

2026 SUMMER Research SYMPOSIUM

Thursday, July 23, 2026 10:00am – 11:15am and 1:00 pm – 2:15 pm
The Atrium of the Science and Technology Center, University of South Carolina
*Sponsored by the Office of Undergraduate Research
and the Office of the Vice President for Research*

Morning Session

- 1-23 TRIO Ronald E. McNair Scholars Program
- 24-33 REU: Physics & Astronomy
- 34-43 Science, Technology Engineering and Math
- 44-47 Health Sciences
- 48-49 Social Sciences

Afternoon Session

- 1-29 McNair Summer Scholars, Molinaroli College of Engineering and Computing
 - 30 – 37 REU: Design of Nanomaterials for 21st-Century Energy
 - 38 – 44 REU: Quantum Information Science
 - 45-51 Engineering
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Morning Session

TRIO McNair Scholars Program

1 - Smarter Pixels, Lower Power? AI Rendering vs Native Rendering in Cloud Gaming

Isaiah Leach, Morris College, Mathematics, Junior

Dr. Jamil Khan, University of South Carolina, Mechanical Engineering

2 - The Cost of Being Ignored: Maternal Health Disparities Among African American Women

Zy'Liyah Brown, University of South Carolina Upstate, Nursing, Junior

Dr. Florencia Cornet, University of South Carolina Columbia, Composition, Rhetoric, and American Literature

3 - Black, Indigenous, and People of Color (BIPOC) College Students' Navigation of Political Turmoil in the United States

Nathalia Hernandez Perianez, University of South Carolina Columbia, Psychology, Junior

Dr. Jamil Johnson, University of South Carolina Columbia, Education Leadership, Learning Design, and Inquiry

4 - Beyond the Plate: The Physiological Impact of Unmonitored Red Meat Consumption

Saniyah Valcin, South Carolina State University, Agribusiness, Junior

Dr. Jamil Khan, University of South Carolina, Mechanical Engineering

5 - From isolation to connection: Using AI to Promote Well-being and Social Cohesion

Feng Jiang, University of South Carolina Upstate, Theatre Performance, Senior

Dr. Meeta Banerjee, University of South Carolina, Psychology

6 - Gen Z Women of Color Consumers Influence on the Production and Marketing of Equitable Beauty Brands

Blythe Robinson, University of South Carolina Columbia, International Business and Marketing, Sophomore

Dr. Jamil Johnson, University of South Carolina Columbia, Education Leadership, Learning Design, and Inquiry

7 - The Psychological Effects of Religious OCD in African American Culture

Kamiya McCants, South Carolina State University, Communications/Journalism, Junior

Dr. Florencia Cornet, University of South Carolina Columbia, Composition, Rhetoric, and American Literature

8 - Campus Green Space: The Impact on First-Generation College Students Mental Health and Sense of Belonging

Myron Harris, University of South Carolina Columbia, Criminal Justice / Criminology, Senior

Dr. Jamil Johnson, University of South Carolina Columbia, Education Leadership, Learning Design, and Inquiry

Dr. Tegia Coleman-Rochester, University of South Carolina Columbia, Assistant TRIO Director/Ronald E. McNair Program

9 - The Past is the Future: How does Racial Discrimination Effect the Genome of African Americans

Najah Byrd, USC Upstate Spartanburg Campus, Psychology, Junior

Dr. Daniel Cooper, University of South Carolina, Psychology

10 - When Loss Meets Campus Life: Understanding the Psychological Effects of Grief on African American College Students

William Mitchell, Voorhees University, Psychology, Senior

Dr. Daniel Cooper, University of South Carolina Columbia, Psychology

11 - Silent or Silence: Mental Health Among African American Students at Predominantly White Institutions

Natia Dingle, University of South Carolina Columbia, Psychology, Junior

Dr. Jamil Johnson, University of South Carolina Columbia, Education Leadership, Learning Design, and Inquiry

