

<b>Sunday, 23 June 2024</b>						
1600 - 2000 Early Registration						
<b>Monday, 24 June 2024</b>						
0700 - 0745 Speaker Meeting (with Light Breakfast) for Monday Presenters						
0700 - 0800 Attendee Light Continental Breakfast						
0700 - 1730 Registration Open						
1000 - 1630 Exhibitor Move-In						
1330 - 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						
<b>NSMMS &amp; CRASTE Tutorials &amp; Workshops</b> 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						
0800 - 0830 Keynote Presentation: To Be Announced						
	<b>Track One</b>	<b>Track Two</b>		<b>Track Three</b>	<b>Track Four</b>	<b>Track Five</b>
	<b>NSMMS &amp; CRASTE Tutorials &amp; Workshops</b>	<b>NSMMS &amp; CRASTE Panels &amp; Tutorials</b>		<b>NSMMS &amp; CRASTE Workshops &amp; Tutorials</b>	<b>NSMMS &amp; CRASTE Workshops</b>	
0830 - 1030	<b>UCAH/ Workforce Development Workshop</b> Organizers: Dr. Erica Corral, The University of Arizona; Mr. Dennis Foutz and Mr. Mark Glenn, Office of the Assistant Secretary of Defense; Mr. Brian Zuchowski, Lockheed Martin Aeronautics Company  <b>JHTO Material Research Projects and Future Topics of Interest</b> - 45 minute briefing by Mr. Dennis Foutz and Mr. Mark Glenn - 15 Minute Q&A  <b>UCAH's Strategy for Applied Material Research supporting Transition, Workforce, and Technology Protection</b> Moderator: Dr. Erica Corral - 25 minute briefing by Mr. Dennis Foutz and Mr. Mark Glenn - 30 minute Q&A	0830 - 0930 <b>Mach TB</b> Organizers: Mr. Carter Johnson, ReLogic Research & Mr. Gerald Russell, RTCS, LLC  Speaker: Mr. Kegan Miller, Naval Surface Warfare Center, Crane Division  0930 - 1030 <b>Panel: RDE &amp; Combined Cycle Technologies</b> Organizer: Dr. Ragini Acharya, University of Tennessee Space Institute	0830 - 1000 <b>Presentation Title to be Announced</b> Dr. Kendall Johnson, Space Dynamics Laboratory and Mr. Gordon Scriven, ATA Engineering  1000 - 1030 <b>Presentation To Be Announced</b>	<b>Presentation Title to be Announced</b> Organizers: Mr. Edwin Betady & Mr. Iddrisu Seidu, Air Force Research Laboratory		
1030 - 1100	Break					
1100 - 1130	<b>Growing Highly Capable and Adaptable Teams without Sacrificing Culture</b> Mr. Pat Nowak, Scot Forge	<b>Panel: Materials for High-Speed Applications: Strategy, Competition, and Getting Ahead</b> Organizer: Dr. Ragini Acharya, University of Tennessee Space Institute		1100 - 1130 <b>Regolith Simulant Derived Materials and Structures through Microwave Casting (DARPA NOM4D)</b> Dr. Sergio dos Santos e Lucato, Teledyne Scientific Company, LLC	<b>Presentation Title to be Announced</b> Organizer: Mr. Carter Johnson, ReLogic Research	
1130 - 1200	<b>Professional Development for Hypersonic Materials: Ceramic Industry Nonprofits Partner to fill Workforce Gaps and Attract the Next Generation Workforce</b> Ms. Eileen De Guire, The American Ceramic Society			1130 - 1200 <b>Presentation Title to be Announced</b> 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	Track Five
	<b>Space Access &amp; Propulsion</b> Session Chair: 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; Ms. Manda Schaeffer, Naval Surface Warfare Center, Crane Division; Mr. John Vasquez, Naval Research Laboratory; & Mr. Ian Wolford, Air Force Research Laboratory	<b>Development, Processing &amp; Testing of Advanced Materials</b> 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 Hilmas, Missouri University of Science and Technology; Mr. Kenneth Milam, L3Harris Technologies, Inc.; Dr. Samir Singh, Ball Aerospace; Dr. Vicky Trigg, The Aerospace Corporation; & Mr. James Tucker, Kratos SRE	<b>Integrated Vehicle Health Management (IVHM) &amp; Integrated System Health Monitoring (ISHM)</b>  Session Chair: Mr. Derek DeVries, Northrop Grumman Corporation  Co-Chairs: Mr. Joaquin Castro & Mr. James Larkin, Aerojet Rocketdyne, An L3Harris Technologies Company	<b>Missiles &amp; Missile Defense</b> Session Chair: To Be Announced  Lead Organizer: Mr. Jason Calvert, U.S. Army Space and Missile Defense Command Co-Organizers: Mr. Alan Brown, L3Harris Technologies, Inc.; 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. Gerald Russell, RTCS, LLC; Dr. Joseph Sheeley, PERIKIN Enterprises; & Mr. Tim Stewart, Ultramet	<b>Small Business Forum</b>
1330 - 1335	<b>Session Introduction</b>	<b>Session Introduction</b>	<b>Session Introduction</b>	<b>Session Introduction</b>	One-on-One Meetings with: Aerojet Rocketdyne, An L3 Harris Technologies Company Space & Mission Systems - BAE Systems, Inc. The Boeing Company Kratos Lockheed Martin Missile Defense Agency Northrop Grumman RTX
1335 - 1400	<b>Testing of the VR35K-A Upper Stage Engine Coupled Combustion Devices</b> Dr. Zach Hallum, Sierra Space Corporation	<b>3D Woven Mid-Density Carbon Phenolic (3MDCP) Thermal Protection System Development</b> Dr. Donald Ellerby, NASA Ames Research Center	<b>Iterative Testing of Technology for an Inexpensive Black Box for Spacecraft</b> Mr. Dale Amon, Immortal Data, Inc.	<b>Presentation Title to be Announced</b> Mr. Mark Glenn, Office of the Assistant Secretary of Defense	
1400 - 1425	<b>Rocket Landing Environment and Infrastructure Materials Characterization</b> Dr. Malissa Lightfoot & Dr. W. Jacob Monzel, Air Force Research Laboratory	<b>Development of Advanced Conformal for Future NASA Missions and Commercial Space</b> Dr. Matthew Gasch, NASA Ames Research Center	<b>Fiber-Embedded Wireless Microsensors Development</b> Dr. Joseph Pegna, Free Form Fibers, LLC	<b>Experimental Performance of a Novel Articulated Thermal Protection System</b> Mr. Eric McGill, Air Force Research Laboratory	
1425 - 1450	<b>Development of Advanced Lightweight Polymeric Foam Thermal Protection for Space Launch Vehicles</b> Ms. Elizabeth Schofield, Jacobs Space Exploration Group	<b>3MDCP Ongoing Thermomechanical Characterization for Mars Sample Return Earth Entry Vehicle</b> Ms. Courtney Severino, Kratos SRE	<b>Intelligent Optical Nervous System for Hypersonic Vehicle Monitoring and Control</b> Mr. William Price, IFOS Corporation	<b>Determination of Carbon-Carbon Hydrocode Parameters by Uncertainty Quantification</b> Mr. Daniel Hladio, Materials Research & Design, Inc.	
