

Sunday, 23 June 2024											
1600 - 2000 Early Registration											
Monday, 24 June 2024											
0700 - 0745	Speaker Meeting (with Light Breakfast) for Monday Presenters <i>Sponsored by Lockheed Martin Corporation</i>										
0700 - 0800	Attendee Light Continental Breakfast <i>Sponsored by Lockheed Martin Corporation</i>										
0700 - 1730	Registration Open										
0800 - 1630	Exhibitor Move-In										
0800 - 1630	Poster Move-In										
1200 - 1330	Lunch Break <i>(On Your Own - See Registration Desk for Area Restaurants)</i>										
1730 - 1900	Welcome Reception and Exhibit & Poster Kick-Off										
NSMMS & CRASTE Tutorials & Workshops Organizers: Dr. Rajini Acharya, The University of Tennessee Space Institute; Mr. Nickolas Demidovich, Federal Aviation Administration; Mr. Carter Johnson, ReLogic Research; Dr. Gerald Russell, RTCS, LLC; & Mr. Tim Stewart, Ultramet											
	Track One		Track Two		Track Three						
	NSMMS & CRASTE Tutorials & Workshops		NSMMS & CRASTE Tutorials & Workshops		NSMMS & CRASTE Tutorials & Workshops						
0800 - 0810	Welcome & Announcements		0800 - 0810	Welcome & Announcements		0800 - 0810	Welcome & Announcements				
0810 - 1020	UCAH/ Workforce Development Workshop <i>Organizers:</i> Dr. Erica Corral, The University of Arizona; Mr. Dennis Foutz, Systems Planning and Analysis; Mr. Mark Glenn, Office of the Assistant Secretary of Defense; & Mr. Brian Zuchowski, Lockheed Martin Aeronautics Company - JHTO Material Research Projects and Future Topics of Interest Mr. Dennis Foutz, Systems Planning and Analysis and Mr. Mark Glenn, Office of the Assistant Secretary of Defense - UCAH's Strategy for Applied Material Research Supporting Transition, Workforce, and Technology Protection <i>Moderator:</i> Dr. Erica Corral <i>Panelists:</i> Dr. Brent Carey, MACH-20, LLC; Dr. Carmen Carney, Air Force Research Laboratory; Mr. Dennis Foutz, Systems Planning and Analysis; Mr. Mark Glenn, Office of the Assistant Secretary of Defense; Dr. Ellen Mazumdar, Georgia Institute of Technology; & Dr. Garth Wilks, RTX		0810 - 0910	Multi-Service Advanced Capability Hypersonic Test Bed (MACH-TB) Flight Testing & Experiments Mr. Kegan Miller, Naval Surface Warfare Center, Crane Division		0810 - 0940	High-Speed Weather Effects: Bridging the Gap Between Research and Practice Mrs. Mariana Scott, Lockheed Martin Corporation and Mr. Tyler Stovall, Applied Technology Solutions, Inc.		0810 - 1020	Digital Engineering for Rocket Systems and Platforms <i>Organizers:</i> Mr. Edwin Betady & Mr. Frank Friedl, Air Force Research Laboratory - Digital Materiel Management at AFRL Dr. Pam Kobryn, Air Force Research Laboratory - Digital Engineering-Enabled Design LtCol Ryan Carr, U.S. Air Force Academy - Delivering Useful Digital Engineering Tech to DoD Programs: A Small Business Perspective Dr. Robbie Robertson, Sedaro - DISRUPT'ing Design, Assessment, and Sustainment of Solid Rocket Motors Dr. Tim Gallagher, Air Force Research Laboratory	
			0910 - 1020	Panel: RDE & Combined Cycle Technologies <i>Moderator:</i> Dr. Ragini Acharya, University of Tennessee Space Institute <i>Panelists:</i> Dr. Mirko Gamba, University of Michigan; Mr. Roger Herdy, CFD Research Corporation; Dr. Eric Paulson, Air Force Research Laboratory; & Dr. Kareem Ahmed, University of Florida		0940 - 1020	Overview of ONR Investments and Challenges in Ultra-High Temperature Materials and Environment-Material Interactions Dr. Eric Marineau, Office of Naval Research				
1020 - 1100	Coffee & Soda Break										
1100 - 1130	Growing Highly Capable and Adaptable Teams without Sacrificing Culture Mr. Pat Nowak, Scot Forge		Panel: Materials for High-Speed Applications: Strategy, Competition, and Getting Ahead <i>Moderator:</i> Dr. Ragini Acharya, University of Tennessee Space Institute <i>Panelists:</i> Dr. Sudarsanam Babu, University of Tennessee, Knoxville; Dr. Brandon Ribic, America Makes, National Center for Defense Manufacturing & Machining; & Dr. Luca Maddalena, The University of Texas at Arlington		Regolith Simulant Derived Materials and Structures via Microwave Casting Dr. Sergio dos Santos e Lucao, Teledyne Scientific Company, LLC		Digital Engineering for Rocket Systems and Platforms, cont. - Digital Maturity Assessment Ms. Amber Gilbert, Department of Air Force Digital Transformation Office - Panel: Applying Digital Engineering Across the Acquisition Lifecycle <i>Moderator:</i> Mr. Frank Friedl, Air Force Research Laboratory <i>Panelists:</i> Dr. Pam Kobryn & Dr. Tim Gallagher, Air Force Research Laboratory; LtCol Ryan Carr, U.S. Air Force Academy; Dr. Robbie Robertson, Sedaro; & Ms. Amber Gilbert, Department of Air Force Digital				
1130 - 1200	Professional Development for Hypersonic Materials: Ceramic Industry Nonprofits Partner to Fill Workforce Gaps and Attract the Next Generation Workforce Ms. Eileen De Guire, The American Ceramic Society				Landscape Survey of Materials for Extreme Aerothermal Environments -- Goals, Methods, Outcomes Dr. Brent Carey, MACH-20						
1200 - 1330	Lunch Break <i>(On Your Own - See Registration Desk for Area Restaurants)</i>										

	Track One	Track Two	Track Three	Track Four	
