

**Propulsion and Power Technical Meeting Preliminary Agenda**

**Tuesday October 29 - Wednesday October 30, 2019**

**Hampton Roads Convention Center**

**Tuesday, October 29, 2019**

|                    |  |  |
|--------------------|--|--|
| 8:15 - 8:30 AM     | <b>Welcoming Remarks</b>   |  |
| 8:30 - 9:00 AM     | <i>Keynote Presentation: Future Vertical Lift Propulsion Systems &amp; Associated S&amp;T Challenges</i>                                 | Dr. Kenneth Suder, NASA GRC                                      |
| Session 1:         |  |  |
| 9:00 - 9:30 AM     | <i>Development of the Pericyclic Drive from Concept to Prototype - A Path Towards Rotorcraft Transmission Weight and Noise Reduction</i> | Tanmay Mathur, General Electric Research Center                  |
| 9:30 - 10:00 AM    | <i>Establishing Practical Packing Factors for eVTOL Battery Systems</i>  | Robert Hess, BAE Systems   |
| 10:00 - 10:30 AM   | <b>Coffee Break</b>  |  |
| 10:30 - 11:00 AM   | <i>AH-64 Loss of Lubrication Study: Test of Isotropic Superfinished AH-64 (Apache) Engine Nose Gearbox Without Black Oxide Coating</i>   | Christina Michaud, REM Surface Engineering                       |
| 11:00 - 11:30 AM   | <i>Enabling Technologies for Rotorcraft Propulsion, Power &amp; Thermal</i>  | Neil Garrigan, General Electric Aviation                         |
| 11:30 AM - 1:00 PM | <b>Lunch on Your Own</b>   |  |
| Session 2:         |  |  |
| 1:00 - 1:30 PM     | <i>Advanced Gear Testing for FARA Accelerated Program Execution</i>  | Yuriy Gmirya, Lockheed Martin                                    |
| 1:30 - 2:00 PM     | <i>Impact of Lithium Sulfur Batteries on Electric VTOL Aircraft</i>  | Emily Fisler, University of Maryland                             |
| 2:00 - 2:30 PM     | <i>Characterization of a Gasoline-Engine Based Hybrid-Electric Powertrain</i>  | Brent Mills, Army Futures Command, CCDC Data and Analysis Center |
| 2:30 - 3:00 PM     | <b>Coffee Break</b>  |  |
| 3:00 - 3:30 PM     | <i>Smarter Flight Through Vectored Thrust</i>  | Larry Leovan, HEKA Aero  |
| 3:30 - 4:00 PM     | <i>Reliability Requirements and Research Strategies for Urban Air Mobility Propulsion</i>  | Dr. Timothy Krantz, NASA GRC                                     |
| 4:00 - 4:30 PM     | <i>Composite Materials for Hybrid Gears</i>  | Matthew Waller, The Pennsylvania State University                |
| 4:30 - 5:00 PM     | <i>Future Affordable Turbine Engine Summary and Results</i>  | Brian Johnson, General Electric Aviation                         |
| 6:00 PM            | <b>Dinner &amp; Social at OozleFinch Craft Brewery</b>   |  |

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| 8:15 - 8:30 AM     | <b>Welcoming Remarks</b>   |  |
| Session 3:         |  |  |
| 8:30 - 9:00 AM     | <i>An Investigation of the Mechanical Property Changes and Softening Mechanisms in Advanced Aerospace Gear Steels During Short-Term Exposure to High Temperature</i>         | Aaron Isaacson, The Pennsylvania State University      |
| 9:00 - 9:30 AM     | <i>Hybrid Power Generation for SUAS: Design and Efficiency Considerations</i>  | Matthew Hayes, Unmanned Propulsion Development         |
| 9:30 - 10:00 AM    | <i>Benefits of a Variable Speed Power Turbine as Applied to a High Speed Rotorcraft</i>  | Stephen Gatto, Pratt and Whitney                       |
| 10:00 - 10:30 AM   | <b>Coffee Break</b>  |  |
| 10:30 - 11:00 AM   | <i>Design Optimization of a Hybrid Spur Gear Including Tooth Bending Effects</i>   | Sean Gauntt, The Pennsylvania State University         |
| 11:00 - 11:30 AM   | <i>Propulsion Optimization for UAS Platforms</i>   | Craig Heathco, New Centerline Design                   |
| 11:30 AM - 1:00 PM | <b>Lunch on Your Own</b>   |  |
| Session 4:         |  |  |
| 1:00 - 1:30 PM     | <i>An Overview of NASA's Magnetic Gear Program and Results to Date</i>   | Thomas Tallerico, NASA GRC                             |
| 1:30 - 2:00 PM     | <i>Technologies for Hybrid Electric Aviation Propulsion</i>  | Kurt Murrow, General Electric Aviation                 |
| 2:00 - 2:30 PM     | <i>Optimized Power and Energy Generation, Storage and Conditioning for Army Rotorcraft</i>   | Dr. Thomas Podlesak, Army Futures Command, CCDC, C5ISR |
| 2:30 - 3:00 PM     | <b>Coffee Break</b>  |  |
| 3:00 - 3:30 PM     | <i>Improved Turbine Engine Program (ITEP) Integration</i>  | Andy Keith, Sikorsky Aircraft Corporation              |
| 3:30 - 4:00 PM     | <i>High-Speed Testing of a High-Efficiency Concentric Magnetic Gear</i>  | Dr. Justin Scheidler, NASA GRC                         |
| 4:00 - 4:30 PM     | <i>The Array Controlled Turnless Structures (ACTS) Motor and its High Specific Power Distributed Inverters: The Underlying Technology and Selected Airborne Applications</i> | Oved Zucker, Polaris Corporation                       |
| 4:30 PM            | <b>Technical Meeting Concludes</b>   |  |