12 - The Impact of Mental Health Stigma on Help-Seeking Behaviors Among First Generation College Students

Fatima Sorcia Gomez, University of South Carolina Columbia, Public Health, Senior

Dr. Meeta Banerjee, University of South Carolina Columbia, Psychology

13 - Tanzanias Colonial Media Legacy: Examining the Contemporary Distrust of Diaspora Tanzanian Creatives

David Mwakapusya, University Of South Carolina Columbia, Integrated Information Technology, Senior

Mr. David Mwakapusya, University Of South Carolina Columbia, TRIO McNair Scholars Program

14 - Medication Adherence and Digital Literacy: Exploring Factors Contributing to Nonadherence Among Elderly African Americans with Hypertension

Nevaeh Rhodes, University of South Carolina Columbia, Pharmaceutical Sciences, Junior

Dr. Jamil Khan, University of South Carolina Columbia, Mechanical Engineering, TRIO McNair Scholars Program

15 - Emotional Weight: The Effects of Polycystic Ovarian Syndrome (PCOS) on Women and Their Mental Health

Keelen Brooks, Louisiana State University, Biological Sciences, Senior

Dr. Tegia Coleman-Rochester, University of South Carolina, Director, Ronald E. McNair Program & Assistant Director, TRIO Programs

Dr. Jamil Johnson, University of South Carolina Columbia, Education Leadership, Learning Design, and Inquiry
Curtis Pernel, Doctoral Student, College of Education

16 - Cognitive Behavioral Therapy Effectiveness Comparative to Community Based Approaches

Cybella Migliacico, University of South Carolina Beaufort, Psychology, Junior

Dr. Meeta Banerjee, University of South Carolina, Psychology

17 - Through the Looking Glass: Examining the Successful Experiences of African American Men in Higher Education by Jacob Brown

Jacob Brown, Claflin University, Accounting, Junior

Prof. Jamil Johnson, The University of South Carolina, College of Education

Mr. Curtis Pernell, The University of South Carolina, College of Education

Ms. Meghan Nance, The University South Carolina, College of Education

18 - The Intelligent Campus Health Ecosystem

Ty'Darrius White, Benedict College, Neuroscience, Sophomore

Dr. Meeta Banerjee, University of South Carolina Columbia, Department of Psychology

19 - The Influence of Media Representation on Career Aspirations Among Young Black Men

Zyon Parham, University of South Carolina Columbia, Exercise Science, Senior

Dr. Daniel Cooper, University of South Carolina Columbia, Psychology

20 - Economic Hardship and Trajectories of Self-Regulation Development in Childhood

Nakima Simmons, South Carolina State University, Psychology, Junior

Dr. Daniel Cooper, University of South Carolina - Columbia, Department of Psychology

21 - Examining Industrial Pollution Disparities and Regulatory Gaps in South Carolina

Jose Pachon, University of South Carolina Columbia, Environmental Science, Junior

Dr. Jamil Khan, University of South Carolina Columbia, Engineering and Computing

22 - The Role of Language Concordance in Improving Patient Understanding and Adherence in Clinic Settings

Brittany Aqiono, University of South Carolina Beaufort, Biology, Senior

Dr. Florencia Cornet, University of South Carolina, Composition, Rhetoric, and American Literature

23 We Be Speaking. They Be Labeling: African American English vs. Diagnostic Biases in Speech- Language Pathology

Ariana Perrin, University of South Carolina Columbia, Communications, Junior

Dr. Florencia Cornet, University of South Carolina Columbia, Composition, Rhetoric, and American Literature

REU: Physics & Astronomy

24 - Pressure-induced Amorphization of MnSb₂Te₄

Robert Wyatt Kittle, University of South Carolina Columbia, Physics, Junior

Dr. Wenli Bi, University of South Carolina Columbia, Physics & Astronomy

25 - Using Second Harmonic Generation to Study Symmetry in Layered Materials

Peter Bendel, University of Wisconsin - River Falls, Physics and Mathematics, Senior

