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*			
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)				

TUESDAY - AUGUST 5, 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	Overview of the Icarus Material Response Software for TPS Analysis and Sizing	Aerosciences 4 (Aero IV)	Thermal Control & Protection 4 (TC&P IV)	Thermal Control & Protection 5 (TC&P V)	Heat Pipe Short Course	
11:00						
11:30						
12:00	Lunch					
12:30						
1:00	Poster Pitch in the Ballrom					
1:30	Multi-Physics Systems Simulation Using GT-SUITE	Aerosciences 5 (Aero V)	Thermal Control & Protection Special ECF/ESI session	Thermal Control & Protection 6 (TC&P VI)	An Introduction to Direct Simulation Monte Carlo (DSMC)	Thermal Desktop - Ansys
2:00						
2:30						
3:00	Coffee Break					
3:30		Aerosciences 6 (Aero VI)	Interdisciplinary 4 (Inter IV)	Thermal Control & Protection 8 (TC&P VIII)	Introduction to PyFR: A Scalable Open-Source Flow Solver for Scale Resolving Simulations	Thermal Desktop - Ansys
4:00						
4:30						
5:00	Student Poster					
5:30						

TUESDAY TECHNICAL SESSION SCHEDULE

Timeslot	Room 1-A				Room 1-B				Room 4			
10:30-10:50	Aerosciences 4 (Aero IV)	Aero IV - 01	Recent Advances in Aeroheating and Thermal Protection System Material Response in the NASA Entry Systems Modeling Project	Justin Haskins (NASA ARC)	Thermal Control & Protection 4 (TC&P IV)	TC&P IV - 01	Megawatt-Scale Electrified Aircraft Thermal Management System Sizing	Erik Stalcup (NASA GRC)	Thermal Control & Protection 5 (TC&P V)	TC&P IV - 03	Optimization of Battery Thermal Management for LEO Satellites Using Multi-Physics Modeling in GT-SUITE	Massimiliano Mastrogiorgio (Gamma Tech)
10:50 - 11:10		Aero IV - 02	Exploring the Accuracy of CFD Predictions for the Wake of a Hypersonic Inflatable Aerodynamic Decelerator	Clark Pederson (NASA LaRC)		TC&P IV - 02	Thermal Management Through Resonant Instability in Reduced Gravity Environments	Thomas Corbin (UFl)		TC&P V - 02	Additively manufactured ceramic heat pipes with optimized capillary structures	Giancarlo D'Orazio (Cornell)
11:10 - 11:30		Aero IV - 03	Transport-Equations-Based Transition Models for Three-Dimensional High-Speed Flows	Ethan Vogel (NASA LaRC)		TC&P III - 03	Atmospheric Waves Experiment (AWE) Thermal Control System: from Design through On-Orbit Thermal Performance	Mike Holt (SDL)		TC&P V - 03	3D-Printed Loop Heat Pipes for CubeSat, SmallSat, and Lunar Habitat Applications	SaiKiran Hota (ACT)
11:30 - 11:50		Aero IV - 04	Wake Heating Environments on a HIAD Aeroshell using Unstructured CFD	Adam Wise (NASA LaRC)		TC&P III - 04	Atmospheric Waves Experiment (AWE) Thermal Balance: Internal Characterization, Correlation, and Lessons Learned	Matt Ralphs (SDL)		TC&P V - 04	Characterization of Silicon-based Micro-Oscillating Heat Pipes	Zachary Wong (UCLA)
1:30 - 1:50	Aerosciences 5 (Aero V)	Aero V - 01	A Reimagining of NASA's DPLR Code	Joshua Finkbeiner (NASA GRC)	Thermal Control & Protection Special ECF/ESI session	TC&P ECF	Early Career Faculty Seminar: Ionic liquids for pumped fluid loop applications	Sadaf Sobhani (Cornell)	Thermal Control & Protection 6 (TC&P VI)	TC&P VI - 01	Novel Pulsating Heat Pipes Featuring Fractals for Performance Enhancement	Md Zishan Akhter (TII)
1:50 - 2.10		Aero V - 02	Gas-Surface Interaction Models in CFD++	Bruno Lopez (Metacomp)						TC&P VI - 02	Thermal characterization of pulsating heat pipes for antenna and detector-plane cooling applications	Marcin Wójcik (KP Labs)
2:10 - 2:30		Aero V - 03	BLAST: Boundary Layer Analysis & Simulation Tool for Reacting Nonequilibrium Flows	Domenico Lanza (UIUC)		TC&P ESI	Early Stage Innovation Seminar: Additive manufacturing of ceramic heat pipes	Sadaf Sobhani (Cornell)		TC&P VI - 03	High Temperature Oscillating Heat Pipe Radiator	Alex Miller (ThermAvant)
2:30 - 2:50		Aero V - 04	Aerothermodynamics of a General One-Dimensional Compressible Flow in a Duct with Area Change, Friction, Heat Transfer, Rotation, Internal Choking, and Normal Shocks: Modeling and Solution	Bijay Sultanian (TAKANIKI)						TC&P VI - 04	Pulsating Heat Pipe Based Electronics Cooling System	Sai Kiran Hota (ACT)
3:30 - 3:50	Aerosciences 6 (Aero VI)	Aero VI - 02	A Flight-to-Ground Mapping Strategy to Reproduce Entry Trajectory Conditions in ICP Facilities	Andrea Scaboro (UIUC)	Interdisciplinary 4 (Inter IV)	Inter IV - 01	Thermal Effects of Scene-Based, Lunar Alignment for a Hyperspectral Earth Observation Telescope in Low Earth Orbit	Geneva Vandervinne (Wyvern)	Thermal Control & Protection 8 (TC&P VIII)	TC&P VII - 01	Thermal correlation of a mechanically driven loop heat pipe for deep space science missions	Nayli Hayi-Slayman (Maya HTT)
3:50 - 4:10		Aero VI - 03	Boundary Layer Characterization around Graphite Samples in Microwave Nitrogen-Methane Plasmas	Dan Fries (UKy)		Inter IV - 02	The Effect Of Changing The Thickness Of VO2 Thin Films On Emissivity For Passive Thermal Control On Spacecrafts	Jiajun Xu (UDC)		TC&P VII - 02	Non-Integrated Hot-Reservoir Variable Conductance Heat Pipe Tested on Peregrine Lander	Calin Tarau (ACT)
4:10 - 4:30		Aero VI - 04	Approximate Method for Comparing NEQAIR Visible Spectral Emission Predictions Against Onboard Footage	Heston Briant (NASA KSC)		Inter IV - 03	Harnessing Thermoacoustic Power with Bi-Directional Turbines: A Path to Efficient Energy Conversion	Luis A Rodriguez (NASA GRC)		TC&P VII - 03	Thermal Vacuum Testing of a VIPER Loop Heat Pipe	Ezequiel Medici (NASA JSC)
4:30 - 4:50		Aero VI - 01	Rovibrational-specific QCT and master equation analysis on the CNO system for high-energy collisions	Clement Civrais (UCI)						TC&P VII - 04	Double Strokes Active Heat Pipe for Thermal Control	Maged Mossallam (NARSS)

