

2016 Summer Research Symposium

Thursday, July 28 from 1:30 – 3:00 pm University of South Carolina Alumni Center

South Carolina Alliance for Minority Participation Program

 1 – Studying the Correlation Between Surface Magnetism and Magnetic Stiffness via Vibrating Sample Magnetometer and a Benchtop Hall Probe
 Dalvin Belton, Midlands Technical College, Mechanical Engineering - Sophomore
 Mentor: Dr. Scott Crittenden, Physics and Astronomy

2 - Analysis of Inflammatory Molecules in Prostate Cancer
 Alkeiver Cannon, University of South Carolina-Columbia, Biochemistry and Molecular Biology - Senior
 Mentors: Dr. Dev Karan, Pathology, Microbiology and Immunology
 Dr. Seema Dubey, Pathology, Microbiology and Immunology

3 – Characterizing Complex Fluids through Particle Tracking
 Cameron Chandler, Midlands Technical College, Engineering – Sophomore
 Mentor: Dr. Paula Vasquez, Mathematics

4 - Osteon-Mimetic Scaffolds through Rapid Prototyping
 Janay Clytus, University of South Carolina-Columbia, Biological Sciences - Junior
 Mentor: Dr. Esmaiel Jabbari, Chemical Engineering

5 - I Know What You Did Last Week! Privacy of Wearable Devices
Jaymel Dash, University of South Carolina-Columbia, Computer Science – Junior
William Wood, University of South Carolina-Columbia, Computer Information Systems – Junior
Mentor: Dr. Csilla Farkas, Computer Science and Engineering

6 – Manufacturing and Characterization of Degradation in Sandwich Composite after Impact Loading
 Dominque Davis, University of South Carolina-Columbia, Mechanical Engineering – Sophomore
 Mentors: Dr. Prasun Majumdar, Mechanical Engineering
 Jallisa Clifford, Mechanical Engineering

7 – Optimizing the Software Behind Using Tweets to Predict Election Results
 Aida El Kouri, University of South Carolina-Columbia, Computer Science – Sophomore
 Mentor: Dr. Amir Karami, Library and Information Science

8 – The Effects of High Fat Diet on Skeletal Muscle Oxidative Metabolism and Mitochondrial Dysfunction
 Deadrake Epps, University of South Carolina-Columbia, Biological Sciences - Sophomore
 Mentor: Dr. James Carson, Exercise Science

9 - Sustainable Polymers from Plant Oils

Ayi Eta, University of South Carolina-Columbia, Biochemistry and Molecular Biology - Junior Mentor: Dr. Chuanbing Tang, Chemistry and Biochemistry

10 – Comparing Different Unsupervised Machine Learning Algorithms for Phase Mapping **Alvin Fersner**, University of South Carolina-Columbia, Chemical Engineering – Sophomore Mentor: Dr. Jason Hattrick-Simpers, Chemical Engineering

11 – Examination of Periodontal Disease and Ischemic Stroke Risk in PREMIERS
 Whitney Free-Jenkins, University of South Carolina-Columbia, Biological Sciences – Sophomore
 Mentor: Dr. Souvik Sen, School of Medicine

12 – Scheduling Outlooks

Christopher Glenn, University of South Carolina-Columbia, Computer Information Systems – Senior Mentor: Dr. Manton Matthews, Computer Science and Engineering

 13 – Using Bead-Based Synthetic Lectin Libraries to Distinguish between Healthy and Cancerous Secreted Proteins Derived from the Colon
 Alyssia Grundy, University of South Carolina-Columbia, Chemistry – Junior
 Mentor: Dr. John Lavigne, Chemistry and Biochemistry

14 – Dam Failures from the October 2015 Historic Flood Event in South Carolina
 Javonté Isaac, University of South Carolina-Columbia, Civil Engineering – Senior
 Mentor: Dr. Inthuorn Sasanakul, Civil and Environmental Engineering

15 – Structural-Based Design of Inhibitors of Protein-Protein Interactions
 Zachary Jackson, Midlands Technical College, Computer Technology - Sophomore
 Mentor: Dr. Campbell McInnes, Drug Discovery and Biomedical Sciences

16 – Constitutive Expression of EntCEBA Protects Against Nickel Toxicity in *E. Coli* **Alsten Jones**, University of South Carolina-Columbia, Biochemistry and Molecular Biology - Senior Mentors: Dr. Wayne Outten, Chemistry and Biochemistry Clorissa Washington, Chemistry and Biochemistry