1450 - 1515	<b>Presentation Title to be Announced</b> Mr. Jim Reyenga, Ursa Major Technologies, Inc.	<b>Conformal Phenolic Impregnated Carbon Ablator (CPICA) Thermomechanical Characterization</b> Mr. Rafael Gonzalez, Kratos SRE	<b>Presentation Title to be Announced</b> Dr. Ming Chen, Air Force Research Laboratory	<b>An Additively Manufactured Hypersonic Nose Tip</b> Dr. Joseph Sims, Quadrus Corporation	
1515 - 1545	<b>Break</b> <i>Sponsored by Ultramet</i>				
	Track One	Track Two	Track Three	Track Four	Track Five
	<b>Space Access &amp; Propulsion, cont.</b>	<b>Development, Processing &amp; Testing of Advanced Materials, cont.</b>	<b>Innovative Test Methodologies &amp; Platforms</b>  Session Chair: Mr. Nickolas Demidovich, Federal Aviation Administration  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; Mr. John Vasquez, Naval Research Laboratory; & Mr. Ian Wolford, Air Force Research Laboratory	<b>Missiles &amp; Missile Defense, cont.</b>	<b>Small Business Forum, cont.</b>
1545 - 1550	<b>Announcements</b>	<b>Announcements</b>	<b>Session Introduction</b>	<b>Announcements</b>	One-on-One Meetings with: Aerojet Rocketdyne, An L3 Harris Technologies Company Space & Mission Systems - BAE Systems, Inc. The Boeing Company Kratos Lockheed Martin Missile Defense Agency Northrop Grumman RTX
1550 - 1615	<b>*A Heterogeneous Fuel Infusion Technique for Ignition and Performance Augmentation of Hybrid Rocket Engines</b> Mr. Ryan Thibaudeau, Utah State University	<b>Shear Testing of 3D Medium Density Carbon Phenolic (3MDCP) at AEDC-H3 for Mars Sample Return (MSR) Earth Entry System (EES)</b> Mr. Jonathan Morgan, NASA Ames Research Center	<b>Harnessing the Power of Lunar and Orbital Testing to Enable Research and Development for Advancing Space Technologies</b> Mr. Jason Smith, Aegis Aerospace, Inc.	<b>Presentation Title to be Announced</b> Mr. Mike Kryzak, Missile Defense Agency	
1615 - 1640	<b>DELTA-V Map for Tactically Responsive Launch Vehicle Sizing</b> Mr. Rushd Julfiker, Sierra Lobo, Inc.	<b>*Phthalonitrile Resin Infiltrated Low-Density Flexible Ablator Materials for Aerospace Applications</b> Mr. Steven Kim, The University of Texas at Austin	<b>High Velocity Erosion (HIVE™) Test Cell</b> Dr. Matthew Hartshorne, Air Force Research Laboratory; Mr. Kameron Hayes, Air Force Research Laboratory; & Dr. Peter Schmidt, United Protective Technologies	<b>Manufacturing Optimization of EL-Form Rhenium</b> Mr. Timothy McKechnie, Plasma Processes, LLC	
1640 - 1705	<b>Investigation into Stage Sensitivity for Single-Stage-to-Orbit Vehicles</b> Ms. Sara Schamp, Sierra Lobo, Inc.	<b>Microscale Modeling and Analysis of Woven Composites under NASA's Entry Systems Modeling Project</b> Dr. Lauren Abbott, NASA Ames Research Center	<b>The Development of Two New Emittance Measurement Facilities: Total Normal Emittance Under Flight-like Profiles and Spectral Hemispherical Emittance up to 3000°C</b> Mr. Kelly McCullers, Kratos SRE	<b>Missile Defense Agency Targets &amp; Countermeasures Carbon-Carbon Material Development &amp; Testing</b> Dr. David Williams, Missile Defense Agency	
1705 - 1730	<b>Development and Testing of 3D Woven Carbon Phenolic Thermal Protection Materials</b> Mr. James Reilly, Spirit AeroSystems	<b>Enhanced Quantification of 3D Woven Composites via Fourier Analysis and Structure Tensors Applied to CT Scans</b> Dr. Magnus Haw, NASA Ames Research Center	<b>Low-Cost Environmental Testing of Advanced Materials using Microcomposites</b> Dr. Joseph Pegna, Free Form Fibers, LLC	<b>Thermomechanical Characterization of Additively Manufactured W-Re</b> Mr. Ryan Williams, Kratos SRE	
1730 - 1900	<b>Welcome Reception and Exhibit &amp; Poster Kick-Off</b>				

0700 - 0745	<b>Speaker Meeting (with Light Breakfast) for Tuesday Afternoon Presenters</b> <i>Sponsored by Southwest Research Institute</i>
0700 - 0800	<b>Attendee Light Continental Breakfast</b> <i>Sponsored by Hexcel Corporation</i>
0700 - 1730	<b>Registration Open</b>
1200 - 1330	<b>Lunch Break</b> <i>(On Your Own - See Registration Desk for Area Restaurants)</i>
1330 - 1730	<b>Exhibits and Poster Session Open</b>
1730 - 1900	<b>Networking Reception</b> <i>Sponsored by Northrop Grumman Corporation</i>
<b>NSMMS &amp; CRASTE Plenary Session</b>	
0800 - 0815	<b>Opening Remarks, National Anthem &amp; Plenary Session</b>
0815 - 1005	<b>Speakers to be Announced</b>
1005 - 1035	<b>Break</b> <i>Sponsored by Materials Research &amp; Design, Inc.</i>
1035 - 1145	<b>Speakers to be Announced</b>
1145 - 1200	<b>Lifetime Achievement Award &amp; Sponsor Thank You</b>
1200 - 1330	<b>Lunch Break</b> <i>(On Your Own - See Registration Desk for Area Restaurants)</i>  <b>Student Networking Lunch - By Invitation Only</b> <i>Sponsored by University Consortium for Applied Hypersonics</i>

	Track One	Track Two	Track Three	Track Four