Dr. Yanwen Wu, University of South Carolina Columbia, Physics

26 - Charged Lepton Flavor Violation in Electron-Positron Collisions

Nathaniel Duong, University of California Davis, Physics, Senior

Prof. Alexey Petrov, University of South Carolina, Physics and Astronomy REU

27 - Simulation of Exclusive Dilepton Production at the Electron-Ion Collider

Arda Gulser, Arizona State University, Tempe Campus, Physics and Computer Science, Junior

Prof. Pawel Nadel-Turonski, University of South Carolina, Physics and Astronomy

28 - Anomalous Hall Effect Observed in Cr₉Te₁₆

Alexander Bielicki, College of Charleston, Astrophysics, Mathematics, Physics, Senior
Dr. Rongying Jin, University of South Carolina Columbia, Physics & Astronomy
Dr. Govinda Kharal, University of South Carolina Columbia, Physics & Astronomy
Dr. Silu Huang, University of South Carolina Columbia, Physics & Astronomy

29 -

John McGuigan, University of Tennessee Knoxville, Math and Physics, Senior
Dr. Stephen Strauch, University of South Carolina, Physics

30 - Creating a Personalized Physics AI Tutor

Jack Yau-Larmon, University of South Carolina, Physics and Math, Junior
Dr. Scott Crittenden, University of South Carolina, Physics

31 - Distance Dependence of Magnetic Fields from Self-Assembled Magnetic Nanorods

Darragh Lister, University of South Carolina Columbia, Physics with a concentration in Biomedicine, Junior
Dr. Thomas Crawford, University of South Carolina Columbia, Physics and Astronomy

32 - Developing a Polarimetric Data Reduction and Instrumental Calibration Pipeline for the DragonflyPOL Telescope and its Application to Interstellar Magnetic Fields

Timothy Van Ryn, Embry-Riddle Aeronautical University, Astronomy and Astrophysics, Junior
Dr. Mehrnoosh Tahani, University of South Carolina, Physics and Astronomy

33 - Searching for Weak Quasar Absorption Lines

Evelyn Crider, University of South Carolina Columbia, Physics, Senior
Dr. Varsha Kulkarni, University of South Carolina Columbia, Department of Physics and Astronomy

Science, Technology, Engineering, and Math

34 - Cost-Effective Astronomical Spectrograph

Aleksei Mills, University of South Carolina Lancaster, Physics with Emphasis in Astronomy, Mathematics, Sophomore
Dr. Nahid Swails, University of South Carolina Lancaster, Department of Physics

35 - Investigating Interface Degradation in Structural Lithium-Ion Batteries Using Scanning Electron Microscopy

Eden Meyers, Clemson University, Materials Science and Engineering, Junior
Dr. Paul Coman, University of South Carolina Columbia, Chemical Engineering
Dr. Ralph White, University of South Carolina Columbia, Chemical Engineering

36 - Application Identification

Zaneta Hill, University of South Carolina Columbia, Cybersecurity, Senior
Emme Koch, USC Columbia, Criminology and Criminal Justice Senior
Dr. Jorge Crichigno, University of South Carolina Columbia, Integrated Information Technology
Mr. Sergio Elizalde, University of South Carolina Columbia, Integrated Information Technology
Ms. Laura Salazar, University of South Carolina Columbia, Integrated Information Technology

37 - Encrypted Malware Detection

Nathaniel Lybrand, University of South Carolina Columbia, Integrated Information Technology, Senior
Maxx Vogel, University of South Carolina Columbia, Integrated Information Technology Senior
Mrs. Samia Choueiri, University of South Carolina Columbia, Integrated Information Technology
Mrs. Liwaa Albanna, University of South Carolina Columbia, Integrated Information Technology