Clorissa Washington, Chemistry and Biochemistry

17 – Super Resolution Bioimaging for Biomedical Engineering
 Kenneth Legette, University of South Carolina-Columbia, Mechanical Engineering – Sophomore
 Mentor: Dr. Guiren Wang, Biomedical Engineering & Mechanical Engineering

18 – GR-14-05 PV Inverter Control to Sustain High Quality of Service
 Briana Luckey, University of South Carolina-Columbia, Electrical Engineering – Senior
 Mentor: Dr. Andrea Benigni, Electrical Engineering

19 – Examination of Mitochondrial DNA Integrity to Identify Mitochondrial Repair Pathways **Robyn Moraney**, University of South Carolina-Columbia, Biological Sciences – Junior Mentor: Dr. Michael Wyatt, Drug Discovery and Biomedical Sciences

20 – Dam Failures from the October 2015 Historic Flood Events
 E'Lexus Nelson, University of South Carolina-Columbia, Civil Engineering – Senior
 Mentor: Dr. Inthuorn Sasanakul, Civil and Environmental Engineering

21 – Influence of Surface Type and Release Location On Aerosol Transport and Deposition Pattern In Indoor Environments

Christian Pellot, University of South Carolina-Columbia, Civil Engineering - Junior Mentor: Dr. Shamia Hoque, Civil and Environmental Engineering

22 – Fundamentals of Electrochemical Measurements and Applications in Solid Oxide Fuel Cells
 Sterling Reese, Midlands Technical College, Electrical Engineering – Sophomore
 Seth Dale, University of Florida, Chemical Engineering – Senior
 Ben Gray, South Carolina Governor's School for Science and Mathematics
 Mentors: Dr. Xiao-Dong Zhou, Chemical Engineering
 Emir Dogdibegovic, Chemical Engineering

23 – Design, Fabrication, and Characterization of a Hybrid Wick Structured Heat Pipe **Errol Rochester**, Midlands Technical College, Electrical Engineering - Sophomore Mentor: Dr. Chen Li, Chemical Engineering

24 – Exploratory Study to Construct Workflows for the Construction and Analysis of Shared Databases **Sydney Sanders**, University of South Carolina-Columbia, Civil Engineering – Sophomore Mentor: Dr. Enrica Viparelli, Civil and Environmental Engineering

25 – Measuring the Lattice Parameters of Metal Oxide Nanostructures to Determine Criteria for Persistent Micelle Templates

Christopher Scott, Midlands Technical College, Mechanical Engineering – Sophomore Mentor: Dr. Morgan Stefik, Chemistry and Biochemistry

26 – Splitting Numbers of Coverings by Integer Tiles **Caleb Simmons**, University of South Carolina-Columbia, Mathematics – Junior Mentors: Dr. Joshua Cooper, Mathematics Gregory Clark, Mathematics

27 – Determining the Degradation Along the Length of Quarter Inch Polyester Urethane Magnetic Tapes Using ATR FT-IR Spectroscopy

Aleah Singleton, University of South Carolina-Columbia, Biological Sciences – Senior

Mentors: Dr. Stephen Morgan, Chemistry and Biochemistry

Alyssa Abraham, Chemistry and Biochemistry

28 – An Integrated Cloud Computing Business Model
 Yohance Thomas, University of South Carolina-Columbia, Integrated Information Technology – Sophomore
 Mentor: Dr. Karen Patten, Integrated Information Technology

29 – Tool Path Generation on Doubly-Curved Free-Form Surfaces Alexander Zuloaga, University of South Carolina-Columbia, Mechanical Engineering – Senior Mentor: Dr. Ramy Harik, Mechanical Engineering

Center for Colon Cancer Research Summer Undergraduate Minority Research Program

30 – Determining the Effects of STN1 Depletion on DNA Replication Initiation Factors
 Jazmine Benjamin, University of South Carolina-Aiken, Biology - Senior
 Mentors: Dr. Jason Stewart, Biological Sciences
 Katie Brady, Biological Sciences

31 – Fluorescence Polarization as a Measure of the Inhibition of Polo-like Kinase 1
 Cecilia Hurtado, Williams College, Chemistry - Senior
 Mentor: Dr. Michael Wyatt, Drug Discovery and Biomedical Sciences