	<b>Hypersonics</b>  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 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	<b>Development, Processing &amp; Testing of Advanced Materials</b>  Session Chair: Dr. Thomas Tsotsis, The Boeing Company  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 Hilmas, Missouri University of Science and Technology; Mr. Kenneth Milam, L3Harris Technologies, Inc.; Dr. Samir Singh, Ball Aerospace; Dr. Vicky Trigg, The Aerospace Corporation; & Mr. James Tucker, Kratos SRE	<b>Spacecraft Buses, Payloads, &amp; Instrumentation</b>  Session 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. Nickolas Demidovich, 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, L3Harris Technologies, Inc.; Mr. Robert Seibold, The Aerospace Corporation; Mr. Ethan Sichter, Air Force Research Laboratory; & Mr. Max Vozoff, X-Bow Systems	<b>Missiles &amp; Missile Defense</b>  Session Chair: To Be Announced  Lead Organizer: Mr. Jason Calvert, U.S. Army Space and Missile Defense Command Co-Organizers: Mr. Alan Brown, L3Harris Technologies, Inc.; 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. Gerald Russell, RTCS, LLC; Dr. Joseph Sheeley, PERIKIN Enterprises; & Mr. Tim Stewart, Ultramet
1330 - 1335	<b>Session Introduction</b>	<b>Session Introduction</b>	<b>Session Introduction</b>	<b>Session Introduction</b>
1335 - 1400	<b>Optimizing Defense Innovation: Strategic Navigation of Department of Defense (DoD) Investment for Swift Technological Advancement</b> Mr. J Petrie, Office of the Under Secretary of Defense for Acquisition & Sustainment	<b>Navy High Temperature Materials Developments 1980-2020 for Hypersonic Aerosurfaces, Rocket and Scramjet Propulsion Systems, and Weapons-Hardened C-C Space Structures</b> Dr. Mark Opeka, Kratos SRE	<b>Large Structure Metrology</b> Mr. Jim Tucker, Kratos SRE	<b>Composites and Advanced Materials Testing</b> Mr. Steven Ishida, Missile Defense Agency
1400 - 1425	<b>The Case for Accelerating the Use of Hot Structures on Hypersonic Vehicles</b> Dr. David Glass, NASA Langley Research Center		<b>Development of Rechargeable Batteries with Improved Discharge Capacity at -40 °C to -80 °C for Surviving the Lunar Night</b> Dr. Brian Elliott, TDA Research, Inc.	<b>Presentation Title to be Announced</b> Mr. Jacob Glassman, Conventional Prompt Strike
1425 - 1450	<b>Nosetip Radius Effect on Heating and Drag: A Computational Fluid Dynamics Study for a Hypersonic Glide Vehicle</b> Dr. Jesse Maxwell, U.S. Naval Research Laboratory	<b>Biological Building Blocks for Ultra-High Temperature Ceramic Precursors</b> Ms. Sophia Angelopoulos, UES, Inc.	<b>Surviving the Lunar Night: Astrobot's Nighttime Integrated Thermal and Electricity (NITE) System</b> Mr. Jonathan Slavik, Astrobotic	<b>Resonant Cavity Facility Development for Testing Dielectric Materials up to 1500°C</b> Mr. Rafael Gonzalez, Kratos SRE
1450 - 1515	<b>Material and Manufacturing Advancements to Tailor Hypersonic Solutions for Varying Applications</b> Mr. Mitchell Burgess, Spirit AeroSystems	<b>Laser Thermal Treatment for Carbonization/Graphitization of Carbon Fibers for Carbon-Carbon Composites</b> Dr. Joshua Yoho, UES, Inc.	<b>Presentation to be Announced</b> Ms. Holly Garich, Faraday Technology, Inc.	<b>Rapid Discovery of Seeker Window Materials Enabled by Physics-Informed Machine Learning, Multiscale Modeling, and High-Throughput Experimentation</b> Dr. Mark Polking, MIT Lincoln Laboratory
1515 - 1545	<b>Afternoon Break</b> <i>Sponsored by Plasma Processes, LLC</i>			

	Track One	Track Two	Track Three	Track Four
	<b>Hypersonics, cont.</b>	<b>Development, Processing &amp; Testing of Advanced Materials, cont.</b>	<b>Spacecraft Buses, Payloads, &amp; Instrumentation, cont.</b>	<b>Missiles &amp; Missile Defense, cont.</b>
1545 - 1550	<b>Announcements</b>	<b>Announcements</b>	<b>Announcements</b>	<b>Announcements</b>
1550 - 1615	<b>An Overview of NASA Investments in High Temperature Durable Materials for Reusable Hypersonic Applications</b> Mr. Chris Kostyk, NASA Armstrong Flight Research Center	<b>Presentation Title to be Announced</b> Mr. Aaron Ginsparg, Missouri University of Science and Technology	<b>Hydrogen Peroxide/RP1 Reaction Control System (RCS) Thruster Qualification for Space Flight</b> Dr. Todd Treichel, Sierra Space	<b>Presentation Title to be Announced</b> Dr. Kirk Williams, Free Form Fibers, LLC
1615 - 1640	<b>Materials for Rotating Detonation Engines</b> Dr. Katie Detwiler, Air Force Research Laboratory	<b>Presentation to be Announced</b>	<b>Space Environmental Effects on Multifunctional Radiation Shielding Materials</b> Mr. Scott O'Dell, Plasma Processes, LLC	<b>Controllable Solid Propellant Propulsion Materials</b> Mr. Steven Ishida, Missile Defense Agency
1640 - 1705	<b>Robust Narrow Digital Twins for the Exploration of HGV Defense Concepts</b> Dr. Jorge O'Farrill, Modern Technology Solutions, Inc.	<b>Presentation Title to be Announced</b> Ms. Ariel Parker, UES, Inc.	<b>High-Emissivity CVD Dendritic Rhenium Coatings for NEP Radiator Panels Materials</b> Dr. Jessica DeBerardinis, Ultramet	<b>Presentation Title to be Announced</b> Mr. Nathan Varney, Ursa Major Technologies, Inc.