38 - Reconnaissance and Scan Attacks

Brayden Blackmon, University of South Carolina, Integrated Info Technology, Junior

Dalton Roland, University of South Carolina, Cyber Policy and Ethics, Junior

Dr. Jorge Crichigno, University of South Carolina, Integrated Information Technology

Mr Ali Mazioum, University of South Carolina, Integrated Information Technology

39 - Ethical and Explainable Artificial Intelligence for Personalized Marketing

Ethan Morris, University of South Carolina - Sumter, Computer science, Sophomore

Wilson Warrick, University of South Carolina Sumter, Business Sophomore

Dr. Sher Chhetri, University of South Carolina Sumter, Mathematics and Statistics

40 - Deep-Learning and Uncertainty-Aware Classification of Heart Disease from Electrocardiogram Data

Shreya Mathur, University of South Carolina Columbia, Computational Biology, Sophomore

Anna Zou, Duke University, Biomedical Engineering Sophomore

Dr. Mitchel Colebank, University of South Carolina Columbia, Mathematics

41 - Screening for Abnormal Left Ventricular Ejection Fraction with Deep Learning

Nicholas D'Agostino, University of South Carolina Columbia, Mathematics, Senior

Dr. Mitchel Colebank, University of South Carolina Columbia, Mathematics

42 - Electrochemical Aptamer-Based Sensor For Stress Biomarker Detection

Íris Hlynisdóttir, University of South Carolina Columbia, Biological Sciences, Senior

Dr. Olja Simoska, University of South Carolina Columbia, Department of Chemistry and Biochemistry

43 - Dissolved Organic Carbon as a Proxy of Blackwater Systems: Interactions with Nutrients and Seasonal Precipitation in South Carolina

Lucia Tyler, University of South Carolina, Environmental Science and Biology, Senior

Dr. Claudia Benitez-Nelson, University of South Carolina Columbia, School of Earth, Ocean, and Environment

Health Sciences

44 - Characterizing Protein Interactions of KLK15 and LOX in Hypermobile Ehlers-Danlos Syndrome

Ella Gordon, University of South Carolina Columbia, Biological Sciences, Senior

Dr. Douglas Pittman, University of South Carolina College of Pharmacy, Drug Discovery & Biomedical Sciences

45 - Bridging Healthcare Operations and Patient Outcomes: Lessons from a Hospital Administration Internship

Disha Patel, University of South Carolina Columbia, Public Health, Senior

Gina Spence, University of South Carolina, Center for Integrative and Experiential Learning

46 - Development of Synthetic Lectins for the Selective Detection of Aberrant Glycosylation in Prostate Cancer

Noah Parr, University of South Carolina Columbia, Biochemistry and Molecular Biology, Senior

Dr. John Lavigne, University of South Carolina, Chemistry and Biochemistry

47 - Sex differences in the neurobiological response to witness stress and treatment with N-acetylcysteine

Isabelle Sutherland, University of South Carolina, Neuroscience, Senior

Dr. Susan Wood, University of South Carolina Floyd School of Medicine, Pharmacology, Physiology, & Neuroscience

Dr. Cora Smiley, University of South Carolina Floyd School of Medicine, Pharmacology, Physiology, & Neuroscience

Social Sciences

48 – Briggs v. Elliott: From Archive to Classroom

Olivia Cody, Winston-Salem State University, Teaching w/Concentration in Middle Grades Social Studies, Senior
Dr. Bobby Donaldson, University of South Carolina, Center for Civil Rights History and Research
Dr. Jill Found, University of South Carolina, Center for Civil Rights History and Research
Mrs. Jazmyne Brandes, University of South Carolina, Center for Civil Rights History and Research

49 – More Than Participants: Reinterpreting Youth Leadership in South Carolina's Civil Rights Movement

Fashayla Davis, Alabama State University, History, Senior
Dr. Bobby Donaldson, University of South Carolina, Center for Civil Rights History and Research
Dr. Jill Found, University of South Carolina, Center for Civil Rights History and Research