	Space Access & Propulsion Session Chair: Mr. Phuoc Hai Tran, U.S. Space Force Lead Organizer: Mr. Andrew Jimenez, Air Force Research Laboratory Co-Organizers: Dr. Amjad Almansour, NASA Glenn Research Center; Dr. Raymond "Corky" Clinton, NASA Marshall Space Flight Center; Mr. Andrew Haaland, Northrop Grumman Corporation; Mr. Timothy McKechnie, Plasma Processes, LLC; Ms. Manda Schaeffer, Naval Surface Warfare Center, Crane Division; Mr. John Vasquez, Naval Research Laboratory; & Mr. Ian Wolford, Air Force Research Laboratory	Development, Processing & Testing of Advanced Materials Session Chair: Dr. Mark Opeka, Kratos SRE Lead Organizer: Ms. Kaia David, The Boeing Company Co-Organizers: Dr. Zlatomir Apostolov, Air Force Research Laboratory; Mr. Michael Fuller, Northrop Grumman Corporation; Prof. Greg Hilmis, Missouri University of Science and Technology; Mr. Kenneth Milam, Aerojet Rocketdyne, An LHarris Technologies Company; Dr. Samir Singh, BAE Systems, Inc.; Dr. Vicky Trigg, The Aerospace Corporation; & Mr. James Tucker, Kratos SRE	Integrated Vehicle Health Management (IVHM) & Integrated System Health Monitoring (ISHM) Session Chair: Mr. Derek DeVries, Northrop Grumman Corporation Co-Chair: Mr. Joaquin Castro & Mr. James Larkin, Aerojet Rocketdyne, An LHarris Technologies Company	Missiles & Missile Defense Session Chair: Mr. Mark Glenn, Office of the Assistant Secretary of Defense Lead Organizers: Mr. Jason Calvert, U.S. Army Space and Missile Defense Command Co-Organizers: Mr. Alan Brown, Aerojet Rocketdyne, An LHarris Technologies Company; Dr. Yuzmin Carroll, Missile Defense Agency; Prof. Joseph Koo, The University of Texas at Austin; Mr. Taylor Owens, U.S. Army Combat Capabilities Development Command Aviation & Missile Center; Dr. Gerald Russell, RTCS, LLC; Dr. Joseph Sheeley, PERIKIN Enterprises; & Mr. Tim Stewart, Ultranet	
1330 - 1335	Session Introduction	Session Introduction	Session Introduction	Session Introduction	
1335 - 1400	Testing of the VR35K-A Upper Stage Engine Coupled Combustion Devices Dr. Zach Hallum, Sierra Space Corporation	3D Woven Mid-Density Carbon Phenolic (3MDCP) Thermal Protection System Development Dr. Peter Marshall, NASA Ames Research Center	Iterative Testing of Technology for an Inexpensive Black Box for Spacecraft Mr. Dale Amon, Immortal Data, Inc.	Missile Defense Applications of VTVL Suborbital Rockets Mr. Sean Bedford, Astrobotic	
1400 - 1425	Rocket Landing Environment and Infrastructure Materials Characterization Dr. Malissa Lightfoot & Dr. W. Jacob Monzel, Air Force Research Laboratory	Development of Advanced Conformal for Future NASA Missions and Commercial Space Dr. Matthew Gasch, NASA Ames Research Center	Fiber-Embedded Wireless Microsensors Development Dr. Joseph Pegna, Free Form Fibers, LLC	Experimental Performance of a Novel Articulated Thermal Protection System Mr. Eric McGill, Air Force Research Laboratory	
1425 - 1450	Development of Advanced Lightweight Polymeric Foam Thermal Protection for Space Launch Vehicles Ms. Elizabeth Schofield, Jacobs Space Exploration Group	Thermomechanical Characterization of Novel TPS Materials: C-PICA and 3MDCP Ms. Courtney Severino, Kratos SRE	Oxidation Behavior of a Mo-Si-B-Ti Alloy with a Pack Cementation Coating Mr. Liam Wood, The University of Wisconsin-Madison	Determination of Carbon-Carbon Hydrocode Parameters by Uncertainty Quantification Mr. Daniel Hladko, Materials Research & Design, Inc.	
1450 - 1515	Evaluation of Propulsion Performance Requirements for Launch Reusability Mr. Jim Reyenga, Ursa Major Technologies, Inc.	PICA-D Thermomechanical Characterization up to 4400 °F for Mars Sample Return (MSR) Sample Retriever Lander (SRL) and Dragonfly Missions Mr. Kelly McCullers, Kratos SRE	Characterization of Materials and Environmental Properties using Ultrasound for Extreme Environmental Applications Dr. Ming Chen, Air Force Research Laboratory	An Additively Manufactured Hypersonic Noisetip Dr. Joseph Sims, Quadrus Corporation	
1515 - 1545	Coffee & Snack Break <i>Sponsored by Ultranet</i>				
	Track One	Track Two	Track Three	Track Four	
Finalists for the Student Excellence Oral Award are marked with an *	Space Access & Propulsion, cont.	Development, Processing & Testing of Advanced Materials, cont.	Innovative Test Methodologies & Platforms Session Chair: Mr. Nickolas Demidovich, Federal Aviation Administration Co-Chair & Lead Organizer: Ms. Manda Schaeffer, Naval Surface Warfare Center, Crane Division Co-Organizers: Dr. Amjad Almansour, NASA Glenn Research Center; Dr. Raymond "Corky" Clinton, NASA Marshall Space Flight Center; Mr. Andrew Haaland, Northrop Grumman Corporation; Mr. Andrew Jimenez, Air Force Research Laboratory; Mr. Timothy McKechnie, Plasma Processes, LLC; Mr. John Vasquez, Naval Research Laboratory; & Mr. Ian Wolford, Air Force Research Laboratory	Missiles & Missile Defense, cont.	
	1545 - 1550	Announcements	Session Introduction	Announcements	
	1550 - 1615	A Heterogeneous Fuel Infusion Technique for Ignition and Performance Augmentation of Hybrid Rocket Engines Mr. Ryan Thibodeau, Utah State University	Shear Testing of 3D Medium Density Carbon Phenolic (3MDCP) at AEDC-H3 for Mars Sample Return (MSR) Earth Entry System (EES) Mr. Jonathan Morgan, NASA Ames Research Center	Harnessing the Power of Lunar and Orbital Testing to Enable Research and Development for Advancing Space Technologies Mr. Jason Smith, Aegis Aerospace, Inc.	Liquid-Launch Feasibility Study for Hypersonic MDA Targets Mr. Mike Kryzak, Missile Defense Agency
	1615 - 1640	Melt-Infiltrated C/C-Si for Thermal Protection Systems and Launch Vehicle Applications Mr. Gary Tiscia, Materials Research & Design, Inc.	Phthalonitrile Resin Infiltrated Low-Density Flexible Ablator Materials for Aerospace Applications Mr. Steven Kim, The University of Texas at Austin	High Velocity Erosion (HIVE™) Test Cell Dr. Matthew Hartshorne & Mr. Kameron Hayes, Air Force Research Laboratory and Dr. Peter Schmidt, United Protective Technologies	Manufacturing Optimization of EI-Form Rhenium Mr. Timothy McKechnie, Plasma Processes, LLC
	1640 - 1705	Investigation into Stage Sensitivity for Single-Stage-to-Orbit Vehicles Ms. Sara Schamp, Sierra Lobo, Inc.	Microscale Modeling and Analysis of Woven Composites under NASA's Entry Systems Modeling Project Dr. Lauren Abbott, NASA Ames Research Center	The Development of Two New Emission Measurement Facilities: Total Normal Emission Under Flight-Like Profiles and Spectral Hemispherical Emission up to 3000°C Mr. Kelly McCullers, Kratos SRE	Missile Defense Agency Targets & Countermeasures Carbon-Carbon Material Development & Testing Dr. David Williams, Missile Defense Agency
