# MONDAY - AUGUST 4, 2025

| | Ballroom | Paper Session #1 Room 1-A | Paper Session #2 Room 1-B | Paper Session #3 Room 4 | Classroom Room 2 | Computer Lab Eng 405 & 407 |
|---|---|---|---|---|---|---|
| 8:00 | Registration | | | | | |
| 8:30 | Opening Remarks in the Ballrom | | | | | |
| 9:00 | Keynote Lecture in the Ballrom | | | | | |
| 9:30 | | | | | | |
| 10:00 | Coffee Break | | | | | |
| 10:30 | Introduction to Orbital Mechanics and Spacecraft Attitudes for Thermal Engineers | Aerosciences 1 (Aero I) | Interdisciplinary 1 (Inter I) | Thermal Control & Protection 1 (TC&P I) | Introduction to Passive Thermal Control Technologies | GFSSP - MSFC |
| 11:00 | | | | | | |
| 11:30 | | | | | | |
| 12:00 | Lunch | | | | | |
| 12:30 | | | | | | |
| 1:00 | Poster Pitch in the Ballrom | | | | | |
| 1:30 | Introduction to Orbital Mechanics and Spacecraft Attitudes for Thermal Engineers | Aerosciences 2 (Aero II) | Interdisciplinary 2 (Inter II) | Thermal Control & Protection 2 (TC&P II) | Thermal Protection System Testing and Evaluation at NASA Ames Arc Jet Complex | CFD++ - MetaComp |
| 2:00 | | | | | | |
| 2:30 | | | | | | |
| 3:00 | Coffee Break | | | | | |
| 3:30 | Modeling Complex Cryogenic Tank Thermodynamics with Simple Spreadsheet Tools | Aerosciences 3 (Aero III) | Interdisciplinary 3 (Inter III) | Thermal Control & Protection 3 (TC&P III) | Materials for Entry Systems Thermal Protection – Examples and Insights for Next Generation Reusables and Ablatives | CFD++ - MetaComp |
| 4:00 | | | | | | |
| 4:30 | | | | | | |

