

2026 NASA Aerospace Battery Workshop

November 17-19, 2026

U.S. Space & Rocket Center

1 Tranquility Base, Huntsville AL 35805

2026 NASA Aerospace Battery Workshop

AGENDA

Tuesday, November 17, 2026

7:30 – 8:15 Registration

8:15 Introductory and Welcome Remarks
Paula DeCesaris, NASA MSFC Space Systems Director

8:35 Bilayer NMC/LMFP Cathode Architectures for High-Energy and Fail-Safe Aerospace Lithium Batteries
Shih-Chieh Liao, Deng-Tswen Shieh, Chia-Ming Chang, Wei-Hsin Wu, Yu-kai Liao, Chia-Erh Liu, and Hsin-Da Huang, Industrial Technology Research Institute (ITRI), HCM Co.

9:05 Spring-Loaded Contacts and Probes for Battery Cell Qualification in Aerospace Systems. Applications & Challenges:
Matthias Zapatka, INGUN USA

9:35 From Digital Signatures to Digital Twins of Dominant Degradation Mechanisms for Long and Safe Battery Life
Anna Stefanopoulou, University of Michigan

10:05 – 10:20 Break

10:20 Understanding the Effects of Lithium Plating on High Temperature Degradation of Lithium-ion Cells
Muriel Carter, Guangsheng Zhang, The University of Alabama in Huntsville

10:50 Li-Ion Battery in-orbit telemetry data for 22 years GEO mission
Yannick Borthomieu, SAFT

11:20 Electrochemical Stability of Solid-State Electrolytes Limited by Non-stoichiometric Li Concentration from First Principles
Junsoo Park, NASA Ames (KBR), Stephen Xie, NASA Ames (KBR), John Lawson, NASA Ames

11:50 – 1:30 Lunch

1:30 Measuring the Mayhem: A Comparison of ARC and FTRC for Evaluating Battery Safety
Caitlyn E. Cavanagh, BAE Systems

2:00 The Two Thresholds for Space Batteries: Performance and Manufacturability
Vincent Yang, ProLogium

2:30 A High-Precision Technique for Characterizing Safety Vent and CID Activation Pressures in 21700 Cylindrical Lithium-Ion Cells for Aerospace Applications
Surendra K. Singh, Belmont Scientific Inc.

3:00 – 3:15 Break

3:15 Final Performance Report on ISS Life Cycle Ground Testing on GS Yuasa 134 Ahr Li-ion Cells
Alexandria (Ally) Kilzer, Naval Surface Warfare Center, Thomas Miller, NASA

3:45 Imaging the microstructure evolution during formation of silicon-containing graphite anodes
Toby Bond, Canadian Light Source, Reid Dressler, J.R. Dahn

4:15 Optimizing Lifetime and Energy Density in Cells for Aviation and Aerospace: Internal Results from Avrion Labs
Stephen Glazier, Avrion Battery Labs, Connor Aiken, Andrew van Bommel, Leo Wang, Avrion Battery Labs

4:45 Ultra-Thin Multifunctional Interfaces for Space Battery Systems: NASA-Measured Performance and Path to Qualification
Dr. David Noye, Nano research, Kofi Bota, Justin R. McElderry, Carol O. Putman, Emmanuel R Buabeng

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Wednesday, November 18, 2026

8:30 Scaling Domestic Production of Extreme Cold Weather Lithium Ion Batteries
Victoria Petrova, PhD, South 8 Technologies

9:00 Charging-based long-horizon fault detection for eVTOL battery packs
Dr. Anubhav Singh, University of Warwick, Anup Barai

9:30 Improving Safety and Life of Li-ion Cells
Eric Darcy, Soteria Battery Innovation Group, Brian Morin, Amy Brinson, Joe Turner

10:00 – 10:15 Break

10:15 Cycle Life Is a Mass Problem: Running Deeper Cylindrical Cell Cycles in LEO
Maxwell Kushnew-Lenhoff, Addionics,

10:45 Assessment of cell fabrication and quality of Si-based commercial Li-ion batteries using non-destructive characterization techniques
Kim H. Pham, The Aerospace Corporation

11:15 Internal Short Circuit Caused Thermal Runaway of Lithium-ion Batteries: In Situ Characterization and Mitigation
Madeline Liu, Guangsheng Zhang, The University of Alabama in Huntsville

11:45 – 1:30 Lunch

1:30 Improved Thermal Safety of Lithium-ion Batteries
Vijay V. Devarakonda, Analytical Scientific Products LLC. Ranadip Saha, Partha Mukherjee, Purdue University

2:00 Beyond Certification: System-Level Thermal Runaway and Off-Gas Validation for Enclosed-Volume Battery Systems
Emily Klein, Mike Pendleton, Element Materials Technology

2:30 Thermal Conductivity of Lithium-ion Cells - A Key Parameter for Battery Pack Designers
Surendra K. Singh, Belmont Scientific Inc.

3:00 – 3:15 Break

3:15 Intrinsic Safety Through Materials Innovation: Saft and LiNova Energy's Metal-Free Polymer Cathode Technology for Aerospace Batteries
Thomas Greszler, Saft America Inc., Jacob Nykaza

3:45 Saft modular space battery and new cell chemistry development for space application
Chengsong Ma, Tom Gresztler, Saft America Inc, Yannick BORTHOMIEU, Saft France

4:15 Cryogenic Survivability and Hibernation of Lithium-Ion Battery Systems for Lunar Surface Applications
Brian Holler, Nicholas Uguccini, Kyle Crowley, Shay Ellafrits, Greeta Thaikattil
NASA Glenn Research Center, Power Division

4:45 AI Battery Agents: Expanding Engineering Capacity and Accelerating Aerospace Battery Development
Blake Hawley, Voltaiq

NASA Educational Event

6:00-9:00 PM

This will be a time to socialize with your peers at the workshop. There will be an educational film that will highlight future NASA mission. **Moon to Mars and Beyond**

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Thursday, November 19, 2026

8:30 Model-Based Battery Engineering for Aerospace Applications
Xiangchun Zhang, The Mathworks, Inc.

9:00 Gas Generation in Lithium-Ion Batteries Under Mechanical and Thermal Abuse: How It Shapes and Signals Thermal Runaway
Young Ko, Massachusetts Institute of Technology, Yash Samantaray, Michael L. Li, Kathleen Hartono, David Keisar, Lianshan Lin, Hsin Wang, Sili Deng, and Martin Z. Bazant

9:30 CFD Methodology for Assessing Explosion Prevention and Protection Systems for NFPA Compliance within Battery Energy Storage Systems
Kislaya Srivastava, Convergent Science Inc, Lorenz Boeck, REMBE Inc

10:00 Automated metallic particle contaminant detection in CT scans of battery cells
Grace Busse, Easton Rason, Amariah Condon, Eric Moch, Peter Attia, James Sehnert Glimpse

10:30 Survey of the Space Satellite Civil/Commercial and Military Energy Storage Industrial Base, Project Status, and Recommendations on Ways-Forward
Brad Reed, Tim Locke, Matt Voss, Chris Olmedo, Susie LaCava, Dan Romm, Pinakin Shah

11:00 Crosslinked PEEK: A new material platform for battery and electronics applications, including space service
Kerry Drake, Green Tweed

11:30 Graphene-Based Electrostatic Energy Storage for High-Power, Long-Life Aerospace Applications
Jason Marshall, Bruce Burton, ACES Group

12:00 Closing Statements, Conference Conclusion