	1705 - 1730	Development and Testing of 3D Woven Carbon Phenolic Thermal Protection Materials Mr. James Reilly, Spirit AeroSystems	Enhanced Quantification of 3D Woven Composites via Fourier Analysis and Structure Tensors Applied to CT Scans Dr. Magnus Haw, NASA Ames Research Center	Low-Cost Environmental Testing of Advanced Materials using Microcomposites Dr. Joseph Pegna, Free Form Fibers, LLC	Thermomechanical Characterization of Additively Manufactured W-Re Mr. Ryan Williams, Kratos SRE
	1730 - 1900	Welcome Reception and Exhibit & Poster Kick-Off			

Tuesday, 25 June 2024	
0700 - 0745	Speaker Meeting (with Light Breakfast) for Tuesday Afternoon Presenters <i>Sponsored by Southwest Research Institute</i>
0700 - 0800	Attendee Light Continental Breakfast <i>Sponsored by Hexcel Corporation</i>
0700 - 1730	Registration Open
1200 - 1330	Lunch Break <i>(On Your Own - See Registration Desk for Area Restaurants)</i>
1300 - 1730	Exhibits and Poster Session Open
1730 - 1900	Networking Reception <i>Sponsored by Northrop Grumman Corporation</i>
NSMMS & CRASTE Plenary Session	
0800 - 0815	Opening Remarks, National Anthem & Plenary Session Announcements: Mr. Jason Calvert , Lead Army Advisor to NSMMS & CRASTE, U.S. Army Space and Missile Defense Command Moderator: Dr. Yazmin Carroll , Lead Missile Defense Agency Advisor to NSMMS & CRASTE, Missile Defense Agency
0815 - 0850	Dr. Aisha Haynes, ST Principal Director for Advanced Materials, Office of the Under Secretary of Defense for Research and Engineering <i>Presenting: DoD Overview of Strategy and Priorities in Advanced Materials for Hypersonics and Space</i>
0850 - 0925	Mr. Mark Glenn Acting Director of the Joint Hypersonics Transition Office, Office of the Assistant Secretary of Defense for Science and Technology <i>Presenting: Joint Hypersonic Transition Office Materials Innovation</i>
0925 - 1000	Dr. Seth Lacy, ST Senior Scientist for Space Mobility and Precision Maneuver, Air Force Research Laboratory <i>Presenting: Space Mobility</i>
1000 - 1030	Coffee & Soda Break <i>Sponsored by Materials Research & Design, Inc.</i>
1030 - 1105	Ms. Kristen Alvarez, SES Deputy Program Executive for Sea Based Weapon Systems, Missile Defense Agency
1105 - 1140	Dr. Michael Wright Dragonfly EDL Phase Lead & Lead (Acting), NASA EDL Strategic Capability Leadership Team, NASA Ames Research Center <i>Presenting: NASA's Entry Descent and Landing Envisioned Future Priorities for Science and Heavy Payloads on Mars</i>
1140 - 1155	Lifetime Achievement Award
1155 - 1200	Sponsor Recognition
1200 - 1330	Lunch Break <i>(On Your Own - See Registration Desk for Area Restaurants)</i> Student Networking Lunch - By Invitation Only <i>Sponsored by University Consortium for Applied Hypersonics</i>

Track One	Track Two	Track Three	Track Four
Hypersonics Session Chairs: Dr. David Glass, NASA Langley Research Center & Mr. Chris Kostyk, NASA Armstrong Flight Research Center Lead Organizer: Mr. Brian Zuchowski, Lockheed Martin Aeronautics Company Co-Organizers: Dr. Andrew Brune, NASA Langley Research Center; Mr. Dan Hildito, Materials Research & Design, Inc.; Mr. Karan Jain, The Boeing Company; Mr. Carter Johnson, Relogic Research; Mr. Kevin Krueger, Missile Defense Agency; Mr. Curtis Martin, Naval Surface Warfare Center, Carderock Division; Dr. Jesse Maxwell, Naval Research Laboratory; Mr. Mitch Petervary, The Boeing Company; Dr. Scott Povoromo, Northrop Grumman Corporation; Dr. Suraj Rawal, Lockheed Martin Corporation; & Dr. Garth Wilks, RTX	Development, Processing & Testing of Advanced Materials Session Chair: Dr. Thomas Tsotsis, The Boeing Company Lead Organizer: Ms. Kala David, The Boeing Company Co-Organizers: Dr. Zlatomir Apostolov, Air Force Research Laboratory; Mr. Michael Fuller, Northrop Grumman Corporation; Prof. Greg Hlmas, Missouri University of Science and Technology; Mr. Kenneth Milam, Aerojet Rocketdyne, An L3Harris Technologies Company; Dr. Samir Singh, BAE Systems, Inc.; Dr. Vicky Trigg, The Aerospace Corporation; & Mr. James Tucker, Kratos SRE	Spacecraft Buses, Payloads, & Instrumentation Session Chair: Mr. Robert Taylor, Air Force Research Laboratory Co-Chair: Mr. Anthony Brinkley, Lockheed Martin Corporation Co-Organizers: Dr. Rajini Acharya, The University of Tennessee Space Institute; Mr. Jimmy Allen, Leidos; Mr. Nikolaos Dambovich, Federal Aviation Administration; Mr. Derek DeVries, Northrop Grumman Corporation; Mr. Barry Hellman, Blue Origin, LLC; Dr. Seth Lacy, Air Force Research Laboratory; Mr. James Larkin, Aerojet Rocketdyne, An L3Harris Technologies Company; Mr. Robert Seibold, The Aerospace Corporation; Mr. Ethan Sichter, Air Force Research Laboratory; & Mr. Max Vozoff, X-Bow Systems	Missiles & Missile Defense Session Chair: Mr. Jacob Glassman, Conventional Prompt Strike Lead Organizer: Mr. Jason Calvert, U.S. Army Space and Missile Defense Command Co-Organizers: Mr. Alan Brown, Aerojet Rocketdyne, An L3Harris Technologies Company; Dr. Yezmin Carroli, Missile Defense Agency; Prof. Joseph Koo, The University of Texas at Austin; Mr. Taylor Owens, U.S. Army Combat Capabilities Development Command Aviation & Missile Center; Dr. Gerald Russell, RTCS, LLC; Dr. Joseph Sheeley, PERIKIN Enterprises; & Mr. Tim Stewart, Ultramet
1330 - 1335 Session Introduction	Session Introduction	Session Introduction	Session Introduction
1335 - 1400 The Case for Accelerating the Use of Hot Structures on Hypersonic Vehicles Dr. David Glass, NASA Langley Research Center	Navy High Temperature Materials Developments 1980-2020 for Hypersonic Aerosurfaces, Rocket and Scramjet Propulsion Systems, and Weapons-Hardened C-C Space Structures Dr. Mark Opeka, Kratos SRE	Large Structure Metrology Mr. Jim Tucker, Kratos SRE	Composites and Advanced Materials Testing Mr. Steven Ishida, Missile Defense Agency
1400 - 1425 Nosetip Radius Effect on Heating and Drag: A Computational Fluid Dynamics Study for a Hypersonic Glide Vehicle Dr. Jesse Maxwell, Naval Research Laboratory	Biological Building Blocks for Ultra-High Temperature Ceramic Precursors Ms. Sophia Angelopoulos, UES, Inc.	Surviving the Lunar Night: Astrobot's Nighttime Integrated Thermal and Electricity (NITE) System Mr. Jonathan Slavik, Astrobot	Rapid Prototyping Advanced Hypersonic Materials Mr. Jacob Glassman, Conventional Prompt Strike
