

MONDAY, MARCH 27, 2023		
7:45 AM Opening Announcements (Cherokee Ballroom)		
8:00 AM Keynote (Cherokee Ballroom) Katherine P. Van Hooser, Chief Engineer Marshall Space Flight Center		
Undergraduate — Location: Sequoyah 3	Teams — Location: Salon D	Masters — Location: Salon E
8:45 AM "V-Tailed Transatlantic Business Jet"; Kerem Tekin; Tristan Guerin; University of South Carolina	8:45 AM "Lunar Descent Vehicle Simulation"; a team project by Mississippi State University	8:45 AM "Aeroacoustic Structures within a Supersonic Cavity"; John Parrish; Tushar Srivastava; North Carolina State University
9:15 AM "Magnetohydrodynamic drive for water-based CubeSat propulsion"; Macia Monfort Castillo; Georgia Institute of Technology	9:15 AM "Multi-Disciplinary Applications and Practicality of Solar Sails"; a team project by Florida Institute of Technology	9:15 AM ""A Computational Diffusion Model to Predict Accelerated Corrosion Propagation"; Daniel Hampson; University of Georgia
9:45 AM "Validation and sub-grid scale characteristics of an upwind, five-equation, two-phase model for cavitating flows"; Sophie Wood; University of Memphis	9:45 AM "Fiber Optic Force Sensing in Wind Tunnels"; a team project by Mississippi State University	9:45 AM "Clauser Plot Method of Analysis on Molecular Tagging Velocimetry Data"; Oriana Palumbo; University of Tennessee Space Institute
10:15 AM Intermission	10:15 AM Intermission	10:15 AM Intermission
10:30 AM "Carbon Nanotube Chip Applications in Electric Propulsion Systems for Nanosatellites"; Kendall Seefried; Georgia Institute of Technology	10:30 AM "Team Flying Tigers Design, Build, Fly Competition"; a team project by University of Memphis	10:30 AM "The Future of Aerospace Design and Manufacturing through Self-Assembly and 4D Printing"; Sid Amonchomchupong; University of Georgia 11:00 AM "Indentation Loading of Prismatic Cell Lithium-ion Battery Modules"; Sida Xu; Embry-Riddle University - Daytona Beach, FL
11:00 AM "Design and Performance Analysis of a CO2 Ejection system"; Nurettin Aslan; University of Florida	11:00 AM "Remote Sensing of the Mississippi River Watershed Region using 3 CubeSats"; a team project by Mississippi State University	11:30 AM ""Investigation of Single Luminophore, Polymer-Ceramic Pressure Sensitive Paint for High Speed Wind Tunnel Testing"; Jamison Murphree; University of Tennessee Space Institute
11:30 AM "Effect of Gust and Pitch on Airfoil Lift Studied Using a Discrete Vortex Simulation"; Nitin Chitrala; Yi Tsung Lee; North Carolina State University	11:30 AM "Software Design of RHOK-SAT, a 1U CubeSat to Characterize Perovskites in LEO"; a team project by Rhodes College	
12:00 PM—2:00 PM Luncheon Location: Cherokee Ballroom Speaker: Brian Ade, Fuel Design Manager Ultra Safe Nuclear Corporation (USNC)		
		ULTRA SAFE NUCLEAR
Undergraduate — Sequoyah 3	Teams — Location: Salon D	Outstanding Branch Activity — Location: Salon E
2:00 PM ""An Analysis of the Filter Kernel of TPIV"; Andrew Shi; Georgia Institute of Technology	2:00 PM "Acoustic Dampening of Propellers"; a team project by Mississippi State University	2:00 PM "Florida Tech Outreach"; Matthew House; Sidney Causey; Florida Institute of Technology 2:15 PM ""University of Tennessee AIAA Professional Development Effort"; Chadwicke Bolding; Sreya Kumpatla; University of Tennessee 2:30 PM "Delta Tech Ops Tour"; Claire Keller; Ethan Traub; Georgia Institute of Technology
2:30 PM "Impact of Surface Modification on Wakes of Two-dimensional Cylinders"; Brandon Guiseppi; Kaylee Rivers; Tuskegee University	2:30 PM "Numerical Modeling for Development of a Student Developed Self-Pressurizing Liquid Bipropellant Rocket Engine"; a team project by University of Alabama in Huntsville	3:00 PM "Utilizing a Water Table for the Analysis of Compressible, Supersonic Flow"; Jeffrey Whitenack; North Carolina State University *
3:00 PM "Aerodynamic Efficiency Analysis of Small-Scale Wind Turbine Blades"; Tyler Rush; University of Georgia	3:00 PM "BiPROP Rocket Competition Team"; a team project by Florida Institute of Technology	
3:30 PM Intermission	3:30 PM Intermission	3:30 PM Intermission
3:45 PM "Wake Surfing: Vortex Wake Energy Recovery for sUAS's"; Joseph Westermeyer; University of Alabama	3:45 PM "Payload Design of RHOK-SAT, a 1U CubeSat to Characterize Perovskites in LEO"; a team project by Rhodes College	
4:15 PM "An Implementation of the A* Search Algorithm for Dynamic Message Routing in Homogeneous Communication Satellite Networks"; Alexandra Ramotar; Georgia Institute of Technology 4:45 PM "Simulated Design of an MPC Controller for Rocket Vertical Landing"; Jiyansh Agarwal; University of Florida	4:15 PM "Wildfire Identification Via CMOS Sensor Fitted High-Altitude Long Endurance (HALE) System"; a team project by Mississippi State University	
Special thanks to our Corporate Host Sponsor: 		
* Exhibition		