32 - Evaluating Recruitment, Training, and Technical Assistance Approaches to Support Implementation of the HEALS Program
 Jaleel Jefferson, University of South Carolina-Columbia, Public Health- Junior
 Mentor: Dr. Heather Brandt, Health Promotion Education and Behavior

33 – CDK7 Inhibition in Breast Cancer Therapy
 Theresa Melendez, Winthrop University, Chemistry – Senior
 Mentor: Dr. Eugenia Broude, Drug Discovery and Biomedical Sciences

 34 - Using Bead-Based Synthetic Lectin Libraries to Distinguish Between Healthy and Cancerous Secreted Proteins Derived from the Colon
 Danielle Valdez, Monmouth University, Chemistry – Senior
 Mentor: Dr. John Lavigne, Chemistry and Biochemistry

35 - DDX24 Depletion-Mediated p21 Activation and Inhibition of Cell Growth **Adrian Zenteno**, Clemson University, Bioengineering - Junior Mentor: Dr. Michael Shtutman, Drug Discovery and Biomedical Sciences

Research Experiences for Undergraduates: Physics and Astronomy

36 – Diffracting Data: Analyzing Diffraction Patterns of Magnetically-Recorded Information **Claire Bernert**, Occidental College, Physics – Junior Mentor: Dr. Thomas Crawford, Physics and Astronomy

37 – Modeling the Behavior of Charged Particles in a Cloud Chamber
 Zachary Carter, University of South Carolina-Columbia, Physics – Junior
 Mentor: Dr. Scott Crittenden, Physics and Astronomy

38 – Magnetometry of Perpendicularly Magnetized Magnetic Films: Sensitivity to Angle
 Raina Crawford, Bryn Mawr College, Physics – Junior
 Mentors: Dr. Thomas Crawford, Physics and Astronomy
 Sarah Fitzgerald, Physics and Astronomy

39 – Response of Chlamydomonas Reinhardtii CC-125 Algal Cultures to Flashing Light in Thin-Plate Bioreactors
 Alexander Davis, University of South Carolina-Columbia, Physics – Senior
 Mentor: Dr. Scott Crittenden, Physics and Astronomy

40 – Optimization of a Simple Projection Photolithography System: Impact of Exposure Parameters on Feature Size **Phillip Kane**, Grinnell College, Physics – Junior Mentor: Dr. Thomas Crawford, Physics and Astronomy

41 – Examining the Circumgalactic Medium of Low-Redshift Galaxies Alexander Kirby, University of South Carolina-Columbia, Physics – Sophomore Mentor: Dr. Varsha Kulkarni, Physics and Astronomy

42 – The Effects of Temperature Parameters on Cloud Formation in a Tall Diffusion Cloud Chamber Alexander Layton, University of South Carolina-Columbia, Physics – Senior Mentor: Dr. Scott Crittenden, Physics and Astronomy

43 – Observations of Sub-Damped Lyman-α Absorber at z = 2.636 Jo Lynn Tyner, Austin Peay State University, Physics - Sophomore Mentor: Dr. Varsha Kulkarni, Physics and Astronomy

44 – Synchotron Processes with Lorentz Violating Dispersion Relations
Brian Weaver, The Pennsylvania State University, Astronomy and Astrophysics – Senior
Joseph Kroeger, Wingate University, Mathematics and Chemistry
Mentor: Dr. Brett Altschul, Physics and Astronomy

Research Experiences for Undergraduates: Advancing Diversity in Aging Research

45 – Isolation and Characterization of Bacteriophages that Infect Caulobacter **Kristy Abney**, University of South Carolina-Columbia, Biochemistry and Molecular Biology – Sophomore Mentor: Dr. Bert Ely, Biological Sciences

46 - Assistive Exercise Robot Instructor
 Dane Acena, Benedict College, Computer Science - Junior
 Mentors: Dr. Jenay Beer, Computer Science and Engineering & College of Social Work
 Karina Liles, Computer Science and Engineering

47 – Fall Detection in Older Adults
Haregot Gebreyesus, Benedict College, Electrical Engineering - Junior
Mentor: Dr. Juan Caicedo, Civil and Environmental Engineering

48 - Investigation of Dioxin (TCDD) Mediated Regulation of miRNAs in Granulocytic Myeloid-Derived Suppressor Cells (MDSCs) and Granulocytes
 Dominique Jackson, Claflin University, Biochemistry - Junior
 Mentor: Dr. Narendra Singh, Pathology Microbiology and Immunology