WEDNESDAY - AUGUST 6, 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	Vendor Demo session	Thermal Control & Protection - ITAR	Cryogenics 1 (Cryo I)	Thermal Control & Protection 9 (TC&P IX)	Introduction to Homogenization Theory and Symbolic Deduction for Multiscale Modeling of Reactive Transport in Porous Media	PyFR - Texas A&M
11:00						
11:30						
12:00	Lunch					
12:30						
1:00	Vendor Demo session in the Ballrom					
1:30	Speed Mentor Session	Thermal Control & Protection 10 (TC&P X)	Cryogenics 2 (Cryo II)	Thermal Control & Protection 11 (TC&P XI)	An Introduction to Uncertainty Quantification	Comsol
2:00						
2:30			Aerosciences 7 (Aero VII)			
3:00	Coffee Break					
3:30		Thermal Control & Protection 12 (TC&P XII)	Aerosciences 7 (Aero VII)	Thermal Control & Protection 13 (TC&P XIII)	Advanced Machine Learning Concepts	Comsol
4:00						
4:30						

WEDNESDAY TECHNICAL SESSION SCHEDULE

Timeslot	Room 1-A				Room 1-B				Room 4			
10:30-10:50	Thermal Control & Protection - ITAR	TC&P ITAR - 01	Using SINDA/Fluint for Modeling of Spacecraft Thermal Capacitance	Steven Thornton (NASA JSC)	Cryogenics 1 (Cryo I)	Cryo I - 01	Understanding Surface Rise, Frothing, and Boil-over in Cryogenic Tanks	Mark A. Wollen (Inn Eng Sol)	Thermal Control & Protection 9 (TC&P IX)			
10:50 - 11:10		TC&P ITAR - 03	Dragonfly Multi-Mission Radioisotope Thermoelectric Generator Secondary Cooling Chiller Cart	Joshua Hess (APL)		Cryo I - 02	Modeling of Superheated Bubble Condensation in Subcooled Liquid for Liquid Hydrogen Boil-Off Gas Management	Mahmood H. Alqefl (ZeroAvia)		TC&P IX - 02	The Lunar Outpost Lunar Voyage 1 MAPP Rover – Surviving a Hard Landing at the Lunar South Pole and Reaching TRL9	Kaila Pfrang & Izzy Golemme (Lunar Outpost)
11:10 - 11:30		TC&P ITAR - 04	Air Force Research Laboratory (AFRL)'s Thermal Roadmap for Space: Enabling the US Space Force	Columbia Mishra (Space Force)		Cryo I - 03	Modeling complex cryogenic tank thermodynamics with simple spreadsheet tools	Mark A. Wollen (Inn Eng Sol)		TC&P IX - 03	CLPS EDS Payload Thermal Design and Analysis	Melissa Young (NASA KSC)
11:30 - 11:50						Cryo I - 04	Validation of Stanton Number Correlation for Jet Mixing and Its Extension to Microgravity Filling Operations	Hong Q Yang (NASA MSFC)		TC&P IX - 04	Lunar South Pole Terrain Effects on Radiator Performance	William Birmingham (NASA MSFC)
1:30 - 1:50	Thermal Control & Protection 10 (TC&P X)	TC&P X - 01	A Study of TPS Defects using a One-Domain Porous Media Model	Brandon van Gogh (Stanford)	Cryogenics 2 (Cryo II)	Cryo II - 01	Computational Fluid Dynamics Analysis of LOX-Methane Mixing within Confined Cylindrical Volume	Kevin Chibar (NASA KSC)	Thermal Control & Protection 11 (TC&P XI)	TC&P XI - 01	Volatiles Investigating Polar Exploration Rover (VIPER) System Integrated Thermal Vacuum Test Planning and Preparation	Jodi Turk (NASA MSFC)