TUESDAY, MARCH 28, 2023

Day 2 announcements will be made in session rooms

Undergraduate — Location: Sequoyah 3

8:30 AM "A web-based lunar topography visualization tool for surface mission planning"; Alfonso Lagares de Toledo; Georgia Institute of Technology

9:00 AM "Designing an Arduino-based Rocket Flight Computer for Embedded Systems Education"; Joseph Telaak; University of South Carolina

9:30 AM "Aeroelastic Limit Cycle Oscillation Analysis of Two Geometrically Identical Wings with Differing Mass Properties"; Ethan Sites; North Carolina State University

10:00 AM Intermission

10:15 AM "Exploring Interactive Methods for Structural Analysis Optimization Problems"; Surya Venkatram ; Georgia Institute of Technology

10:45 AM "Multi-fidelity assessment of atmospheric boundary layer observations through clustering machine learning"; Eric Enright; Austin Aguilar; University of Memphis

Open Topic — Location: Salon D

8:30 AM "The Future of Deep Space Flight using Ion Propulsion"; Whitney Reinkoester; Florida Institute of Technology

9:00 AM "Analysis of Cost Reduction of Space Travel with the Scramjet"; Mason Roddy; University of Tennessee

9:30 AM "Ocean World Exploration Rover"; Beck Kerridge; Colin Zelasko; Florida Institute of Technology

10:00 AM Intermission

10:15 AM "Review of Autonomous Technologies for a Crewed Exploration of the Lunar South Pole"; James Cross; University of Florida

10:45 AM "History of Spacecraft Fuel Sloshing"; Jesus Delgado; Florida Institute of Technology

12:15 PM Tour Groups

All registered tour attendees will load on to buses for transportation to specific tour locations according to your tour ticket. All tour attendees will receive a boxed lunch. Boxed lunches will be picked up prior to loading busses. Photo ID will be required to board busses. Wear comfortable, closed-toe walking shoes.

AWARDS NIGHT BANQUET

Hilton Knoxville Cherokee Ballroom

"From Sliderules to Boardrooms"

Guest Speaker:
Ralph D. Heath
Former Head
Lockheed Martin Aeronautics Company

Social Hour with hors d'oeuvres begins at 5:30 PM outside the Cherokee Ballroom.
Dinner will be served promptly at 6:30 PM

Prize winners and professional attendees are invited to attend the Winners' Reception immediately following the awards banquet.
Winners' Reception sponsored by **Jacobs**.

CONTRIBUTORS

Thanks are offered to those companies, groups, universities and individuals whose financial assistance, equipment, and/or services made this conference possible.

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ACKNOWLEDGEMENTS

The AIAA Region II Sections are now in their sixty-eighth year of participation in sponsoring the Southeastern Regional Student Conference. Special thanks to all of the volunteers on the Region II Student Conference Committee, the faculty advisors, the on-site judges, and the technical paper judges.



Thanks to the AIAA Foundation and Lockheed Martin for their generous financial support of all of the AIAA Regional Student Conferences. The AIAA Foundation provides award funding for the technical paper presentations in the undergraduate, masters, and team categories.



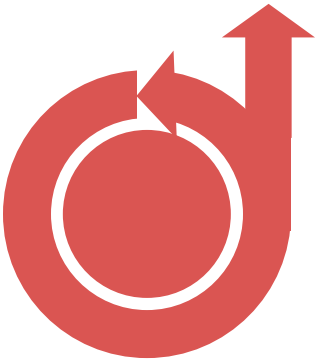
The host for the 2023 Southeastern Regional Student Conference is the AIAA Student Branch from the University of Tennessee - Knoxville with support from UTSI and Tennessee Tech.

Host School Student Branch Chairman

Chad Bolding

Host School Faculty Advisor

Damiano Baccarella



74th ANNUAL SOUTHEASTERN
REGIONAL STUDENT CONFERENCE
MARCH 27-28, 2023

Hilton Knoxville
Knoxville, Tennessee

AIAA NATIONAL PRESENTING SPONSOR:
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- Embry-Riddle Aeronautical University
- Florida Institute of Technology
- Georgia Institute of Technology
- Kennesaw State University
- Mississippi State University
- North Carolina State University
- Rhodes College
- Tennessee Tech University
- Tuskegee University
- University of Alabama
- University of Alabama in Huntsville
- University of Florida
- University of Georgia
- University of Memphis
- University of South Carolina
- University of Tennessee
- University of Tennessee Space Institute
- University of West Florida

Sponsors

Location: Mezzanine outside Cherokee Ballroom

Several sponsors will be onsite Monday throughout the day. They will be available to discuss opportunities and programs with student attendees. This is a great opportunity to grow your professional network. Please stop by as your schedule allows on Monday.

Continental Breakfast

Location: Mezzanine outside Cherokee Ballroom

Complimentary continental breakfast will be provided prior to conference activities beginning on Monday and Tuesday. A selection of coffee and pastries will be available Monday morning at 7:30 AM and Tuesday morning at 8:00 AM.



Monday Night Event

Location: Sunsphere
810 Clinch Avenue

Come engage with professionals and students from other universities as you compete for prizes and test your knowledge across a variety of topics including aerospace, sports, geography, and more. We will have chips, dip, and refreshments for everyone to enjoy while networking and having fun. This event will take place on Monday night from 6:00 PM until 8:00 PM.



AIAA 74th ANNUAL SOUTHEASTERN REGIONAL STUDENT CONFERENCE

