTER #25 IDENTIFYING THE GENE UNDERLYING A JAW MUTATION IN ZEBRAFISH
Kayce Vanpelt, University of South Carolina Aiken

CHEMISTRY / BIOCHEMISTRY

POSTER #26 MASS SPECTROMETRY ANALYSIS OF THE ANTIOXIDANT ACTIVITY OF SULFUR AND SELENIUM COMPOUNDS
Emily Kurfman, Furman University

POSTER #27 CHARACTERIZATION AND UPTAKE STUDIES FOR THE BIOCIDES POLYHEXAMETHYLENE BIGUANIDE AND ALEXIDINE WITH EMPHASIS ON CONTACT LENS SOLUTIONS
Hazel Davis, Furman University

POSTER #28 SURFACE MODIFICATION VIA DIACETYLENE ALCOHOL SAM FORMATION
Maria S. Gonzalez, Furman University

POSTER #29 CHARACTERIZATION OF IMMOBILIZED RUTHENIUM(II) EMITTERS intercalated diacetylene self-assembled layers
NATHAN RIVERS, FURMAN UNIVERSITY

POSTER #30 BIOPHYSICAL PARAMETERS THAT DETERMINE RNA-METAL COMPLEX FORMATION
Mariah Harden, Coastal Carolina University

POSTER #31 DETERMINATION OF BPA IN ENVIRONMENTAL SAMPLES
Adrian Coates, Columbia College

POSTER #32 APPLICATION OF THE VIBRATIONAL SPECTROSCOPY FOR MONITORING THE ENZYMATIC HYDROLYSIS OF SOY HULL
Rashshana Blackwood, Claflin University

POSTER #33 IMMOBILIZATION OF POLYDIACETYLENE SENSORS ONTO CELLULOSE
Sara J. Garbowski and Salley A. Reamer, Clemson University
MATH/PHYSICS/ASTRONOMY

POSTER #34  A NEW HYBRID METHOD FOR SOLVING OSCILLATORY INITIAL VALUE PROBLEMS
Jenny Beebe, USC Salkehatchie

POSTER #35  PHASE RESETTING OF NEURAL OSCILLATORS SUBJECT TO MULTIPLE INPUTS
Kelsey Vollmer, College of Charleston

POSTER #36  A PHOTOMETRIC STUDY OF AH HERCULIS
Christopher Sherman, Furman University

POSTER #37  INVESTIGATING DARK MATTER COMPOSITION THROUGH DECAYS INTO FLAVOR CONSERVING TAU PAIRS
William Hester, College of Charleston

POSTER #38  SEARCHING FOR EMISSION EPISODE SELF CONSISTENCY IN GAMMA-RAY BURST LIGHT CURVES
Thomas Cannon, College of Charleston

POSTER #39  CONFORMATIONAL ISOMERIZATION AND CHEMICAL REACTIVITY INDICES OF BUT-2-ENEDIIC ACID: A COMPUTATIONAL STUDY
Britney Stewart and Dr. Johnson Agbo, Coastal Carolina University

POSTER #40  CHARACTERIZING A NEW METHOD OF HARVESTING ENERGY FROM THE NATURAL ENVIRONMENT AND EXPLORING THE PHYSICS OF THE TRIBOELECTRIC EFFECT
Ryan Michael Sullivan and Dr. Alem Abraha Teklu, College of Charleston

EARTH SCIENCES

POSTER #41  SUSTAINING THE SOUTH: THE MOVEMENT OF URBAN CENTERS TOWARDS SUSTAINABLE DEVELOPMENT
W. Hayden Couvillion, Furman University

MEDICINE/PHARMACOLOGY/HEALTH

POSTER #42  THE SEARCH FOR LYTIC BACTERIOPHAGES WITHIN THE POPULATION OF COASTAL CAROLINA UNIVERSITY STUDENTS
Amy Powers, Coastal Carolina University

POSTER #43  INHIBITORY EFFECT OF PARTIAL DECOUPLING AGENTS AS AN ALTERNATIVE THERAPY FOR CANCER
Kareem Heslop, Claflin University

POSTER #44  SOUTH CAROLINA PLEISTOCENE TERRESTRIAL VERTEBRATE DIVERSITY
Adam Kirtley, Dakota Pruitt, and Joseph Shillinglaw, Charleston Southern University