1425 - 1450 Material and Manufacturing Advancements to Tailor Hypersonic Solutions for Varying Applications Mr. Mitchell Burgess, Spirit AeroSystems	Process Evaluation of Commercial NITE C/SIC Prepreg Mr. Wylie Simpson, Axiom Materials, Inc.	Lithium Reserve Batteries Ms. Holly Garich, Faraday Technology, Inc.	Resonant Cavity Facility Development for Testing Dielectric Materials up to 1500°C Mr. Rafael Gonzalez, Kratos SRE
1450 - 1515 First-Order Materials Selection for Hypersonic Aerosurfaces Mr. Evan Rogers, Naval Research Laboratory	Hydrogen Peroxide/RP1 Reaction Control System (RCS) Thruster Qualification for Space Flight Dr. Todd Treichel, Sierra Space	Rapid Discovery of Seeker Window Materials Enabled by Physics-Informed Machine Learning, Multiscale Modeling, and High-Throughput Experimentation Dr. Mark Polking, MIT Lincoln Laboratory	
1515 - 1545 Root Beer Float Break <i>Sponsored by Plasma Processes, LLC</i>			
1545 - 1550 Announcements	Announcements	Announcements	Announcements
1550 - 1615 An Overview of NASA Investments in High Temperature Durable Materials for Reusable Hypersonic Applications Mr. Chris Kostyk, NASA Armstrong Flight Research Center	Effect of Heat-Treating Cf on its Properties and the Processing and Characterization of ZrB₂/C₂ UHTCMCs Mr. Aaron Ginsparg, Missouri University of Science and Technology	Space Environmental Effects on Multifunctional Radiation Shielding Materials Mr. Scott O'Dell, Plasma Processes, LLC	Updates on the Development of High Density, Solid, Silicon Nitride Fibers Dr. Kirk Williams, Free Form Fibers, LLC
1615 - 1640 Materials for Rotating Detonation Engines Dr. Katie Detwiler, Air Force Research Laboratory	Flexible Prepreg for CMCs with Pre-ceramic Polymer, Compression Molding, and PIP Densification Dr. Corson Cramer, Oak Ridge National Laboratory	High-Emissivity CVD Dendritic Rhenium Coatings for NEP Radiator Panels Materials Dr. Jessica DeBerardinis, Ultramet	Controllable Solid Propellant Propulsion Materials Mr. Steven Ishida, Missile Defense Agency
1640 - 1705 A Simple Analytical Methodology to Screen Advanced Materials for Ablation-Resistant Performance for Hypersonic Vehicle Thermal Protection Systems Dr. Mark Opeka, Kratos SRE	Exploratory Electron-Beam Curing Studies of Polymeric Composite Matrix Precursor Ms. Ariel Parker, UES, Inc.	Effect of the Low Earth Orbit Environment on Specialized Materials Ms. Julia Deyanova, BAE Systems Space & Mission Systems Inc.	High-Test Hydrogen Peroxide Handling for Defense Applications Mr. Nathan Varney, Ursa Major Technologies, Inc.
1705 - 1730 Investigation of High-Energy, Hypersonic Weather Impact Damage using Finite Element Analysis and Ballistic Testing Mr. Daniel Clemens, University of Dayton Research Institute	Polymer-Grafted Nanoparticles as Ceramic Precursors Dr. Nicholas Posey, UES, Inc.	Comparative Study and Validation of Material Response Modeling of Carbon/Phenolic and Carbon/Polysiloxane Ablatives Prof. Joseph Koo, The University of Texas at Austin	Low-Drag Jet Vane –Thrust Vector Control for Exo-Atmospheric Propulsion Systems Mr. Terry Hendricks, Exo-Atmospheric Technologies, LLC
1730 - 1900 Networking Reception <i>Sponsored by Northrop Grumman Corporation</i>			

Wednesday, 26 June 2024			
0700 - 0745 Speaker Meeting (with Light Breakfast) for Wednesday's Presenters <i>Sponsored by Fenix Space Inc.</i>			
0700 - 0800 Attendee Light Continental Breakfast <i>Sponsored by New Mexico State University Department of Mechanical and Aerospace Engineering</i>			
0700 - 1730 Registration Open			
1200 - 1330 Lunch Break <i>(On Your Own - See Registration Desk for Area Restaurants)</i>			
0945 - 1200 Exhibits and Poster Session Open			
1300 - 1900 Poster Session and Networking Reception <i>Sponsored by The Boeing Company</i>			
1900 - 2030 Exhibit and Poster Dismantle			
Track One	Track Two	Track Three	Track Four
Hypersonics	Range & Ground Operations	Advanced Topics in Additive Manufacturing	Ground & Flight Test Methodologies
<p>Session Chairs: Dr. Carmen Carney and Dr. Allan Katz, Air Force Research Laboratory Lead Organizer: Mr. Brian Zuchowski, Lockheed Martin Aeronautics Company Co-Organizers: Dr. Andrew Brune, NASA Langley Research Center; Dr. David Glass, NASA Langley Research Center; Mr. Dan Hladio, Materials Research & Design, Inc.; Mr. Karan Jain, The Boeing Company; Mr. Carter Johnson, ReLogic Research; Mr. Kevin Krueger, Missile Defense Agency; Mr. Curtis Martin, Naval Surface Warfare Center, Carderock Division; Dr. Jesse Maxwell, Naval Research Laboratory; Mr. Mitch Petervary, The Boeing Company; Dr. Scott Poveromo, Northrop Grumman Corporation; Dr. Suraj Rawal, Lockheed Martin Corporation; & Dr. Garth Wilks, RTX</p>	<p>Session Chair: Mr. Nickolas Demidovich, Federal Aviation Administration Co-Chair: Mr. Robert Taylor, Air Force Research Laboratory Co-Organizers: Dr. Rajini Acharya, The University of Tennessee Space Institute; Mr. Jimmy Allen, Leidos; Mr. Anthony Brinkley, Lockheed Martin Corporation; Mr. Derek DeVries, Northrop Grumman Corporation; Mr. Barry Hellman, Blue Origin, LLC; Dr. Seth Lacy & Mr. Ethan Sichler, Air Force Research Laboratory; Mr. James Larkin, Aerojet Rocketdyne, An L3Harris Technologies Company; Mr. Robert Seibold, The Aerospace Corporation; & Mr. Max Vozoff, X-Bow Systems</p>	<p>Session Chair: Dr. Daniel Driemeyer, The Boeing Company Lead Organizer: Dr. Amjad Almansour, NASA Glenn Research Center Co-Organizers: Dr. Raymond "Corky" Clinton, NASA Marshall Space Flight Center; Mr. Andrew Haaland, Northrop Grumman Corporation; Mr. Andrew Jimenez, Air Force Research Laboratory; Mr. Timothy McKechnie, Plasma Processes, LLC; Ms. Manda Schaeffer, Naval Surface Warfare Center, Crane Division; Mr. John Vasquez, Naval Research Laboratory; & Mr. Ian Wofford, Air Force Research Laboratory</p>	<p>Session Chairs: Mr. Kegan Miller, Naval Surface Warfare Center, Crane Division & Ms. Nicole Prieto, U.S. Air Force Lead Organizer: Dr. Gerald Russell, RTCS, LLC Co-Organizers: Mr. Alan Brown, Aerojet Rocketdyne, An L3Harris Technologies Company; Mr. Jason Calvert, U.S. Army Space and Missile Defense Command; Dr. Yazmin Carroll, Missile Defense Agency; Prof. Joseph Koo, The University of Texas at Austin; Mr. Taylor Owens, U.S. Army Combat Capabilities Development Command Aviation & Missile Center; Dr. Joseph Sheeley, PERIKIN Enterprises; & Mr. Tim Stewart, Ulramet</p>