1705 - 1730	<b>Investigation of High-Energy, Hypersonic Weather Impact Damage using Finite Element Analysis and Ballistic Testing</b> Mr. Daniel Clemens, University of Dayton Research Institute	<b>Polymer-Grafted Nanoparticles as Ceramic Precursors</b> Dr. Nicholas Posey, UES, Inc.	<b>Presentation to be Announced</b> Ms. Julia Deyanova, BAE Systems Space & Mission Systems Inc.	<b>Design and Characterization of a Low-Drag Jet Vane Thrust Vector Control System</b> Mr. Terry Hendricks, Exo-Atmospheric Technologies, LLC
1730 - 1900	<b>Networking Reception</b> <i>Sponsored by Northrop Grumman Corporation</i>			

0700 - 0745	<b>Speaker Meeting (with Light Breakfast) for Wednesday's Presenters</b> <i>Sponsored by Fenix Aerospace</i>
0700 - 0800	<b>Attendee Light Continental Breakfast</b> <i>Sponsored by New Mexico State University</i>
0700 - 1730	<b>Registration Open</b>
1200 - 1330	<b>Lunch Break</b> <i>(On Your Own - See Registration Desk for Area Restaurants)</i>
0945 - 1200	<b>Exhibits and Poster Session Open</b>
1330 - 1900	<b>Poster Session and Networking Reception</b>
1730 - 1900	<b>Poster Session and Networking Reception</b>
1900 - 2030	<b>Exhibit and Poster Dismantle</b>

	Track One	Track Two	Track Three	Track Four
	<b>Hypersonics</b> Session Chairs: Dr. Carmen Carney, Dr. Allan Katz & Mr. Ian Wolford, 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	<b>Range and Ground Operations</b> Session Chair: Mr. Nickolas Demidovich, Federal Aviation Administration  Co-Chair: Mr. Barry Hellman, Blue Origin, LLC	<b>Advanced Topics in Additive Manufacturing</b> 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; Ms. Manda Schaeffer, Naval Surface Warfare Center, Crane Division; Mr. John Vasquez, Naval Research Laboratory; & Mr. Ian Wolford, Air Force Research Laboratory	<b>Ground &amp; Flight Test Methodologies</b> Session Chairs: Mr. Kegan Miller, Naval Surface Warfare Center, Crane Division; Mr. Tyler Neale, U.S. Air Force & Mr. Scott Wilson, Naval Surface Warfare Center, Crane Division  Lead Organizer: Dr. Gerald Russell, RTCS, LLC Co-Organizers: Mr. Alan Brown, L3Harris Technologies, Inc.; 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, Ultramet
0800 - 0805	<b>Session Introduction</b>	<b>Session Introduction</b>	<b>Session Introduction</b>	<b>Session Introduction</b>
0805 - 0830	<b>Manufacturing of Carbon/Carbon Composites for Hypersonic Applications (MOC3HA) Program Update Focusing on Task Order 5</b> Mr. John O'Brien, Battelle	<b>Development of a Mobile, Modular Payload Processing Capability</b> Mr. Robert Taylor, Air Force Research Laboratory	<b>AM Functionally Graded Radomes for Hypersonic Vehicles</b> Prof. Joseph Koo, The University of Texas at Austin	<b>Multi-Service Advanced Capability Hypersonic Test Bed (MACH TB)</b> Mr. Kegan Miller, Naval Surface Warfare Center, Crane Division
0830 - 0855	<b>MOC3HA Supported Reduced Product Variability in Thick Hi-K Carbon-Carbon Billet</b> Dr. Cabell Lamie, Lockheed Martin Corporation	<b>Fully Mobile Ground-Based Responsive Launch of Cryogenic Liquid-Fueled Rockets</b> Mr. Sean Bedford, Astrobotic	<b>Progress in the Selective Laser Melting of Rhenium</b> Dr. Joseph Sims, Quadrus Corporation	<b>The PID Control Loop: Aerospace Test Applications with a Practical Review</b> Dr. Todd Smith, Air Force Research Laboratory
0855 - 0920	<b>Presentation Title to be Announced</b> Dr. Richard Gulotty, Honeywell International, Inc.	<b>Development of Deployable Landing Pad for Rocket Cargo</b> Mr. Ian Fuller, Cornerstone Research Group	<b>Laser Powder Bed Fusion and Heat Treatment of Pure Molybdenum and W-5Re</b> Mr. Ryan Anderson, Quadrus Corporation	<b>Presentation Title to be Announced</b> Dr. Adam Peters, Stratolaunch
0920 - 0945	<b>MOC3HA Materials Testing and Characterization - Summary Results of Task Order 1</b> Mr. Matthew Opliger, Wichita State University	<b>Analysis of Launch Vehicle Sensitivities and Risk due to Winds Aloft</b> Ms. Sara Schamp, Sierra Lobo, Inc.	<b>Response of C-103 to Multiple Parameter Sets in the Selective Laser Melting (SLM) Process</b> Mr. Stephen Cooke, Quadrus Corporation	<b>VARDA Commercial Flight Test Program for Thermal Protection Systems</b> Dr. Marat Kulakhmetov, Varda Space Industries

0945 - 1015 **Break**  
*Sponsored by RTCS, LLC*

	Track One	Track Two	Track Three	Track Four
	<b>Hypersonics, cont.</b>	<b>Development, Processing &amp; Testing of Advanced Materials</b> Session Chair: Dr. Jason Lonergan, Missouri University of Science and Technology  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 Hilmas, Missouri University of Science and Technology; Mr. Kenneth Milam, L3Harris Technologies, Inc.; Dr. Samir Singh, Ball Aerospace; Dr. Vicky Trigg, The Aerospace Corporation; & Mr. James Tucker,	<b>Advanced Topics in Additive Manufacturing, cont.</b>	<b>Ground &amp; Flight Test Methodologies, cont.</b>
1015 - 1020	<b>Announcements</b>	<b>Session Introduction</b>	<b>Announcements</b>	<b>Announcements</b>