49 - The Acceptance of Smart Home Technology among Older Adults
 Emmanuel Lee, Morris College, Biological Sciences - Junior
 Mentors: Dr. Jenay Beer, Computer Science and Engineering & College of Social Work

50 - Effects of Sleep Restriction on Daily Physical Activity During Dietary Weight Loss **Steilan Sumpter,** Claflin University, Biology - Junior Mentor: Dr. Xuewen Wang, Exercise Science

Research Experiences for Undergraduates: Radioecology

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

51 - Bioaccumulation of Radiocesium and Mercury in Diving and Dabbling Ducks on the Savannah River Site
 Sarah Abercrombie, Purdue University, Wildlife – Senior
 Mentors: Dr. James Beasley, Savannah River Ecology Laboratory
 Chris Leaphart, Savannah River Ecology Laboratory
 E.J. Borchert, Savannah River Ecology Laboratory
 Larry Bryan, Savannah River Ecology Laboratory

52 – Radionuclide Leaching from Reducing Cementitious Materials
 Jill Banach, University of Massachusetts, Environmental Science - Junior
 Mentors: Dr. John Seaman, Savannah River Ecology Laboratory
 Fanny Coutelot, Savannah River Ecology Laboratory

53 – Bioaccumulation of Cs-137 in Florida Green Watersnakes (*Nerodia floridana*) from Three Wetlands on the Savannah River Site

Kyle Brown, University of South Carolina-Upstate, Biology – Senior
 Michaela Lambert, University of Kentucky, Natural Resources & Environmental Science - Senior
 Amelia Russell, University of South Carolina-Upstate, Biology – Senior
 Mentors: Dr. Tracey Tuberville, Savannah River Ecology Laboratory

Dr. Melissa Pilgrim, University of South Carolina-Upstate

54 – Influence of long-term Environmental Contamination and Parental Body Burden on Metal Tolerance in Southern Toads (*Anaxyrus terrestris*)

Deonte Burston, Fort Valley State University, Biology - Senior

Mentors: Dr. Stacey Lance, Savannah River Ecology Laboratory

Wes Flynn, Savannah River Ecology Laboratory

Cara Love, Savannah River Ecology Laboratory

David Scott, Savannah River Ecology Laboratory

55 – Multiple Stressors in Larval Anurans: Ranavirus and Chronic Copper Exposure **Sheldon Davis**, Clemson University, Wildlife and Fisheries Biology – Senior Mentors: Dr. Stacey Lance, Savannah River Ecology Laboratory

Wes Flynn, Savannah River Ecology Laboratory Cara Love, Savannah River Ecology Laboratory David Scott, Savannah River Ecology Laboratory

56 – The Interaction of Radiation and Copper on the Incidence of Antibiotic Resistance
 Christian Dicks, Claflin University, Biology – Junior
 Mentors: Dr. J Vaun McArthur, Savannah River Ecology Laboratory
 Paul Stankus, Savannah River Ecology Laboratory

57 – Internal CO2 Change in Response to Photosynthetic Availability
 Emily Edwards, University of Georgia, Biology – Senior
 Mentors: Dr. Doug Aubrey, Savannah River Ecology Laboratory
 Mackenzie Dix, Savannah River Ecology Laboratory

58 – Bioaccumulation and Biomagnification of Radiocesium in Littoral Zone Biota from a Cooling Reservoir on the Savannah River Site

Christina Fulghum, University of South Carolina-Aiken, Biology – Senior **Alexis Korotasz**, Stetson University, Aquatic and Marine Biology - Senior Mentor: Larry Bryan, Savannah River Ecology Laboratory

59 - Sublethal Effects of Cs-137 & Hg Contamination in Florida Green Watersnakes (*Nerodia floridana*) **Michaela Lambert**, University of Kentucky, Natural Resources & Environmental Science - Senior **Kyle Brown**, University of South Carolina-Upstate, Biology – Senior **Amelia Russell**, University of South Carolina-Upstate, Biology – Senior Mentors: Dr. Melissa Pilgrim, University of South Carolina-Upstate

Dr. Tracey Tuberville, Savannah River Ecology Laboratory

60 – Distribution of Trace Elements and Cs-137 in Sediments of a Coastal Plain Stream Impacted by Industrial Activities **Brooke Lindell**, College of Charleston, Biology – Junior Mentors: Dr. John Seaman, Savannah River Ecology Laboratory Dean Fletcher, Savannah River Ecology Laboratory

61 – Effects of Parental and Early Life Exposure to Metals on Genome Methylation in Two Anuran Species