0800 - 0805 Session Introduction	0800 - 0805 Session Introduction	0800 - 0805 Session Introduction	0800 - 0805 Session Introduction
0805 - 0830 Manufacturing of Carbon/Carbon Composites for Hypersonic Applications (MOC3HA) Program Update Focusing on Task Order 5 Mr. John O'Brien, Battelle	0805 - 0830 Development of a Mobile, Modular Payload Processing Capability Mr. Robert Taylor, Air Force Research Laboratory	0805 - 0830 AM Functionally Graded Radomes for Hypersonic Vehicles Prof. Joseph Koo, The University of Texas at Austin	0805 - 0830 Multi-Service Advanced Capability Hypersonic Test Bed (MACH-TBs) Role in the Realm of Hypersonics and Ways to Participate Mr. Kegan Miller, Naval Surface Warfare Center, Crane Division
0830 - 0855 MOC3HA Supported Reduced Product Variability in Thick HI-K Carbon-Carbon Billet Dr. Cabell Lamie, Lockheed Martin Corporation	0830 - 0855 Fully Mobile Ground-Based Responsive Launch of Cryogenic Liquid-Fueled Rockets Mr. Sean Bedford, Astrobotic	0830 - 0855 Progress in the Selective Laser Melting of Rhenium Dr. Joseph Sims, Quadrus Corporation	0830 - 0855 The PID Control Loop: Aerospace Test Applications with a Practical Review Dr. Todd Smith, Air Force Research Laboratory
0855 - 0920 MOC3HA Supported C-C Composite Manufacturing for Hypersonic Applications Dr. Richard Gulotty, Honeywell International, Inc.	0855 - 0920 Development of Deployable Landing Pad for Rocket Cargo Mr. Ian Fuller, Cornerstone Research Group	0855 - 0920 Laser Powder Bed Fusion and Heat Treatment of Pure Molybdenum and W-5Re Mr. Ryan Anderson, Quadrus Corporation	0855 - 0920 Inaugural Flight of Stratolaunch Talon-A & Arc-Jet Testing of TPS for the Hypersonic Environment Dr. Adam Peters, Stratolaunch
0920 - 0945 MOC3HA Materials Testing and Characterization - Summary Results of Task Order 1 Mr. Matthew Opliger, Wichita State University	0920 - 0945 Analysis of Launch Vehicle Sensitivities and Risk due to Winds Aloft Ms. Sara Schamp, Sierra Lobo, Inc.	0920 - 0945 Response of C-103 to Multiple Parameter Sets in the Selective Laser Melting (SLM) Process Mr. Stephen Cooke, Quadrus Corporation	0920 - 0945 VARDA Commercial Flight Test Program for Thermal Protection Systems Dr. Marat Kulakhmetov, Varda Space Industries
0945 - 1015 Coffee & Soda Break <i>Sponsored by RTCS, LLC</i>			
Track One	Track Two	Track Three	Track Four
Hypersonics, cont.	Development, Processing & Testing of Advanced Materials	Advanced Topics in Additive Manufacturing, cont.	Ground & Flight Test Methodologies, cont.
	<p>Session Chair: Dr. Jason Loneran, Missouri University of Science and Technology Lead Organizer: Ms. Kaia David, The Boeing Company Co-Organizers: Dr. Zlatimir Apostolov, Air Force Research Laboratory; Mr. Michael Fuller, Northrop Grumman Corporation; Prof. Greg Hilmus, Missouri University of Science and Technology; Mr. Kenneth Milam, Aerojet Rocketdyne, An L3Harris Technologies Company; Dr. Samir Singh, BAE Systems, Inc.; Dr. Vicky Trigg, The Aerospace Corporation; & Mr. James Turkin, Kratos SRF</p>		
1015 - 1020 Announcements	1015 - 1020 Session Introduction	1015 - 1020 Announcements	1015 - 1020 Announcements
1020 - 1045 MOC3HA Supported Air-Coupled Ultrasonic Nondestructive Evaluation of Carbon-Carbon Materials During Production Mr. David Forsyth, Texas Research Institute Austin, Inc.	1020 - 1045 Carbon Carbon Research at ARL Dr. Dan Knorr, U.S. Army Combat Capabilities Development Command Army Research Laboratory	1020 - 1045 Additively Manufactured Ramjet Inlet - Manufacturing Process Development Overview Mr. Brandon Sathoff, Wichita State University	1020 - 1045 Aerothermal Testing Process at the AEDC Arc-Heated Test Facilities Dr. Jon Cox, Axient
1045 - 1110 MOC3HA Supported Repair Development for Carbon-Carbon Composites Mrs. Sarah Ward, Leidos	1045 - 1110 Developments on Reusable TPS Materials Based Upon Shuttle Tile Dr. Peter Marshall, NASA Ames Research Center	1045 - 1110 Superalloys and Process Interaction Studies by LPBF and WAAM Additive Manufacturing Mrs. Carissa Russell, Materials Sciences, LLC	1045 - 1110 Improved Probe Design for Stagnation Heat Flux Calorimetry in the AEDC Arc-Heated Test Facilities Dr. Justin Myrick, Axient
1110 - 1135 Materials Maturation for High Mach Systems - Transitioning C/C Material Advances to Industry Dr. Alexander Morgan, University of Dayton Research Institute	1110 - 1135 Reusable Thermal Protection System Dr. Ashley Ferguson, Tex-Tech Industries	1110 - 1135 Comparison of XCT and Serial Sectioning Measurements of Porosity and Manufactured Features in AM Titanium Parts Dr. Michael Chapman, BlueHalo	1110 - 1135 Advancements in Arc Jet Test Planning at AEDC through Tiered Flow Simulation Tools Mr. Christopher Lehto, Arnold Engineering Development Complex
1135 - 1200 Advancing Domestic Space Access: Recent and Ongoing C/C Nozzle Manufacturing and Test Efforts Using C-CAT ACC Material Systems Mr. Matthew Crisanti, Carbon-Carbon Advanced Technologies, Inc.	1135 - 1200 *Production and Characterization of HEC/C₁ Based UHTCMCs Mr. Nathaniel Blatt, Missouri University of Science and Technology	1135 - 1200 Laser Powder Bed Fusion and Post-Build Heat Treatment of W-24Re for Propulsion Applications Mrs. Melissa Forton, Quadrus Corporation	1135 - 1200 Low Cost Testbed Technology Enabling In-Situ Tensile Strength Measurements of Materials Subjected to a Simulated Hypersonic Flow Environment Dr. David Oakes, Physical Sciences, Inc.