Afternoon Session

McNair Summer Scholars, Molinaroli College of Engineering and Computing

1 - Data Acquisition and Control System for a Cyber Physical Small Modular Reactor Testbed

Ian Gonzalez, University of South Carolina, Aerospace Engineering, Senior
Dr. Austin Downey, University of South Carolina, Mechanical Engineering, Aerospace Engineering, Civil Engineering

2 - Power Consumption of Edge Based FFT Heart Rate Computations vs Raw Data Logger Utilizing Thermal Imaging

Patrick Wynne, University of South Carolina Columbia, Aerospace Engineering, Senior
Dr. Austin Downey, University of South Carolina Columbia, Mechanical Engineering

3 - How ML and AL can Affect Cybersecurity in Education

Zaki Bushiri, University of South Carolina Columbia, Computer Information Systems, Sophomore
Dr. Rasha Karakchi, University of South Carolina Columbia, Computer Science and Engineering

4 - Long-Term Autonomous Mission Planning Under Battery Degradation

Daniel Walters, University of South Carolina, Columbia, Mechanical Engineering, Senior
Dr. Junsoo Lee, University of South Carolina, Columbia, Mechanical Engineering

5 - Application of Computer Vision for Engineering Projects

Sage Gordin, University of South Carolina Columbia, Electrical Engineering, Junior
Dr. Nikolaos Vitzilaios, University of South Carolina Columbia, Mechanical Engineering

6 - Directed Self-Assembly of Cellulose Nanocrystals for Stimuli-Responsive Photonic Fibers

Maeve Lembke, University of South Carolina Columbia, Chemistry, Senior
Dr. Monirosadat (Sanaz) Sadati, University of South Carolina Columbia, Chemical Engineering

7 - A Numerical Investigation into the Governing Breakup Mechanisms of Different Regimes Inside a Flow-Blurring and Airblast Nozzle

Ethan Smith, University of South Carolina, Aerospace Engineering, Senior
Dr. Yue Ling, University of South Carolina, Department of Mechanical Engineering

8 - Comparison of Latency and Hardware Utilization Using Various Programming Methodologies in LabVIEW FPGA

Tiffany Yu, University of South Carolina Columbia, Computer Engineering, Senior
Dr. Rasha Karakchi, University of South Carolina Columbia, Department of Computer Science and Engineering

Dr. Austin Downey, University of South Carolina Columbia, Department of Mechanical Engineering

9 - Quantum-Assisted Side-Channel Attack Detection

Nishant Chinnasami, University of South Carolina, Columbia, CIS, Senior

Dr. Rasha Karakchi, University of South Carolina Columbia, Engineering and Computing

10 - Real-Time Millimeter-Wave Signal Acquisition, Point Cloud Generation, and Continuous Environmental Mapping on Embedded Edge Hardware.

Hammam Salman, University of South Carolina Columbia, Computer Engineering, Senior

Dr. Sanjib Sur, University Of South Carolina Columbia, Computer Science and Engineering

11 - Optimizing poly(lactide-co-glycolide) microparticle morphology with non-halogenated organic solvents

Rose Padgett, University of South Carolina Columbia, Biomedical Engineering, Junior

NatalieCoderre, University of South Carolina Columbia, Biomedical Engineering Junior

Dr. Michael Gower, University of South Carolina Columbia, Biomedical Engineering

12 - Oblique Droplet Impact and Bouncing on Thin Liquid Films: A Numerical Study

Jeremy Glasgow, University of South Carolina Columbia, Aerospace Engineering, Junior

Dr. Stanley Ling, University of South Carolina Columbia, Department of Mechanical Engineering

13 - Robotic Wire Arc Additive Manufacturing Process

Michael Cargill, University of South Carolina - Columbia, Aerospace Engineering, Senior