1020 - 1045	<b>Presentation Title to be Announced</b> Mr. David Forsyth, Texas Research Institute Austin, Inc.	<b>Carbon/Carbon Composites Research at ARL</b> Dr. Dan Knorr, U.S. Army Combat Capabilities Development Command Army Research Laboratory	<b>Additively Manufactured Ramjet Inlet - Manufacturing Process Development Overview</b> Mr. Brandon Saathoff, Wichita State University	<b>Aerothermal Testing Process at the AEDC Arc-Heated Test Facilities</b> Dr. Jon Cox, Axient
1045 - 1110	<b>Presentation Title to be Announced</b> Mrs. Sarah Ward, Leidos	<b>Developments on Reusable TPS Materials Based Upon Shuttle Tile</b> Dr. Peter Marshall, Analytical Mechanics Associates, Inc.	<b>Presentation Title to be Announced</b> Mrs. Carissa Russell, Materials Sciences, LLC	<b>Updates to the Mid-Pressure Aerothermal Envelopes at the AEDC Arc-Heated Test Facilities</b> Mr. Cooper Green, Arnold Engineering Development Complex
1110 - 1135	<b>Materials Maturation for High Mach Systems – Transitioning C/C Material Advances to Industry</b> Dr. Alexander Morgan, University of Dayton Research Institute	<b>Reusable Thermal Protection System</b> Dr. Ashley Ferguson, Tex-Tech Industries	<b>Presentation Title to be Announced</b> Dr. Michael Chapman, BlueHalo	<b>Advancements in Arc Jet Test Planning at AEDC through Tiered Flow Simulation Tools</b> Mr. Christopher Lehto, Arnold Engineering Development Complex
1135 - 1200	<b>Presentation Title to be Announced</b> Dr. Alec Murchie, Oak Ridge National Laboratory	<b>*Production and Characterization of HEC/C<sub>2</sub> Based UHTCMCs</b> Mr. Nathaniel Blatt, Missouri University of Science and Technology	<b>Laser Powder Bed Fusion and Post-Build Heat Treatment of W-24Re for Propulsion Applications</b> Mrs. Melissa Forton, Quadrus Corporation	<b>Presentation Title to be Announced</b> Dr. David Oakes, Physical Sciences, Inc.
1200 - 1330	<b>Lunch Break</b> <i>(On Your Own - See Registration Desk for Area Restaurants)</i>			

	Track One	Track Two	Track Three	Track Four
	<b>Hypersonics, cont.</b>	<b>Development, Processing &amp; Testing of Advanced Materials, cont.</b>	<b>Advanced Topics in Additive Manufacturing</b> Session Chair: Mr. Lawrence Huebner, NASA Marshall Space Flight Center	<b>Ground &amp; Flight Test Methodologies, cont.</b>
1330 - 1335	<b>Announcements</b>	<b>Announcements</b>	<b>Announcements</b>	<b>Announcements</b>
1335 - 1400	<b>Thermal Analysis of Novel Carbon/Carbon Composite Strakes in Depressed Trajectory Sounding Rocket Tests</b> Dr. Christopher Hershey, Oak Ridge National Laboratory	<b>Further Development of Asymmetric 4-Point Bend Test for Room and Elevated Temperature Measurement of Interlaminar Shear Modulus and Strength of Refractory Composite Materials</b> Dr. Brian Sullivan, Materials Research & Design, Inc.	<b>Presentation to be Announced</b>	<b>Feasibility Assessment of High-Enthalpy Test Capability Using a Green-Propellant Hybrid Gas Generator</b> Dr. Stephen Whitmore, Utah State University
1400 - 1425	<b>Aerothermal Evaluation of Textum CC Material</b> Mr. Nate McGillivray, Kratos SRE	<b>Novel Contactless Measurement Technique to Determine the Thermal Conductivity and Spectral Emissivity of Ultra-High Temperature Ceramics (UHTCs) at Ultra-High Temperatures (&gt;2000 °C)</b> Mr. Hunter Schonfeld, University of Virginia	<b>Thermomechanical Characterization of El-Form Rhenium for Aerospace Applications</b> Mr. Jacob Garner, Kratos SRE	<b>*Development and Operation of a Low Cost Plasma Based Thermomechanical Test Facility</b> Mr. Antoine Gagne, University of Dayton Research Institute
1425 - 1450	<b>Tailored Fiber Placement for Mitigation of Thermomechanical Stresses in Metal/Carbon-Carbon Joints at High Temperature</b> Dr. Jevan Furmanski, University of Dayton Research Institute	<b>Insulation Development for Solid Rocket Motors and Novel Plasma Torch Testing Capability at Marshall Space Flight Center</b> Ms. Katie Bradley, Jacobs Technology, Inc.	<b>*Comparative Analysis of Defect Detection in Additive Manufactured Parts: Exploring the SuRE Method through Deep Learning and TensorFlow</b> Mr. Matthew Laurent, Florida International University	<b>Presentation Title to be Announced</b> Dr. James Peace, CUBRC
1450 - 1515	<b>Presentation Title to be Announced</b> Mr. Christopher Davis, Leidos	<b>Subscale Solid Rocket Motor Materials Testing at Marshall Space Flight Center</b> Ms. Shelby Westrich, Jacobs Engineering	<b>Design Concepts for Dissimilar Material Interfaces</b> Dr. Mark Patterson, Kratos SRE	<b>A New TPS Screening Facility Bridging the Gap Between Oxy-Acetylene Torch and Full Arc-Jet Testing for Rapid Prototyping</b> Dr. Daniel Palmquist, HY-SET, LLC
1515 - 1545	<b>Break</b> <i>Poster Voting Cards Due to Registration Desk</i> <i>Sponsored by Aerojet Rocketdyne, An L3Harris Technologies Company</i>			
	Track One	Track Two	Track Three	Track Four
	<b>Hypersonics, cont.</b>	<b>Development, Processing &amp; Testing of Advanced Materials, cont.</b>	<b>Advanced Topics in Additive Manufacturing, cont.</b>	<b>Ground &amp; Flight Test Methodologies, cont.</b>
1545 - 1550	<b>Announcements</b>	<b>Announcements</b>	<b>Announcements</b>	<b>Announcements</b>