1200 - 1330 Lunch Break <i>(On Your Own - See Registration Desk for Area Restaurants)</i>			

Finalists for the Student Excellence Oral Award are marked with an *	Track One	Track Two	Track Three	Track Four
		Hypersonics, cont.	Development, Processing & Testing of Advanced Materials, cont.	Advanced Topics in Additive Manufacturing Session Chair: Mr. Lawrence Huebner, NASA Marshall Space Flight Center
1330 - 1335	Announcements	Announcements	Announcements	Announcements
1335 - 1400	Aerothermal Evaluation of Textum CC Material Mr. Nate McGillivray, Kratos SRE	Further Development of Asymmetric 4-Point Bend Test for Room and Elevated Temperature Measurement of Interlaminar Shear Modulus and Strength of Refractory Composite Materials Dr. Brian Sullivan, Materials Research & Design	Post-Test Characterization of Novel TBC Chemistries on Engine-Tested Turbine Blades Ms. Christina Hoffman, U.S. Army Combat Capabilities Development Command Army Research Laboratory	Feasibility Assessment of High-Enthalpy Test Capability Using a Green-Propellant Hybrid Gas Generator Dr. Stephen Whitmore, Utah State University
1400 - 1425	Tailored Fiber Placement for Mitigation of Thermomechanical Stresses in Metal/Carbon-Carbon Joints at High Temperature Dr. Jevan Furmanski, University of Dayton Research Institute	Novel Contactless Measurement Technique to Determine the Thermal Conductivity and Spectral Emissivity of Ultra-High Temperature Ceramics (UHTCs) at Ultra-High Temperatures (>2000 °C) Mr. Hunter Schonfeld, University of Virginia	Thermomechanical Characterization of El-Form Rhenium for Aerospace Applications Mr. Jacob Garner, Kratos SRE	*Development of a Low-Cost Plasma Based Thermal Test Facility Mr. Antoine Gagne, University of Dayton Research Institute
1425 - 1450	Development of Repair Method for Carbon-Carbon Composites Mr. Christopher Davis, Leidos	Insulation Development for Solid Rocket Motors and Novel Plasma Torch Testing Capability at Marshall Space Flight Center Ms. Katie Bradley, Jacobs Technology, Inc.	*Comparative Analysis of Defect Detection in Additive Manufactured Parts: Exploring the SuRE Method through Deep Learning and TensorFlow Mr. Matthew Laurent, Florida International University	Novel Hypersonic Convective Heating Facility for Materials Testing Dr. James Peace, CUBRC
1450 - 1515	Advanced Manufacturing and Evaluation of Materials for Hot Structures Ms. Rachael Andrononis, Wichita State University	Subscale Solid Rocket Motor Materials Testing at Marshall Space Flight Center Ms. Shelby Westrich, Jacobs Engineering	Presentation to be Announced	A New TPS Screening Facility Bridging the Gap Between Oxy-Acetylene Torch and Full Arc-Jet Testing for Rapid Prototyping Dr. Daniel Palmquist, HY-SET, LLC
1515 - 1545	Coffee & Snack Break <i>Sponsored by Aerojet Rocketdyne, An L3Harris Technologies Company</i>			
1545 - 1550	Announcements	Announcements	Announcements	Announcements
1550 - 1615	Automated Fiber Placement of Melt-Infiltrated SiC/SiC Hot Structures Dr. Waruna Seneviratne, Wichita State University	A Novel Methodology for Analyzing the Microstructures of Thermal Protection Systems Materials Ms. Samantha Bernstein, The University of Texas at Austin	Inkless Additive Nanomanufacturing Technology for In-Space Manufacturing of Electronics and Semiconductor Devices Dr. Masoud Mahjouri-Samani, Auburn University	Marshall Enriched Storable Oxidizer Innovation Refinement and Advancement Mr. Roger Herdy, CFD Research Corporation
1615 - 1640	Temperature-Dependent Bearing Strengths of Melt Infiltrated SiC/SiC Laminates with Application to Bolted Joint Design Dr. Allison Horner, Scalar Scientific, LLC	*Development, Manufacturing, Characterization, and Modeling of a Novel Alumina/Polysiloxane/Boron Carbide Ablative Composite Dr. Colin Yee, The University of Texas at Austin	Graded Alloy Transition Deposition (GRATD) Leading Edge Fabrication and Testing Update Dr. Daniel Driemeyer, The Boeing Company	Time Dependent Thermal Analysis of Materials Exposed to Rocket Plume Heating Dr. Robert Jensen, Sierra Lobo, Inc.