Nia Peak, Claflin University, Biology – Junior

Mentors: Dr. Stacey Lance, Savannah River Ecology Laboratory Cara Love, Savannah River Ecology Laboratory Wes Flynn, Savannah River Ecology Laboratory David Scott, Savannah River Ecology Laboratory

62 – Tritium Partitioning in the Biosphere

Awmna Rana, Florida International University, Chemistry – Sophomore Mentor: Dr. John Seaman, Savannah River Ecology Laboratory

63 – Mercury Bioaccumulation in Florida Green Watersnakes (*Nerodia floridana*) Among Three Wetlands on the Savannah River Site

Amelia Russell, University of South Carolina-Upstate, Biology – Senior

Kyle Brown, University of South Carolina-Upstate, Biology – Senior

Michaela Lambert, University of Kentucky, Natural Resources & Environmental Science - Senior

Mentors: Dr. Tracey Tuberville, Savannah River Ecology Laboratory

Dr. Melissa Pilgrim, University of South Carolina-Upstate

Science, Technology, Engineering and Mathematics

64 – Theory-Driven Synthesis of Surface-Modified Nanoparticles for Biochemical Applications **Jacob Baltzegar**, University of South Carolina-Columbia, Chemical Engineering - Sophomore Mentor: Dr. Melissa Moss, Chemical Engineering

65 – Effects of Intranasal Orexin Administration on Neuronal Activation in the Brain Stem **Habiba Fayyaz**, University of South Carolina-Columbia, Biological Sciences - Junior Mentor: Dr. Jim Fadel, Pharmacology, Physiology, and Neuroscience

66 – Cell Proliferation in Pituitary Development **Erin Kalb**, University of South Carolina-Columbia, Mathematics – Junior Mentor: Dr. Paula Vasquez, Mathematics

67 – Contribution of Mast Cells to Angiogenesis in Pre-Symptomatic Atopic Dermatitis
 Nabihah Kumte, University of South Carolina-Columbia, Public Health – Sophomore
 Mentors: Dr. Carole A. Oskeritzian, Pathology Microbiology and Immunology
 Dr. John W. Fuseler, Pathology Microbiology and Immunology

68 – Multidentate Polymer Ligands for Biocompatible Quantum Dots: Does Sequence Matter? **Abigail Loszco**, University of South Carolina-Columbia, Chemistry and Molecular Biology – Senior Mentor: Dr. Andrew Greytak, Chemistry and Biochemistry

69 - Investigation of THC-Mediated up Regulation in Mice Myeloid-Derived Suppressor Cells **Arianna Miskin**, University of South Carolina-Columbia, Psychology – Senior Mentor: Dr. Narendra Singh, Pharmacology, Physiology, and Neuroscience

70 - Theoretical Investigation of the Hydrodeoxygenation of Glycerol over Pt(111) Adam Yonge, University of South Carolina-Columbia, Chemical Engineering - Senior Mentor: Dr. Andreas Heyden, Chemical Engineering

Research Experiences for Undergraduates: Chemical Engineering

71 – A High Throughput Investigation of Metallic Glass Stability in Co-Fe-V-Zr Alloys
 Audrey Allen, Worcester Polytechnic Institute – Senior
 Mentors: Dr. Jason Hattrick-Simpers, Chemical Engineering
 Travis Williams, Chemical Engineering

72 – Electroless Deposition of Nickel for the Synthesis of Mo2C Dry Reforming Catalyst **Khalid Askar**, University of South Carolina-Columbia, Chemical Engineering – Senior Mentor: Dr. John Regalbuto, Chemical Engineering

73 - Characterization and Stability of Metal Oxide Supported Cobalt Nanorod Catalysts for CO₂ Hydrogenation **Ashley Bird**, University of Texas, Chemical Engineering - Junior Mentor: Dr. Miao Yu, Chemical Engineering

74 - Synthesis and Characterization of Nickel Catalysts for Methane Tri-Reforming
 Nicole Cordonnier, Ohio University, Chemical Engineering - Senior
 Mentors: Dr. Jochen Lauterbach, Chemical Engineering
 Dr. Erdem Sasmaz, Chemical Engineering

75- The Role of Particle Size and Partial Pressure on Phase Evolution in Praseodymium Nickelates
Seth Dale, University of Florida, Chemical Engineering – Senior
Sterling Reese, Midlands Technical College, Electrical Engineering – Sophomore
Ben Gray, South Carolina Governor's School for Science and Mathematics
Mentors: Dr. Xiao-Dong Zhou, Chemical Engineering
Emir Dogdibegovic, Chemical Engineering