Dr. Wout De Backer, University of South Carolina - Columbia, Department of Mechanical Engineering

14 - A Systematic Literature Review on Using AI Tools to Support Youth with Autism Spectrum Disorder

Evan Poon, University of South Carolina, Integrated Information Technology, Senior

Dr. Dezhi Wu, University of South Carolina, Integrated Information Technology

15 - Physical AI Social Robot for Dementia Care Support

Toby Williams, University of South Carolina Columbia, Electrical Engineering, Sophomore

Dr. Dezhi Wu, University of South Carolina, Integrated Information Technology

Dr. Xiaofeng Wang, University of South Carolina, Electrical Engineering

16 - Data Procurement for Remote Bathymetry in Near-Shore Waters Using X-Band Radar

Liam McVey, University of South Carolina, Columbia, Electrical Engineering, Sophomore

Dr. Yi Wang, University of South Carolina, Columbia, Mechanical Engineering

Mr. James Cutler, University of South Carolina, Columbia, Mechanical Engineering

17 - USC SatNOGS Ground Station

Matthew Watson, University of South Carolina, Columbia, Aerospace Engineering, Senior

Dr. Wout De Backer, University of South Carolina, Columbia, Mechanical Engineering, Aerospace Engineering

18 - Literature review of deep learning-based pedestrian detection, tracking and reidentification

Dustin King, University of South Carolina - Columbia, Computer Information Systems, Senior

Dr. Yan Tong, University of South Carolina - Columbia, Computer Science & Engineering

Dr. Yi Wang, University of South Carolina - Columbia, Mechanical Engineering

19 - MBSE-Enabled Development of Lithium-Ion Battery Module-to-Pack Architectures

Lacey Bryant, University of South Carolina Columbia, Mechanical Engineering, Senior

Mr. Cebastione Bailey, University of South Carolina Columbia, Mechanical Engineering

Mr. Malichi Flemming, University of South Carolina Columbia, Mechanical Engineering

Dr. Austin Downey, University of South Carolina Columbia, Mechanical Engineering

20 - Nonlinear Image Registration for Consecutive Frame Alignment

Gabriel Spire, University of South Carolina, Columbia, Aerospace Engineering, Senior

Dr. Yi Want, University of South Carolina, Columbia, Mechanical Engineering

21 - Recording the Dominant Sensory Modality using fNIR

Nigil Thompson, University of South Carolina Columbia, Neuroscience, Senior

Dr. Christian O'Reilly, University of South Carolina Columbia, Computer Science and Engineering

22 - An Autonomous Drone Platform for Non-Destructive Evaluation: Phase 1 System Design and Simulation Toward GPS-Denied Flight

Mark Stewart, University of South Carolina, Mechanical Engineering, Junior

Dr. Sourav Banerjee, University of South Carolina, Engineering/iMAPS Lab

23 - Experimental validation of the cycling performance of the Smart-Pack-for-Advanced-Research-and-Control (SPARC)

Cebastione Bailey, University of South Carolina Columbia, Mechanical Engineering, Senior

Dr. Austin Downey, University of South Carolina Columbia, Mechanical Engineering

24 - Development of a mobile induction welding cell with an integrated process parameter database for thermoplastic composite manufacturing

Albert Carter, University of South Carolina Columbia, Aerospace Engineering, Junior

Dr. Darun Barazanchy, University of South Carolina Columbia, Mechanical Engineering

25 - Developing Game-Making Software for Educators using the Godot Engine

Joe Hardy, University of South Carolina - Columbia, Computer Science, Junior

Dr. William Hoskins, University of South Carolina - Columbia, Computer Science and Engineering

26 - Simulation and Machine-Learning Modeling of Aerodynamic Deformation of Viscous Drops

Simon Cameron, University of South Carolina Columbia, Mechanical Engineering, Senior

Dr. Yue (Stanley) Ling, University of South Carolina Columbia, Mechanical Engineering, Aerospace Engineering