1640 - 1705	A DOE-Based Approach to Identify Optimal Processing Conditions for Melt Infiltrated C/C-SiC Mr. Gary Tiscia, Materials Research & Design, Inc.	*Photogrammetry Methods to Measure Transient Surface Recession of Ablative Materials During Aerothermal Testing Mr. Remy Feru, The University of Texas at Austin	Maturation of Additive Geometric Management Approaches for High Mach Applications (MAGMA) Mr. Jordan Severson, The Boeing Company	An Innovative, Low-Cost Approach to Simulating Hypersonic Weather Encounters using Cold Spray Technology Mr. John Stevenson, University of Dayton Research Institute
1705 - 1730	*Investigation of Constituent Content and Asymmetric Four-Point Bend Performance of Melt-Infiltrated C/C-SiC Composites Ms. Lucia Morton, Analytical Mechanics and Associates	Mechanical Properties of ZrB ₂ /C based UHTCMCs at Elevated Temperatures Mr. Jacob Stacy, Missouri University of Science and Technology	Investigating the Impact of Varying Test Sample Layer Height and Scan Speed on Deformation Reduction in Directed Energy Deposition Simulations Mr. Matthew Laurent, Florida International University	Hypersonic Weather Encounters with Sample Recovery from Electromagnetic Launch Mr. Michael Libeau, Naval Surface Warfare Center, Dahlgren Division
1730 - 1900	Poster Session and Networking Reception <i>Sponsored by The Boeing Company</i> <i>Poster Voting Cards Due to Registration Desk by 1800</i>			

Thursday, 27 June 2024			
0700 - 0745 Speaker Meeting (with Light Breakfast) for Thursday's Presenters			
Sponsored by Cytec Engineered Materials Inc., A member of the Spensgo Group			
0700 - 0800 Attendee Light Continental Breakfast			
Sponsored by ReLogic Research			
0700 - 1730 Registration Open			
1200 - 1330 Lunch Break			
(On Your Own - See Registration Desk for Area Restaurants)			
Track One	Track Two	Track Three	Track Four
Hypersonics	System Architecture Studies	Advanced Topics in Additive Manufacturing	Ground & Flight Test Methodologies
<p>Session Chairs: Dr. Jesse Maxwell, Naval Research Laboratory & Dr. Robert Slopikas, U.S. Army Combat Capabilities Development Command Army Research Laboratory</p> <p>Lead Organizer: Mr. Brian Zuchowski, Lockheed Martin Aeronautics Company</p> <p>Co-Organizers: Dr. Andrew Brune & Dr. David Glass, NASA Langley Research Center; Mr. Dan Hladjo, The Boeing Company; Mr. Carter Johnson, ReLogic Research; Mr. Kevin Krueger, Missile Defense Agency; Mr. Curtis Martin, Naval Surface Warfare Center, Carderock Division; Mr. Mitch Petervary, The Boeing Company; Dr. Scott Poveromo, Northrop Grumman Corporation; Dr. Suraj Rawal, Lockheed Martin Corporation; & Dr. Garth Wilks, Laboratory</p>	<p>Session Chair: Mr. Anthony Brinkley, Lockheed Martin Corporation</p> <p>Co-Chairs: Mr. Robert Taylor, Air Force Research Laboratory</p> <p>Co-Organizers: Dr. Rajini Acharya, The University of Tennessee Space Institute; Mr. Jimmy Allen, Leidos; Mr. Nickolas Demidovich, Federal Aviation Administration; Mr. Derek DeVries, Northrop Grumman Corporation; Mr. Barry Hellman, Blue Origin, LLC; Dr. Seth Lacy & Mr. Ethan Sichter, Air Force Research Laboratory; Mr. James Larkin, Aerojet Rocketdyne, An L3Harris Technologies Company; Mr. Robert Seibold, The Aerospace Corporation; & Mr. Max Vozoff, X-Bow</p>	<p>Session Chair: Dr. Brock Birdsong, Auburn University</p> <p>Lead Organizer: Dr. Amjad Almansour, NASA Glenn Research Center</p> <p>Co-Organizers: Dr. Raymond "Corky" Clinton, NASA Marshall Space Flight Center; Mr. Andrew Haaland, Northrop Grumman Corporation; Mr. Andrew Jimenez, Air Force Research Laboratory; Mr. Timothy McKechnie, Plasma Processes, LLC; Ms. Manda Schaeffer, Naval Surface Warfare Center, Crane Division; Mr. John Vasquez, Naval Research Laboratory; & Mr. Ian Wolford, Air Force Research Laboratory</p>	<p>Session Chairs: Mr. Kegan Miller, Naval Surface Warfare Center, Crane Division & Ms. Nicole Prieto, U.S. Air Force</p> <p>Lead Organizers: Dr. Gerald Russell, RTCS, LLC</p> <p>Co-Organizers: Mr. Alan Brown, Aerojet Rocketdyne, An L3Harris Technologies Company; Mr. Jason Calvert, U.S. Army Space and Missile Defense Command; Dr. Yazmin Carroll, Missile Defense Agency; Prof. Joseph Koo, The University of Texas at Austin; Mr. Taylor Owens, U.S. Army Combat Capabilities Development Command Aviation & Missile Center; Dr. Joseph Sheeley, PERIKIN Enterprises; & Mr. Tim Stewart, Ulramet</p>
0800 - 0805	Session Introduction	Session Introduction	Session Introduction
0805 - 0830	Surface Morphing and Adaptive Structures for Hypersonics (SMASH): Hypersonic Glide Vehicle (HGV) Performance Advantages and Materials Requirements Dr. Jesse Maxwell, Naval Research Laboratory	NASA's Flight Opportunities Program: Increasing the Pace of Space Mr. Greg Peters, NASA Armstrong Flight Research Center	*Development of Hybrid Additive, Subtractive, and Continuous Fiber Placement Manufacturing Protocols for Advanced Aerospace Structures Mr. Dimitri Seneviratne, Wichita State University
0830 - 0855	Experimental Investigation of Flexible Ultra High Temperature Ceramic Matrix Composites for Morphing Structures at Hypervelocity Dr. Anindya Ghoshal, U.S. Army Combat Capabilities Development Command Army Research Laboratory	Re-Entry Vehicle Configuration Optimization for Responsive Space Delivery Mr. Tyler Kunsu, SpaceWorks Enterprises, Inc.	Additive Manufacturing and Conventional Manufacturing - Understanding Perceptions, Realities, Efficiencies and Adding Value Mr. Ranga Ramanathan, Scot Forge
0855 - 0920	Flexible Thermal Protection Systems Dr. Rachel Guarriello, Physical Sciences, Inc.	Rendezvous and Proximity Operations Delta-V Requirements for GEO-Based Satellite Servicing Capabilities Mr. Victor Ong, Sierra Lobo, Inc.	Niobium Alloy Powder Market Study for AM Processes Ms. Eliza Wirkijowski, MACH-20
0920 - 0945	Compression and Shear Char Strength of Low-Density Flexible Ablators Mr. Ben Rech, Koo and Associates International, Inc.	Tactically Responsive Space (TacRS): VICTUS NOX & Beyond Capt George Eberwine, U.S. Space Force	State-of-the-Art in Additively Manufactured Energetic and Explosive Materials Research Mr. Brian Benesch, Defense Systems Information Analysis Center
0945 - 1015	Coffee & Soda Break	Coffee & Soda Break	Coffee & Soda Break
Track One	Track Two	Track Three	Track Four
Hypersonics, cont.	Development, Processing & Testing of Advanced Materials	Advanced Topics in Additive Manufacturing, cont.	Ground & Flight Test Methodologies, cont.
	<p>Session Chair: Dr. Jennifer Fielding, Air Force Research Laboratory</p> <p>Lead Organizer: Ms. Kala David, The Boeing Company</p> <p>Co-Organizers: Dr. Zlatomir Apostolov, Air Force Research Laboratory; Mr. Michael Fuller, Northrop Grumman Corporation; Prof. Greg Hlmas, Missouri University of Science and Technology; Mr. Kenneth Milam, Aerojet Rocketdyne, An L3Harris Technologies Company; Dr. Samir Singh, BAE Systems, Inc.; Dr. Vicky Trigg, The Aerospace Corporation; & Mr. James Tucker, Kratos SRE</p>		
1015 - 1020	Announcements	Session Introduction	Announcements
1020 - 1045	Materials Development for High-Temperature, Reconfigurable Applications Dr. Matthew Dickerson, Air Force Research Laboratory	Liquid Air Force PreCeramics (AFPCs) for Ultra-High Temperature Ceramics Dr. Jared Delcamp, Air Force Research Laboratory	Castles in the Sky Mr. Bryan Kuklinski, Orbital Construction Pioneers
1045 - 1110	Design, Processing, and Characterization of HiC-SiC/Nb Ceramic Matrix Composites with Superior Flexural Properties at High Temperatures Mr. David Burk, University of North Texas	Low-Temperature Sintering of Ultra-High-Temperature Coatings using Layer-by-Layer Deposition Dr. Thomas Tsotsis, The Boeing Company	Design Concepts for Dissimilar Material Interfaces Dr. Mark Patterson, Kratos SRE
1110 - 1135	Development of Ablation Tools for Hypersonic Vehicles Ms. Kerry Howen, Materials Research & Design, Inc.	Oxidation Kinetics of Melt-Infiltration-Based SiC, ZrC, and SiC-ZrC Coatings on Carbon-Carbon Dr. Mark Opeka, Kratos SRE	Modernizing Reusable TPS Dr. John Howard, Canopy Aerospace
1135 - 1200	Experimental and Computational Investigation of Active and Passive Oxidation for C-SiC Composites Dr. Samuel Chen, Johns Hopkins Applied Physics Laboratory	Environmental Exposures of C/SiC Composites with Refractory Additives Mrs. Amber Josken, Air Force Institute of Technology	Ceramic Matrix Composites Reinforced with Laser Chemical Vapor Deposition Silicon Carbide Fibers via Additive Manufacturing and Embedded Wire Chemical Vapor Deposition (EWCVD) Dr. Shay Harrison, Free Form Fibers, LLC
1200 - 1330	Lunch Break	Lunch Break	Lunch Break
(On Your Own - See Registration Desk for Area Restaurants)			

	Track One	Track Two	Track Three	Track Four
	Hypersonics, cont.	Development, Processing & Testing of Advanced Materials, cont.	Advanced Topics in Additive Manufacturing Session Chair: Ms. Manda Schaeffer, Naval Surface Warfare Center, Crane Division	Ground & Flight Test Methodologies, cont.