1:50 - 2.10		TC&P X - 02	An Upscaled Continuum Framework with Improved Force Closure For Flow over Heterogeneous Porous Structures	Daniel Fust (Oregon State)		Cryo II - 02	Hydrophobicity of surface coatings for cryogenic liquid storage and transfer in microgravity environments	Ethan Paulsen (UN Texas)		TC&P XI - 02	FROSTE: Designing a Thermal Control System for Cryogenic Lunar Sample Return	Claire Silaire & Faiyaj Khan (NASA MSFC)
2:10 - 2:30		TC&P X - 03	Phenolic Resin Thermal Response and Fracture in a Bonded-Particle Model	Andrew Santos (NASA ARC)		Cryo II - 03	Preliminary CFD Simulations of a Cryogenic Film Condensation Experiment	Justin Pesich (NASA GRC)		TC&P XI - 03	Artemis 3 Lunar Environment Monitoring Station (LEMS-A3) Thermal Control Subsystem Architecture	Juan Rodriguez-Ruiz (NASA GSFC)
2:30 - 2:50		TC&P X - 04	Assessing HALO Radiator Thermal Coatings: Testing and Validation of Natural and Induced Environments	Aidan Svoboda (NASA JSC)						TC&P XI - 04	The LEAF Thermal Control System – An Artemis III Deployed Instrument	Kaitlyn Baba (Space Lab Tech)
3:30 - 3:50	Thermal Control & Protection 12 (TC&P XII)	TC&P XII - 01	Thermochromic variable emissivity material thermal modeling and test correlation	Derek Hengeveld (Redwire)	Aerosciences 7 (Aero VII)	Aero VII - 02	Rarefied Gas-Dynamic Simulations for Moon Exploration	Stefano Boccelli (NASA GSFC)	Thermal Control & Protection 13 (TC&P XIII)	TC&P XIII - 01	Mapping and Modeling the Effects of Lunar Dust on Thermally Sensitive Surfaces for Heat Rejection Analysis	Brandon M Hoffmann (NASA JSC)
3:50 - 4:10		TC&P XII - 02	Unsteady Measurements of Ultra-Low Permeability in Thermal Protection System Materials	Michael Renfro (UKy)		Aero VII - 03	MD-Informed Gas-Surface Interaction Kernel for LEO/VLEO Atmospheres	Ahilan Appar (UKy)		TC&P XIII - 02	Infrared Spectrometry and Thermal Radiative Properties of Lunar Dust Simulants	Aravintha Raj Racichandran (UNT)
4:10 - 4:30		TC&P XII - 03	Thermal Conductivity Analysis of the Carbon Ablator FiberForm and FRCI: An Experimental Approach	Juan Rengifo (Boise State)		Aero VII - 04	Investigation of Non-Equilibrium Structures in Inert Hypersonic Shock Waves with the Twenty-Moment Equations	Ethan Rice (U Ottawa)		TC&P XIII - 03	Absorptivity and Emissivity Measurement Error Characterization of Protective Methods for Optical Property Instruments	Anna Dinkel (NASA JSC)
4:30 - 4:50		TC&P XII - 04	SPIRRAL: A Calorimetric Testbed for Characterizing Variable Emissivity Materials in Space	Isaac Foster (AFRL)		Aero VII - 01	Toolbox for Characterizing Uncertainty in Aerodynamic Coefficients of Space Launch Vehicles	Avery N. White (U of A)		TC&P XIII - 04	Modeling lunar dust in Thermal Desktop: the best methods and expanding to include solar flux	Eric Malroy (NASA JSC)