1550 - 1615	<b>Advanced Manufacturing and Evaluation of Materials for Hot Structures</b> Ms. Rachael Andrunonis, Wichita State University	<b>A Novel Methodology for Analyzing the Microstructures of Thermal Protection Systems Materials</b> Ms. Samantha Bernstein, The University of Texas at Austin	<b>Directed Energy Deposition GRCop-42 Additively Manufactured Chamber Development and Testing</b> Mr. Edgar Felix, Air Force Research Laboratory	<b>Marshall Enriched Storable Oxidizer Innovation Refinement and Advancement</b> Mr. Roger Herdy, CFD Research Corporation
1615 - 1640	<b>Temperature-Dependent Bearing Strengths of Melt Infiltrated SiC/SiC Laminates with Application to Bolted Joint Design</b> Dr. Allison Horner, Scalar Scientific, LLC	<b>*Manufacturing, Characterization, and Modeling of a Novel Alumina/Polysiloxane TPS Composite</b> Mr. Colin Yee, The University of Texas at Austin	<b>Graded Alloy Transition Deposition (GRATD) Leading Edge Fabrication and Testing Update</b> Dr. Daniel Driemeyer, The Boeing Company	<b>Arcs Test Flight Dust Erosion System Operation</b> Mx. Alex Wolfe, Arnold Engineering Development Complex
1640 - 1705	<b>A DOE-Based Approach to Identify Optimal Processing Conditions for Melt Infiltrated C/C-SiC</b> Mr. Gary Tiscia, Materials Research & Design, Inc.	<b>*Photogrammetry Methods to Measure Transient Surface Recession of Ablative Materials During Aerothermal Testing</b> Mr. Remy Feru, The University of Texas at Austin	<b>Maturation of Additive Geometric Management Approaches for High Mach Applications (MAGMA)</b> Mr. Jordan Severson, The Boeing Company	<b>An Innovative, Low-Cost Approach to Simulating Hypersonic Weather Encounters using Cold Spray Technology</b> Mr. John Stevenson, University of Dayton Research Institute
1705 - 1730	<b>Investigation of Constituent Content and Asymmetric Four-Point Bend Performance of Melt-Infiltrated C/C-SiC Composites</b> Ms. Lucia Morton, NASA Langley Research Center	<b>Mechanical Properties of ZrB<sub>2</sub>/Cf Based UHTCMCs at Elevated Temperatures</b> Mr. Jacob Stacy, Missouri University of Science and Technology	<b>Investigating the Impact of Varying Test Sample Layer Height and Scan Speed on Deformation Reduction in Directed Energy Deposition Simulations</b> Mr. Matthew Laurent, Florida International University	<b>Presentation Title to be Announced</b> Mr. Michael Libeau, Naval Surface Warfare Center, Dahlgren Division
1730 - 1900	<b>Poster Session and Networking Reception</b>			

0700 - 0745	Speaker Meeting (with Light Breakfast) for Thursday's Presenters			
0700 - 0800	Attendee Light Continental Breakfast			
0700 - 1730	Registration Open			
1200 - 1330	Lunch Break (On Your Own - See Registration Desk for Area Restaurants)			
	<b>Track One</b>	<b>Track Two</b>	<b>Track Three</b>	<b>Track Four</b>
	<b>Hypersonics</b> Session Chairs: Tuesday: Dr. Jesse Maxwell, U.S. Naval Research Laboratory & Dr. Robert Slapikas, U.S. Army 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; Mr. Mitch Petervary, The Boeing Company; Dr. Scott Poveromo, Northrop Grumman Corporation; Dr. Suraj Rawal, Lockheed Martin Corporation; & Dr. Garth Wilks, RTX	<b>System Architecture Studies</b> Session Chair: Mr. Anthony Brinkley, Lockheed Martin Corporation Organizers: Mr. Robert Seibold, The Aerospace Corporation & Mr. Robert Taylor, Air Force Research Laboratory	<b>Advanced Topics in Additive Manufacturing</b> Session Chair: Andres Bujanda, U.S. Army Combat Capabilities Development Command Army Research Laboratory 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; Ms. Manda Schaeffer, Naval Surface Warfare Center, Crane Division; Mr. John Vasquez, Naval Research Laboratory; & Mr. Ian Wolford, Air Force Research Laboratory	<b>Ground &amp; Flight Test Methodologies</b> Session Chairs: Mr. Kegan Miller, Naval Surface Warfare Center, Crane Division; Mr. Tyler Neale, U.S. Air Force & Mr. Scott Wilson, Naval Surface Warfare Center, Crane Division Lead Organizer: Dr. Gerald Russell, RTCS, LLC Co-Organizers: Mr. Alan Brown, L3Harris Technologies, Inc.; 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, Ultramet
0800 - 0805	<b>Session Introduction</b>	<b>Session Introduction</b>	<b>Session Introduction</b>	<b>Session Introduction</b>
0805 - 0830	<b>Surface Morphing and Adaptive Structures for Hypersonics (SMASH): Hypersonic Glide Vehicle (HGV) Performance Advantages and Materials Requirements</b> Dr. Jesse Maxwell, U.S. Naval Research Laboratory	<b>NASA's Flight Opportunities Program: Increasing the Pace of Space</b> Mr. Greg Peters, NASA Armstrong Flight Research Center	<b>*Development of Aerospace Manufacturing Protocols for a Revolutionary Manufacturing System with Additive (Polymer and Metal), Subtractive (CNC Milling), and Thermoplastic AFP Capabilities</b> Mr. Dimitri Seneviratne, Wichita State University	<b>Presentation To Be Announced</b>
0830 - 0855	<b>Presentation Title to be Announced</b> Dr. Robert Slapikas, U.S. Army Combat Capabilities Development Command Army Research Laboratory	<b>Re-Entry Vehicle Configuration Optimization for Responsive Space Delivery</b> Mr. Tyler Kunsu, SpaceWorks Enterprises, Inc.	<b>Additive Manufacturing and Conventional Manufacturing - Understanding Perceptions, Realities, Efficiencies and Adding Value</b> Mr. Ranga Ramanathan, Scot Forge	<b>An Overview of the Next Generation Seeker Window Material Testing Program</b> Dr. William Coirier, Kratos Defense & Rocket Support Services, Inc.