1330 - 1335	Announcements	Announcements	Announcements	Announcements
1335 - 1400	Optimizing Defense Innovation: Strategic Navigation of Department of Defense (DoD) Investment for Swift Technological Advancement Mr. J Petrie, Office of the Under Secretary of Defense for Acquisition & Sustainment	Tooling Design for Near Net Shape Fabrication of High-Temperature Composites Mr. Gary Tiscia, Materials Research & Design, Inc.	AI Empowered Additive and Robotic Manufacturing of Monolithic CMC Thermal Protection Systems and Hot Structures Dr. Bill Goodman, Goodman Technologies, LLC	Hypersonic Flight Materials and Uncertainty Quantification Mr. Cameron Lindberg, ReLogic Research
1400 - 1425	Flight-Scale Aerothermal Evaluation of a C-ZrC Composite Mr. Ben Carmichael, Kratos SRE	Real-Time Material Certification of Composites using a Digital Twin Ms. Tiffany Stewart, HRL Laboratories	Additive Manufactured Low Density Carbon Insulator Dr. Greg Larsen, Oak Ridge National Laboratory	Extracting Surface Temperature and Emissivity of Material Samples during Arc Jet Testing Dr. Megan MacDonald, NASA Ames Research Center
1425 - 1450	Ground Test Results of AFRL-RX & UES Inc. UHTC Wedge Leading Edges Results from AEDC H2 Arcjet Testing Dr. Lawrence Matson, Air Force Research Laboratory	Predictive Tool for Aging Effects on Performance of Phenolic-Based Thermal Protective Materials Ms. Samantha Bernstein, The University of Texas at Austin	Scaling 3D Printed C/C to Enable Monolithic Hypersonic TPS Mr. Ryan Dunn, Mantis Composites	Rocket Nozzle Static Motor Fire Materials Test and Evaluation Mr. Carter Johnson, ReLogic Research
1450 - 1515	Oxidation Behavior of High Entropy Carbides and Carboritrides Dr. Lavina Backman, Naval Research Laboratory	Theoretical Kinetic Models for the Investigation of the Aerothermodynamics and Ablatives Involved in Near Boundary Layer for Extreme Aerothermal Flight Conditions Dr. Robert Slapikas, U.S. Army Combat Capabilities Development Command Army Research Laboratory	Regolith Enhanced Non-Sintered Extruded Surface Technology (RENEST) for Lunar, Martian, and Terrestrial Rocket Landing Pads Mr. Jonathan Slavik, Astrobotic	Summary of Polymer Matrix Composite Testing Performed Under Army Futures Command Grant Dr. Colin Yee, The University of Texas at Austin
1515 - 1545	Coffee & Snack Break			
1545 - 1550	Announcements	Announcements	Announcements	Announcements
1550 - 1615	Affordable Production Oriented Hypersonic Aerostructures Mr. Robert Hardesty, Peregrine Falcon Corporation	Novel Benzoxazine Polymers for High-Char Carbon-Carbon Structures Prof. Jeffrey Wiggins, The University of Southern Mississippi	Additive Manufacturing of Topologically Optimized Mirrors in Silicon Carbide Composite Ms. Phuong Bui, HRL Laboratories	Re-Designing Thin-Film Temperature Gauges using Latest Manufacturing Processes and Materials for Estimating Heat Flux in Hypersonic Ground Tests Dr. Jay Frankel, New Mexico State University
1615 - 1640	Lightweight CMC Solid Rocket Motor Fin Demonstration Mr. Michael Peretti, GE Aerospace	High Char Yield Resin Composite Property Evaluation Mr. Kenneth Johnson, University of Dayton Research Institute	Frontal Polymerization and Continuous Fiber Additive Manufacturing for Space-Based Manufacturing Prof. Jeff Baur, The University of Illinois Urbana-Champaign	Laser Absorption Spectral Imaging (LASI) Sensor for Quantitative Gas Measurements in High-Speed Flows Dr. Jason Kriesel, OKSI
1640 - 1705	Boosting the Operational Temperatures of Carbon Fiber Composites in Hypersonic Defense Applications Dr. Garrett Poe, Blueshift	Modeling Carbonization of High-Temperature Resins for Carbon-Carbon Composites Dr. Jacob Gissingner, Stevens Institute of Technology	PermIAM - Tunable Porosity Metal Additive Manufacturing for Improved Rocket Engine Injectors Mr. Jonathan Slavik, Astrobotic	Shape Similar Calorimetry Development for Arc Jet Test Facilities Mr. Derrick Talley, Kratos SRE
1705 - 1730	Chemical and Thermal Characterization of MX-4926/MIL-R-9299 Carbon Phenolic Material Dr. Michael Johnston, Kratos SRE	Effects of Constituent Materials and Processing on Microstructural Defects and Shear Strength of C/C Composites Ms. Ashley Handy, University of Tennessee, Knoxville	Liquid Metal Dealloying of Additively Manufactured Refractory Metals Ms. Catherine Barrie, Johns Hopkins University	Tailorable Solid Rocket Motors for Hypersonic Testing Mr. Travis Tuck, X-Bow Systems
1730	2024 Poster & Student Excellence Award Winner Announcements Sponsored by Northrop Grumman Corporation Grand Prize Give-Away & Adjourn Sponsored by Hexcel Corporation			
Friday, 28 June 2024				
0800 - 1130	Badger Propulsion Test Facility Tour (Advance sign-up was required, see registration desk for availability)			
0800 - 1400	Materials for Hypersonics Short Course (Advance sign-up is required, see registration desk for availability)			

Finalists for the Student Excellence Oral Award are marked with an *