27 - Adaptive Buoyancy Modeling and Float-Time Prediction for a Flooded Aircraft

Mary Ann Gardiner, University of South Carolina Columbia, Aerospace Engineering, Sophomore

Dr. Austin Downey, University of South Carolina Columbia, Mechanical Engineering

28 - Machine Learning-Based Detection of Simulated Malware in FPGA Bitstreams

Carter Antley, University of South Carolina Columbia, Computer Science, Senior

Dr. Rasha Karakchi, University of South Carolina, Columbia, Computer Science & Engineering

29 - How Extreme Rainfall Affects Permanent Deformation in Railroad Ballasted Track Beds

Alexander Alepa, University of South Carolina Columbia, Civil Engineering, Sophomore

Prof. Yu Qian, University of South Carolina Columbia, Civil and Environmental Engineering

Jaikaew Phuriwit, Research Assistant, University of South Carolina Columbia, Civil Engineering

REU: Design of Nanomaterials for 21st-Century Energy

30 - Metal Oxide Supported Ruthenium Catalysts for Ammonia Decomposition

Evelyn Gay, University of South Carolina, Chemical Engineering, Senior

Dr. Rahat Qazi, University of South Carolina, Chemical Engineering

31 - Silicon Carbide Ink Design for 3D Printing of Thermally Conductive Porous Architectures

Madeline Reick, Rowan University, Glassboro, Chemical Engineering, Junior

Dr. Monirosadat Sadati, University of South Carolina, Columbia, Chemical Engineering

Mr. Jeremy Money, University of South Carolina, Columbia, Chemical Engineering

32 - Ta-Doped Perovskite Nanofibers for Enhanced Ionic Conductivity in Composite Electrolytes for All-Solid-State Lithium Batteries

Sarah Godwin, NC State University, Chemical Engineering, Junior

Dr. Hui Yang, University of South Carolina, Chemical Engineering

Dr. Buke Wu, University of South Carolina, Postdoctoral Research Fellow

33 - Optimizing Catalytic Dehydrogenation of Methylcyclohexane via Controlled Ni/P Ratios

Julia Singh, University at Buffalo, Chemical Engineering, Senior

Dr. Melis Duyar, University of South Carolina, Chemical Engineering

Dr. Hassnain Abbas Khan, University of South Carolina, Chemical Engineering

Mr. Munna, University of South Carolina, Chemical Engineering

34 - Effect of Thermal Conditioning on the Cycling and Capacity Retention of Solid Polymer Electrolyte Structural Batteries

Kaitlyn Nguyen, New Jersey Institute of Technology, Chemical Engineering, Junior

Dr. Paul Coman, University of South Carolina, Chemical Engineering

35 - Removal of Graphite from Spent Nuclear TRISO Fuel by Vapor Digestion

Beverly O'Neill, Ohio University, Chemical Engineering, Senior

Dr. Jochen Lauterbach, University of South Carolina, Chemical Engineering

Ms. Tori Rogers, University of South Carolina, Chemical Engineering

36 - Characterization of Amino Methyl Phosphonic Acid Resin for Rare Earth Element Recovery Using Redox-Mediated Electrodialysis

Elizabeth Kiernan, University of Delaware, Chemical Engineering, Junior

Dr. Zhenmeng Peng, University of South Carolina, Columbia, Department of Chemical Engineering

Ms. Preethi Arunachalam, University of South Carolina, Columbia, Department of Chemical Engineering

37 - Direct Recycling of NMC Battery Cathodes via Flash Joule Heating: In Situ Temperature Measurement

Carlos Rinaldi-Rivera, University of Florida, Materials Science and Engineering, Junior

Dr. Golareh Jalilvand, University of South Carolina, Chemical Engineering

Matthew Gentile, University of South Carolina, Presidential Fellow, Chemical Engineering