# MONDAY TECHNICAL SESSION SCHEDULE

| Timeslot | Room 1-A | | | | Room 1-B | | | | Room 4 | | | |
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| 10:30-10:50 | Aerosciences 1 (Aero I) | Aero I - 01 | General-Purpose Machine-Learning Closure Model for Wall-Modeled LES | Adrian Lozano Duran (Caltech/MIT) | Interdisciplinary 1 (Inter I) | Inter I - 01 | Three-dimensional, Multi-Phase CFD Modeling using an Overset Mesh with Free Surface to Simulate Wave Impacts on the Outer Shell of a Spacecraft | William Dziedzic (NASA KSC) | Thermal Control & Protection 1 (TC&P I) | TC&P I - 01 | Learnings From a Lunar Lander - Parts 1 & 2 | Jackson Sweeney (Firefly Aerospace) |
| 10:50 - 11:10 | | | | | | Inter I - 02 | Custom CFD and Digital Twin Frameworks for Thermo-Fluid System Optimization | Ender Demirel (SunMan Eng., Inc.) | | | | |
| 11:10 - 11:30 | | | | | | Inter I - 03 | Simulation of Time-Dependent Heat Transfer in Spherical Bubbles With Application to Bubble Through Nuclear Thermal Rocket Engines | Dakota J Santana (UAH) | | TC&P I - 02 | Generalizing Lunar Vehicle Thermal Analysis: Lessons Learned from VIPER | Thomas B Slusser (NASA JSC) |
| 11:30 - 11:50 | | Aero I - 02 | Aerodynamic & Thermo-Chemical Analysis of Blended Haack-Ogive Nose Cones Across Earth & Martian Atmospheres | Tarun Prabash (RV College of Engineering) | | Inter I - 04 | Numerical Analysis On Tree-Shaped Disc Heat Convection | Derli Amaral (SHSU) | | | | |
| 1:30 - 1:50 | Aerosciences 2 (Aero II) | Aero II - 01 | Early Career Faculty Seminar: Roughness induced transition for hypersonic | Robyn L. Macdonald (U.C. Boulder) | Interdisciplinary 2 (Inter II) | Inter II - 01 | Characterization of Spacecraft Thruster Plumes via Augmented View Factor Methods for Spacecraft Docking Interactions | Anthony C Terracciano (NASA KSC) | Thermal Control & Protection 2 (TC&P II) | TC&P II - 01 | Mitigation of Superheated Vapour Formation in Cryogenic Coolant Loops of Thermal Vacuum Chambers Using Passive Flow Strategies | Vinay N Panda (Astro Ltd.) |
| 1:50 - 2.10 | | | | | | Inter II - 02 | Microgravity Experiment for Lunar Dust (MELD): A platform to study lunar dust interactions with surfaces. | Samantha Daigle (TWU) | | TC&P II - 02 | Calibration for Video Analysis with arcjetCV | Alexandre Quintart (Flying Squirrel) |
| 2:10 - 2:30 | | | | | | Inter II - 03 | Methods for Modeling Lunar Dust in Thermal Desktop Based on Lunar Dust Level Sensor and Effects on Surfaces Test Data | Jessie Beddoe (NASA JSC) | | TC&P II - 03 | Comparative Analysis of Thermal Straps in a Vacuum (CATS-Vac) | Heather L Grimes (NASA MSFC) |
| 2:30 - 2:50 | | Aero II - 02 | Demonstration of Broadband Absorption Spectroscopy of CN(X2Σ+→B2Σ+) in the Low Density Electric Arc Shock Tube | Andrea Fagnani (ORAU at NASA ARC) | | Inter II - 04 | Simcenter System Simulation for Space Systems Design and Electrified Rocket Development | Darren Nunes (Siemens) | | TC&P II - 04 | IHAB Thermal Cover Assembly Omission Thermal Study | Rose Y Fong (NASA JSC) |
| 3:30 - 3:50 | Aerosciences 3 (Aero III) | Aero III - 01 | Dragonfly: Entry, Descent, and Landing - Thermal Environment and Analysis Approach | Evan Cosentino (APL) | Interdisciplinary 3 (Inter III) | Inter III - 01 | Thermal Modeling of an ESPA-Class Satellite with OHP and DSABR Architecture: A Comparative Study Using Thermal Desktop and ThermQuik | Kevin R Anderson (CPP) | Thermal Control & Protection 3 (TC&P III) | TC&P III - 01 | Machine Learning-Guided Design of Ionic Liquids for Next-Generation Pumped Fluid Loops | Elif Acar (Cornell Unv) |
| 3:50 - 4:10 | | Aero III - 02 | Dragonfly Mission Launch Failure Analysis Aerothermal Database Development. | Christopher Naughton (NASA ARC) | | Inter III - 02 | Thermal Performance Evaluation of IPEx via Dynamic Modeling with Thermal Desktop and SINDA | Kevin R Anderson (CPP) | | | | |
| 4:10 - 4:30 | | Aero III - 03 | Modular Trajectory Simulation Architecture for Aerocapture and Skip out Maneuvers | Bohdan Wesely (NASA ARC) | | Inter III - 03 | Metasurface-Engineered Anode for Solid Oxide Electrolysis Cells | Victoria Kurushina (IU of Tyumen) | | | | |
| 4:30 - 4:50 | | Aero III - 04 | Preliminary Thermal Design of Airborne EO/IR Pods and Bays Based on CONOPS and Flight Envelope | Mark Whittum (Raytheon Technologies) | | Inter III - 04 | Speeding Up Model Correlation With Breakout Models: The Viper Integrated Thermal Model Correlation Story | Lisa Erickson (NASA JSC) | | | | |