76 - Optimizing Ultrathin Graphene Oxide Membranes Supported on Polyethersulfone Hollow Fibers for CO2 Capture from Flue Gas
Ethan Hicks, North Carolina State University, Chemical Engineering - Senior
Mentor: Dr. Miao Yu, Chemical Engineering

77 – Hydrothermal Stability of Silica Catalysts for Lignin Upgrading **Matthew Hornish**, Rowan University, Chemical Engineering – Senior Mentors: Dr. John Regalbuto, Chemical Engineering

Dr. John Tengco, Chemical Engineering

78 – Surface Spectroscopic Study of Renewable Ethylene Glycol Synthesis over Silicon Dioxide-Supported **Robert Lavroff**, Northwestern University, Chemical Engineering – Junior Mentor: Dr. Christopher Williams, Chemical Engineering

79 – Effect of Solvents on the Activity of the Transition Metal Catalyst, Pt(111), for the Hydrodeoxygenation of Propionic Acid

Madeline Ley, Oklahoma State University, Chemical Engineering - Senior

Mentors: Dr. Andreas Heyden, Chemical Engineering

Wenqiang Yang, Chemical Engineering Mohammad Shamsus Saleheen, Chemical Engineering

80 – Multiplexing Techniques for High-Throughput Gas Chromatography Laurence Lohman, University of Rochester, Chemical Engineering – Senior Mentors: Dr. Jochen Lauterbach, Chemical Engineering Dr. Erdem Sasmaz, Chemical Engineering Jonathan Kenneth Bunn, Chemical Engineering 81 – Modification and Testing of the Hybrid Sulfur System
 Jacob Mehlhoff, University of Wisconsin, Chemical Engineering – Senior
 Mentors: Dr. John Weidner, Chemical Engineering

Dr. Sirivatch Shimpalee, Chemical Engineering Cody Wilkins, Chemical Engineering

82 - Pt-Ru/C Catalysts Preparation by SEA and ED Method for Methanol Oxidation **Pimolrat Mittanonsakul**, Mahidol University, Thailand, Chemistry - Senior Mentors: Dr. John Weidner, Chemical Engineering

> Dr. Sirivatch Shimpalee, Chemical Engineering Bahareh Tavakoli, Chemical Engineering

83- Study of the CO and the CO2 IR Spectra on Co Catalyst **Nutthatida Phuangsaijai**, Chiang Mai University, Thailand, Chemistry - Senior Mentor: Dr. Cun Wen, Chemical Engineering

84 – Removal of Mercury from Coal Combustion Flue Gas Using Activated Carbon
 Michael Royko, University of Alabama, Chemical Engineering – Senior
 Mentors: Dr. Bihter Padak, Chemical Engineering
 Benjamin Galloway, Chemical Engineering

85 – Single-Site Ruthenium Catalysts for CO2 Hydrogenation **Stephanie Sanchez**, Drew University, Chemical Engineering Mentor: Dr. Jochen Lauterbach, Chemical Engineering

86 – The Effect of Catalyst Nanoparticle Support Structure on Thermal Stability
 Morgan Sulzbach, University of Maryland, Chemical and Biomolecular Engineering - Junior
 Mentors: Dr. John R. Regalbuto, Chemical Engineering
 Dr. John Tengco, Chemical Engineering
 Qiuli Liu, Chemical Engineering
 Andrew Wong, Chemical Engineering

87 - Solvation Effects in the Hydrodeoxygenation of Guaiacol over a Model Ru(0001) Catalyst
 Utid Suriya, Chiang Mai University, Thailand, Chemical Engineering - Senior
 Mentors: Dr. Andreas Heyden, Chemical Engineering
 Mohammad Shamsus Saleheen, Chemical Engineering

88 – Catalytic Functional Membrane
 Pimchanok Tapangpan, Chiang Mai University, Thailand, Chemistry – Senior
 Mentors: Dr. Christopher Williams, Chemical Engineering
 Nabi Shakouri, Chemical Engineering

89 – Adsorption of Platinum on Carbon Supports Warinda Tirdtrakool, Mahidol University, Thailand, Chemistry - Junior Mentors: Dr. John Regalbuto, Chemical Engineering Ritubarna Banerjee, Chemical Engineering