REU: Quantum Information Science

38 - Automating Formal Verification of Quantum Circuits with AI

Aiperi Bush, Swarthmore College, Computer Science, Junior

Dr. Forest Agostinelli, University of South Carolina, Computer Science and Engineering

Dr. Biplav Srivastava, University of South Carolina, AI Institute (AIISC)

39 - Exploring Causality in Quantum Computing Systems

Vignesh Thondikulam, University of California, Riverside, Robotics Engineering, Junior

Prof. Pooyan Jamshidi, University of South Carolina, Computer Science and Engineering

40 - Entropic Tests for Hidden Common-Cause Structure in Noisy Quantum Systems

Griffin Moore, Lehigh University, Computer Science and Engineering, Junior

Dr. Mohammad Ali Javidian, Appalachian State University, Computer Science

Dr. Pooyan Jamshidi, University of South Carolina, Columbia, Computer Science and Engineering

41 - Issues in quantum position-verification.

Eli Naig, Tulane University, Mathematics, Junior

Dr. Stephen A. Fenner, The University of South Carolina Columbia, Computer Science & Engineering

42 - Ripple carry addition and quantum addition on near term quantum computer

Ellis Hale, University of Maryland, Baltimore County, Computer Science, Senior

Dr. Peng Fu, University of South Carolina, Computer Science and Engineering

43 - The Data-Processing Inequality in Quantum Information Theory

Richard Zheng, Yale University, Mathematics, Senior

Dr. Haonan Zhang, University of South Carolina, Mathematics

44 - A Quantum-Inspired Compression Approach for Embedded ML Systems

Gilly Davies, University at Buffalo, Mathematics, Junior

Dr. Ramtin Zand, University of South Carolina, Columbia, Computer Science and Engineering Department

Engineering and Computing

45 - Synthesis and CO₂ adsorption of urea-doped biochar

Lumin Meekins, University of South Carolina - Columbia, Chemical Engineering, Junior

Dr. Jochen Lauterbach, University of South Carolina - Columbia, Chemical Engineering

Ms. Sarah Stofik, University of South Carolina - Columbia, Chemical Engineering, SAGE

46 - Methods for Improving Solid Polymer Electrolyte Bonding at Electrode Interfaces in Structural Batteries

Daniel Nicholson, Bob Jones University, Engineering (Aerospace concentration), Junior

Dr. Paul Coman, University of South Carolina, Chemical Engineering

47 - Experimental Evaluation of Soft Elastomeric Capacitive Sensors for Self-Sensing Tire Applications

Mani Asadiasabad, University of South Carolina, Columbia, Mechanical Engineering, Sophomore

Dr. Austin Downey, University of South Carolina, Columbia, Mechanical Engineering Department

48 - Computer Modeling of Vascular Response to Biomechanical Stimuli

Scarlett Hamilton, University of South Carolina, Columbia, Biomedical Engineering, Junior

Dr. Mitchel Colebank, University of South Carolina, Columbia, Mathematics

49 - Fabrication and Characterization of Strain-Sensing Flapping Wings

David St. John, University of South Carolina - Columbia, Mechanical Engineering, Junior

Dr. Austin Downey, University of South Carolina - Columbia, Mechanical Engineering

50 - Exploring Nondestructive Means for Defect Detection in Plate-like Structural Components Important for Safe Operation

Isaac Yarnell, University of Notre Dame, Aerospace Engineering, Sophomore

Dr. Lingyu Yu, University of South Carolina, Mechanical Engineering

51 - Fabrication and Mechanical Evaluation of Multifunctional Structural Battery Composites with Biphasic Structural Electrolyte

Elvin Euceda Montes, University of South Carolina Columbia, Chemical Engineering, Senior

Dr. Paul Coman, University of South Carolina, Chemical Engineering

Dr. Monirosadat (Sanaz) Sadati, University of South Carolina, Chemical Engineering

Dr. Ralph White, University of South Carolina, Chemical Engineering