THURSDAY - AUGUST 7, 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		Thermal Control & Protection 14 (TC&P XIV)	Interdisciplinary 5 (Inter V)	Thermal Control & Protection 15 (TC&P XV)	Introduction to cryocoolers	
11:00						
11:30						
12:00	Lunch					
12:30						
1:00	Tours				Introduction to cryocoolers	Tours
1:30						
2:00						
2:30						
3:00	Coffee Break					
3:30	Tours					
4:00						
4:30						
5:00						

THURSDAY TECHNICAL SESSION SCHEDULE

Timeslot	*Room 1-A*				*Room 1-B*				*Room 4*			
10:30-10:50	**Thermal Control & Protection 14 (TC&P XIV)**	TC&P XIV - 01	Injector Experiment Simulation and Experiment Design for Centrifugal Nuclear Thermal Rocket Engine	Timothy Blackman (UAH)	**Interdisciplinary 5 (Inter V)**	Inter V - 01	Thermo-Elastic Antenna Depointing Analysis Workflow	Joel Gagnon (Maya HTT)	**Thermal Control & Protection 15 (TC&P XV)**	TC&P XV - 01	Radiative heat transfer effects on environmental/thermal barrier coatings: Extended capabilities of OpenNCC's radiation solver	Makoto Endo (NASA GRC)
10:50 - 11:10		TC&P XIV - 03	Thermal Considerations For 2039 Opposition Class Nuclear Electric Propulsion/Chemical Propulsion Crewed Mars Mission	Tai Valdes (NASA LaRC)		Inter VI - 01	Characterization of Lunar Thermal Environments: Terrain Effects on Environmental Sink Temperature	Will Grier (NASA LaRC)		TC&P XV - 02	A Mathcad model to perform orbital vehicle ascent aerothermal analysis to determine the vent size to maintain the pressure load within required limit	Siraj Jalali (NASA JSC)
11:10 - 11:30						Inter VI - 02	Thermal Systems Engineering for Nuclear Electric Propulsion High Temperature Radiator Arrays	Will Grier (NASA LaRC)		TC&P XV - 03	Multi Mission Thermal Control Subsystem Design for Space Exploration Camera (Space Eye)	Massimiliano Mastrogiorgio (Gamma Tech)
11:30 - 11:50												

FRIDAY - AUGUST 8, 2025

	Tours
8:00	
8:30	Tours
9:00	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	
12:30	