0855 - 0920	<b>Flexible Thermal Protection Systems</b> Dr. Rachel Guarriello, Physical Sciences, Inc.	<b>Rendezvous and Proximity Operations Delta-V Requirements for GEO-Based Satellite Servicing Capabilities</b> Mr. Victor Ong, Sierra Lobo, Inc.	<b>Niobium Alloy Powder Market Study for AM Processes</b> Ms. Eliza Wirkijowski, MACH-20	<b>Modeling and Simulation Support for the Next Generation Seeker Window Material Testing Program</b> Mr. Andrew Holm, Kratos Defense & Rocket Support Services, Inc.
0920 - 0945	<b>Compression and Shear Char Strength of Low-Density Flexible Ablators</b> Mr. Ben Rech, Koo and Associates International, Inc.	<b>Tactically Responsive Space (TacRS): VICTUS NOX &amp; Beyond</b> Capt George Eberwine, U.S. Space Force	<b>State-of-the-Art in Additively Manufactured Energetic and Explosive Materials Research</b> Mr. Brian Benesch, Defense Systems Information Analysis Center	<b>Survey of Failure in Optical Sapphire Windows</b> Mr. Jonathan Coleman, U.S. Army Space and Missile Defense Command
0945 - 1015	Break			
	<b>Track One</b>	<b>Track Two</b>	<b>Track Three</b>	<b>Track Four</b>
	<b>Hypersonics, cont.</b>	<b>Development, Processing &amp; Testing of Advanced Materials</b> Session Chair: Dr. Jennifer Fielding, Air Force Research Laboratory 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 Hillmas, Missouri University of Science and Technology; Mr. Kenneth Milam, L3Harris Technologies, Inc.; Dr. Samir Singh, Ball Aerospace; Dr. Vicky Trigg, The Aerospace Corporation; & Mr. James Tucker	<b>Advanced Topics in Additive Manufacturing, cont.</b>	<b>Ground &amp; Flight Test Methodologies, cont.</b>
1015 - 1020	<b>Announcements</b>	<b>Session Introduction</b>	<b>Announcements</b>	<b>Announcements</b>
1020 - 1045	<b>Materials Development for High-Temperature, Reconfigurable Applications</b> Dr. Matthew Dickerson, Air Force Research Laboratory	<b>Liquid Air Force PreCeramics (AFPCs) for Ultra-High Temperature Ceramics</b> Dr. Jared Delcamp, Air Force Research Laboratory	<b>Castles in the Sky</b> Mr. Bryan Kuklinski, Orbital Construction Pioneers	<b>Presentation Title to be Announced</b> Mr. Justin Jones, Toyon Research Corporation
1045 - 1110	<b>Presentation Title to be Announced</b> Mr. Joshua Craggette, UES, Inc.	<b>Low-Temperature Sintering of Ultra-high-temperature Coatings using Layer-by-Layer Deposition</b> Dr. Thomas Tsotsis, The Boeing Company	<b>*Laser Sintering Development for Manufacturing Flexible Hybrid Electronics on the International Space Station</b> Ms. Ellie Schlake, Oregon State University	<b>Oxidation Studies of Carbon-Carbon Composites in a High-Enthalpy Plasma Torch Facility</b> Mr. Mitchell Trotsky, University of Tennessee, Knoxville
1110 - 1135	<b>Development of Ablation Tools for Hypersonic Vehicles</b> Ms. Kerry Howren, Materials Research & Design, Inc.	<b>Oxidation Kinetics of Melt-Infiltration-Based SiC, ZrC, and SiC-ZrC Coatings on Carbon-Carbon</b> Ms. Courtney Severino, Kratos SRE	<b>Modernizing Reusable TPS</b> Dr. John Howard, Canopy Aerospace	<b>Investigation of the Effects of Material Architecture on Ablation of a Carbon Composite through In Situ Photogrammetry</b> Mr. Ben Carmichael, Kratos SRE
1135 - 1200	<b>Experimental and Computational Investigation of Active and Passive Oxidation for C-SiC Composites</b> Dr. Samuel Chen, The Johns Hopkins University Applied Physics Laboratory	<b>Environmental Exposures of C/SiC Composites with Refractory Additives</b> Mrs. Amber Josken, Air Force Institute of Technology	<b>Ceramic Matrix Composites Reinforced with Laser Chemical Vapor Deposition Silicon Carbide Fibers via Additive Manufacturing and Embedded Wire Chemical Vapor Deposition (EWCVD)</b> Dr. Shay Harrison, Free Form Fibers, LLC	<b>Testing the Thermal Insulating Properties of Fire-Retardant Polyurethane and Hollow Glass Balloons Mixtures</b> Mr. Todd Lovelace, Immortal Data, Inc.
1200 - 1330	Lunch Break (On Your Own - See Registration Desk for Area Restaurants)			

	Track One	Track Two	Track Three	Track Four
	<b>Hypersonics, cont.</b>	<b>Development, Processing &amp; Testing of Advanced Materials, cont.</b>	<b>Advanced Topics in Additive Manufacturing</b> Session Chair: Dr. Brock Birdsong, Auburn University	<b>Ground &amp; Flight Test Methodologies, cont.</b>
1330 - 1335	<b>Announcements</b>	<b>Announcements</b>	<b>Announcements</b>	<b>Announcements</b>
1335 - 1400	<b>An Investigation of HfC-SiC / Nb Ceramic Matrix Composites Produced by Hot Isostatic Pressing</b> Mr. David Burk, University of North Texas	<b>Tooling Design for Near Net Shape Fabrication of High-Temperature Composites</b> Mr. Gary Tiscia, Materials Research & Design, Inc.	<b>AI Empowered Additive and Robotic Manufacturing of Monolithic CMC Thermal Protection Systems and Hot Structures</b> Dr. Bill Goodman, Goodman Technologies, LLC	<b>Hypersonic Flight Materials and Uncertainty Quantification</b> Mr. Cameron Lindberg, ReLogic Research
1400 - 1425	<b>Aerothermal Evaluation of a C-ZrC Composite in a Flight-Scale, Leading Edge Configuration in the AEDC H2 Facility</b> Mr. Ben Carmichael, Kratos SRE	<b>Real-Time Material Certification of Composites using a Digital Twin</b> Ms. Tiffany Stewart, HRL Laboratories	<b>Additive Manufactured Low Density Carbon Insulator</b> Dr. Greg Larsen, Oak Ridge National Laboratory	<b>Extracting Emissivity of Reaction Cured Glass from Surface Emission Measurements during Arc Jet Testing</b> Dr. Megan MacDonald, NASA Ames Research Center
1425 - 1450	<b>Ground Test Results of AFRL-UES, Inc. UHTC Wedge Leading Edges</b> Dr. Lavina Backman, Air Force Research Laboratory	<b>Predictive Tool for Aging Effects on Performance of Phenolic-Based Thermal Protective Materials</b> Ms. Samantha Bernstein, The University of Texas at Austin	<b>Scaling 3D Printed C/C to Enable Monolithic Hypersonic TPS</b> Mr. Ryan Dunn, Mantis Composites	<b>Rocket Nozzle Static Motor Fire Material Test and Evaluation</b> Mr. Warren Kissel, ReLogic Research
1450 - 1515	<b>Oxidation Behavior of High Entropy Carbides and Carbonitrides</b> Dr. Lavina Backman, U.S. Naval Research Laboratory	<b>Presentation Title to be Announced</b> Dr. Robert Slapikas, U.S. Army Combat Capabilities Development Command Army Research Laboratory	<b>Regolith Enhanced Non-sintered Extruded Surface Technology (RENEST) for Lunar, Martian, and Terrestrial Rocket Landing Pads</b> Mr. Jonathan Slavik, Astrobotic	<b>Improved Probe Design for Stagnation Heat Flux Calorimetry in the AEDC Arc-Heated Test Facilities</b> Dr. Justin Myrick, Axient
1515 - 1545	<b>Break</b>			
	Track One	Track Two	Track Three	Track Four
	<b>Hypersonics, cont.</b>	<b>Development, Processing &amp; Testing of Advanced Materials, cont.</b>	<b>Advanced Topics in Additive Manufacturing, cont.</b>	<b>Ground &amp; Flight Test Methodologies, cont.</b>
1545 - 1550	<b>Announcements</b>	<b>Announcements</b>	<b>Announcements</b>	<b>Announcements</b>
1550 - 1615	<b>Affordable Production Oriented Hypersonic Aerostructures</b> Mr. Robert Hardesty, Peregrine Falcon Corporation	<b>Novel Benzoxazine Polymers for High-Char Carbon Structures</b> Prof. Jeffrey Wiggins, The University of Southern Mississippi	<b>Additive Manufacturing of Topologically Optimized Mirrors in Silicon Carbide Composite</b> Ms. Phuong Bui, HRL Laboratories	<b>Re-Designing Thin-Film Temperature Gauges using Latest Manufacturing Processes and Materials for Estimating Heat Flux in Hypersonic Ground Tests</b> Dr. Jay Frankel, New Mexico State University
1615 - 1640	<b>Presentation Title to be Announced</b> Mr. Grant Glass, RTCS, LLC	<b>High Char Yield Resin Composite Property Evaluation</b> Mr. Kenneth Johnson, University of Dayton Research Institute	<b>Frontal Polymerization and Continuous Fiber Additive Manufacturing for Space-Based Manufacturing</b> Prof. Jeff Baur, The University of Illinois Urbana-Champaign	<b>Laser Absorption Spectral Imaging (LASI) Sensor for Quantitative Gas Measurements in Hypersonic Flows</b> Dr. Jason Kriesel, OKSI
1640 - 1705	<b>Decomposition Modeling of Erinyes TPS using Multi-Rate Thermogravimetric Analysis and Developmental Flight Thermal Instrumentation</b> Mr. Ben Carmichael, Kratos SRE	<b>Results from Optimization of Materials and Processes for C/C based on a Novel Resin</b> Mr. Bhavesh Patel, Kratos SRE	<b>Improved Efficiency in Polymer Infiltration and Pyrolysis Manufacturing of Ceramic Matrix Composites by Integration of Vascular Networks</b> Mr. Hanseung Lee, The University of Illinois Urbana-Champaign	<b>Shape Similar Calorimetry Development for Arc Jet Test Facilities</b> Mr. Derrick Talley, Kratos SRE
1705 - 1730	<b>Chemical and Thermal Characterization of MX-4926/MIL-R-9299 Carbon Phenolic Material</b> Dr. Michael Johnston, Kratos SRE	<b>Presentation Title to be Announced</b> Ms. Elizabeth Andrew, Materials Sciences, LLC	<b>Binder Jet Additive Manufacturing of ZrB<sub>2</sub> Based Materials</b> Mr. Peter Kaczmarek, Naval Surface Warfare Center, Carderock Division	<b>Tailorable Solid Rocket Motors for Hypersonic Testing</b> Mr. Travis Tuck, X-Bow Systems
1730	<b>Grand Prize Give-Away &amp; Adjourn</b> <i>Sponsored by Hexcel Corporation</i>			
<b>Friday, 28 June 2024</b>				
0800 - 1130	<b>Badger Propulsion Test Facility Tour- advance sign-up required, see registration page</b>			
0800 - 1400	<b>Materials for Hypersonics Short Course- advance sign-up required, see registration page</b>			

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